

SUTHERLANDSHIRE

**PINNACLE STREET
RESIDENTIAL FLAT
PRECINCT**

DCP 2015 CHAPTER 8

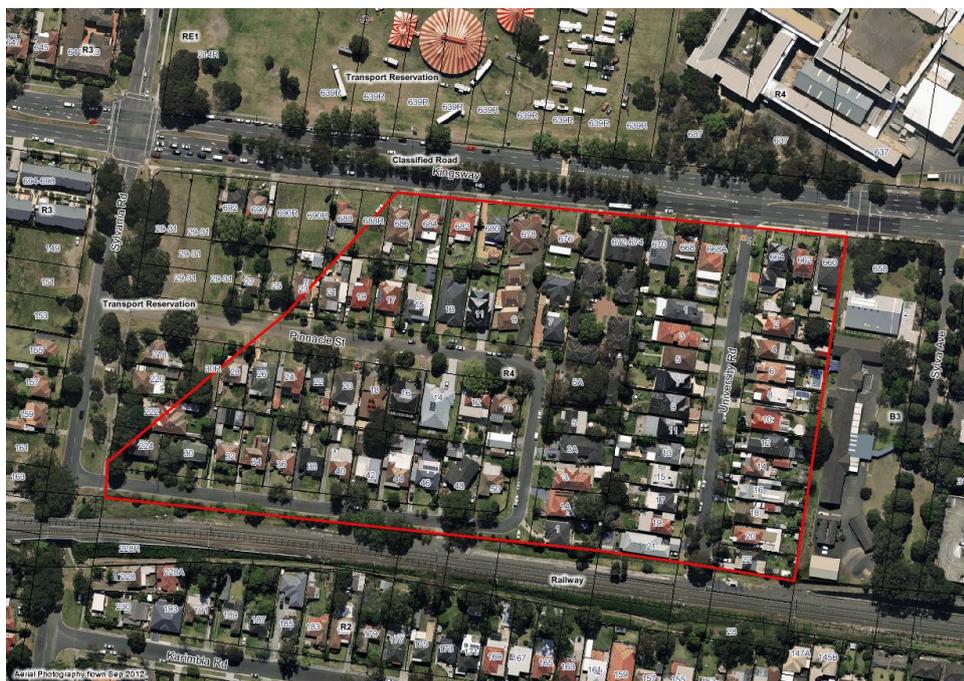


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1. Location

This chapter applies to the Miranda Pinnacle Street Precinct as shown on Map 1. The area shown outlined in red has been rezoned under SSLEP2013 to allow residential flat development with maximum permissible height of 25 metres (7-8 storeys) and maximum FSR (floor space ratio) 2:1. The precinct is located to the west of Miranda Centre and is bounded by the Kingsway to the north, the railway line to the south, the F6 corridor to the west and Miranda Public School to the east. Most of the precinct is within an 800m radius of Miranda railway station, hence a convenient walking distance from shops and offices, Miranda Library, medical services and public transport.



Map 1: Extent of Miranda Pinnacle Street Precinct

2. Strategy

The vision for the precinct is to create an exemplary medium to high rise residential community close to the shops and services of a centre, which emphasises the Sutherland Shire's unique ecology with good indigenous landscaping and pleasant spaces between buildings. The combination of high amenity units, indigenous landscaping and access to services will combine to make the precinct a great place to live.

The area will be developed with well-designed residential flats in a landscaped setting. The aim is to develop flats where all residents have adequate privacy, good light and natural ventilation, and good quality landscaped private and shared open space between buildings. To allow for adequate solar access and privacy for future residents, building separation distances increase with increased building height. The building envelope plan for the precinct, and many of the design criteria for residential flat development, is based on the guidelines in the Apartment Design Guide 2015 (ADG) which supports SEPP 65 – Design Quality of Residential Flat Development.

3. Public Domain and Landscape Strategy

The strategy for the Pinnacle Street Precinct is to improve the public domain with more trees and landscaping, improved footpaths, efficient through block links and defined on- street parking spaces. Residential flat development will create a large increase in the residential population, which will increase the need for safe and pleasant pedestrian access to shops, schools, public transport and public open space.

The creation of a small area of public open space is proposed for the end of University Road adjacent to the railway line. This is possible when sites are developed in accordance with the amalgamation pattern which allows the road to be shortened. The existing tree at the end of University Road can be retained and the space improved with additional tree planting and landscaping, creating a small play area with seating and a small exercise area.

The Pinnacle Street Precinct should provide good pedestrian access to the Kingsway and to Miranda centre. A council owned drainage easement/pedestrian path currently connects Pinnacle Street and the Kingsway. Amalgamation Plan Option 2 shows an alternative preferred location for the path. Upon redevelopment of Sites 1 and 2, the path - either in its current or preferred location - should be widened to 6m and improved with paving, lighting and landscaping. The relocation of the path could occur if the four adjacent lots comprising Site 2 were amalgamated for redevelopment.

An additional east west pedestrian path connecting Pinnacle Street with University Road will also be required when sites are redeveloped with residential flat buildings.

Some works to the public domain will be funded through Section 7.11 Contributions as development is undertaken. To create a more attractive public domain it is also intended that power lines in the precinct should be undergrounded. Parts of this work will be in the frontage works required for each amalgamated site redevelopment. Required frontage works will be in accordance with Council's Public Domain Design Manual.

The Pinnacle Street Precinct is classified as 'Greenweb Restoration' in council's Greenweb map. The Greenweb map is a tool to manage natural resources by identifying key areas of habitat and linkages between habitat areas. The goal is to strengthen links between key areas of habitat. The Greenweb Restoration area is an area where vegetated links would assist long term biodiversity and the planting of indigenous species of vegetation is required. Council is committed to a landscaping program along the Kingsway as set out in council's policy document "Planting the Kingsway: Kirrawee to Cronulla". The vegetation community in this area is Sydney Turpentine Ironbark Forest, which grows on clay soils over shale. The landscape strategy is to increase street tree and median strip planting, and to have indigenous trees planted in front setbacks as redevelopment occurs. Turpentine, Grey Ironbark and Grey Gums are the key species in the ecological community.



**PINNACLE AND UNIVERSITY ST
DRAFT PROPOSAL- PUBLIC DOMAIN PLAN**

Illustration of draft scheme - Consult Council's Public Domain Design Manual for further information

4. Residential Flat Buildings in the R4 zone

State Environmental Planning Policy 65 is now a fundamental part of the assessment of residential flat buildings. The application of the SEPP is proposed to expand to include mixed use development and shop top housing of three or more storeys containing 4 or more units (draft amendments). The SEPP and the Apartment Design Guide 2015 (ADG) prevail over Council's DCP requirements. The SEPP is supported by tools for improving the design of residential flat buildings and gives guidance on how the design quality principles provided under SEPP 65 can be applied to new developments.

As a matter of policy the principles of the ADG will be applied to all development defined as Residential Flat Buildings and to the residential flat components of mixed use developments.

SSLEP2015 proposes a number of new areas zoned to permit residential flat buildings and also increases in the height and density development standards for some localities. The DCP controls work in concert with SEPP 65 and SSLEP2015 controls.

SSLEP2015 does not have a minimum lot size for residential flat development. However, for residential flat developments, the need to comply with the design requirements of SEPP 65 will necessitate site amalgamations if the maximum allowable floor space ratio for the site is to be realized. While development on smaller sites is possible, it may not be possible to achieve the maximum floor space ratio in an acceptable design, providing good residential amenity.

5. Amalgamation Requirements

The size and shape of a land parcel influences the relationship of a new building to its neighbours. Effective amalgamation patterns promote the efficient use of land and allow design constraints to be more easily resolved. They also attempt to balance planning requirements relating to height, massing, basement car parking, vehicular access, streetscape and amenity to achieve good planning outcomes.

Amalgamation patterns have been defined for land within the Miranda Pinnacle Street Precinct as shown in the map Miranda Pinnacle Street Precinct Amalgamation Requirements. Site amalgamation will be essential if a residential flat building is to realise the maximum floor space ratio of 2:1 with heights up to 25 metres while also complying with the design requirements of SEPP 65, and the streetscape and vehicle access strategy for this precinct. Individual developments must also allow for adjacent sites in the precinct to develop to their maximum potential. The site amalgamation plan allows for an arrangement of buildings (as shown on the Building Envelope Plan) which can achieve this.

'Through block' amalgamation patterns are required in Pinnacle Street so that floor space can be distributed between a lower building to the north and a higher building to the south. This arrangement ensures the permissible FSR can be achieved along with a high standard of solar access and amenity to all buildings. It also encourages varied building heights within the precinct. The amalgamation pattern also delivers pedestrian links and open space within the precinct.

5.1 Objectives

1. Ensure that amalgamated land parcels are of sufficient size to realize the maximum allowable FSR while complying with SEPP 65 and the Apartment Design Guide.
2. Ensure redevelopment does not isolate lots or prevent neighbouring land parcels from reaching their redevelopment potential.
3. Ensure that development makes a positive contribution to the streetscape with redevelopment of varying building heights across the precinct.
4. Ensure future development creates and maintains a high standard of amenity for residents.
5. Ensure that efficient and safe vehicle entry points can be achieved.
6. Unify the precinct by creating a visual connection between Pinnacle Street and University Road with landscaped spaces between buildings.
7. Improve pedestrian connectivity in the precinct.

5.2 Controls

1. Vehicular access from the Kingsway is not allowed.
2. Development of land shall be in accordance with the Miranda Pinnacle Street Precinct Amalgamation Plan Option 1. For Sites 1 and 2, an alternative Amalgamation Plan Option 2 has been shown. This plan shows amalgamated sites with a relocated pedestrian access path between Pinnacle Street and the Kingsway.

A council owned pedestrian way currently separates Sites 1 and 2, so Site 2 can only be a four lot amalgamation unless the path is relocated. Maintaining pedestrian access through the block is essential. A preferred location for this path is within Site 2 on the eastern side. The relocation of the path could be negotiated with council prior to development of the amalgamated sites. In this scenario Site 2 Option 2 sets a seven lot amalgamation, with the pedestrian path relocated. This arrangement means that the maximum permissible FSR 2:1 is easier to achieve.

3. A new east west pedestrian path connecting Pinnacle Street with University Road is required when redevelopment of any part of amalgamated sites 9 and 11 occurs. This 6 metre wide path must be dedicated for public access and can be considered as part of the required side setbacks for development on the sites. The pedestrian path is to improve pedestrian and visual permeability through the precinct, and to provide a direct pedestrian route from Pinnacle Street to University Road. See: '*7. Design Guidelines for Specific Sites*'.
4. If an application proposes a development that does not comply with the amalgamation plan, a minimum street frontage width of 26m should be achieved. Where development of a narrower site is proposed the development must:
 - i. Provide safe and efficient access and servicing facilities -particularly in relation to parking, pedestrian and vehicle access, collection and storage of waste.
 - ii. Provide a high standard of resident amenity- particularly in relation to privacy, solar access, ventilation, and the provision of outlooks to landscaped setbacks.
 - iii. Respond to the local context, including providing adequate separation from existing and future adjoining development.

Development sites with site frontage width less than 26m may not allow for the full FSR to be realised.

5. Development must be carried out in an orderly manner.

If an application proposes a residential flat development that does not comply with the amalgamation plan, the applicant must demonstrate that development of an alternative amalgamation pattern can be achieved where all sites can achieve their full development potential (FSR 2:1).

A schematic design must show that development of land under an alternative amalgamation pattern complies with SEPP 65 and the Apartment Design Guide standards, and allows for building forms of varied height across the precinct, as shown in the Building Envelope Plan.

The assessment of any proposal to vary the amalgamation pattern will include consideration of the impact of the proposed development on the future capacity of lots left isolated.

Note:

Applications seeking to vary the amalgamation plan must include copies of correspondence between the proponent and the owners of any sites not incorporated in the designated amalgamation pattern or the owner of any site that would be isolated by the proposed development. The correspondence must clearly indicate that a fair financial offer has been made to that owner for incorporation into the development proposal (based on 3 valuation reports provided with the submission) and any response to these offers. Applicants must make this correspondence available to all landowners in the original amalgamation plan. The information will also be publicly available at Council.

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 3 independent valuation reports (prepared by registered valuers and valuing the property at 'highest and best use') and include other reasonable expenses likely to be incurred by the owner of the isolated property in the sale of the property.

Where it has been shown that reasonable efforts have been undertaken to facilitate amalgamation of the isolated properties, and where no resolution can be reached between the parties, applicants must include with their development application a plan of adjoining lots excluded from the amalgamation which shows a schematic design of how the site/s may be developed. In such instances isolated lots are not expected to achieve the full FSR permissible in the zone.



Miranda Pinnacle Street Precinct Amalgamation Plan Option 1: (with existing pedestrian path Pinnacle Street to Kingsway)

Note: Sites with existing multi dwelling development have not been included in the amalgamation pattern.



Miranda Pinnacle Street Precinct Amalgamation Plan Option 2: (Relocated pedestrian path)

6. Building Envelopes

A building envelope is a three dimensional zone that limits the extent of a building in any direction. Building envelopes set the appropriate scale of future development in terms of bulk and height in relation to street layout and block sizes in a particular location.

Building envelopes identify an appropriate three dimensional volume of space within which the height, bulk, setbacks and articulation of a building is to be contained. A building envelope is not to be seen as the maximum extent of possible development, but the space within which development can occur.

A variety of built form options are possible on each amalgamated site. The Building Envelope Plan shows the preferred built form layout. Alternate building layouts may be considered provided they achieve better amenity for future and existing residents and better outcomes for the public domain.

6.1 Objectives

1. Ensure that developments are designed to an appropriate height, mass and building separation to protect solar access potential for adjacent future residential flat developments and areas of public domain.
2. Improve the connectivity and permeability of the area by improved pedestrian links.
3. Achieve variations in height within developments to provide transitions to existing and future adjacent developments.

6.2 Controls

1. Development should comply with the Pinnacle Street Precinct Building Envelope Plan and the Design Guidelines for Specific Sites.



Miranda Pinnacle Street Precinct Building Envelope Plan

2. Within each amalgamated site, building envelope heights range from 14m (4 storeys), 20m (6 storeys) up to the maximum permissible height 25m (8 storeys). Buildings with a frontage to the northern section of Pinnacle Street should be lower in height (4 and 6 storeys) to allow adequate solar access to the higher buildings with a frontage to the southern part of Pinnacle Street (closest to the railway line). A reduced front setback (3m) is proposed for the southern part of Pinnacle Street in order to maximize building separation and hence solar access.
3. Development should produce varying building heights across the precinct to produce preferred streetscape outcomes. Four storey building elements also provide a transition to existing two storey townhouse developments.
4. Development is to be designed so that the building envelope contains both the primary building mass and any articulation zones.

Note:

Floorspace ratio variations are not to be justified on the basis that a building complies with a building envelope.

6.3 Assessment Principles

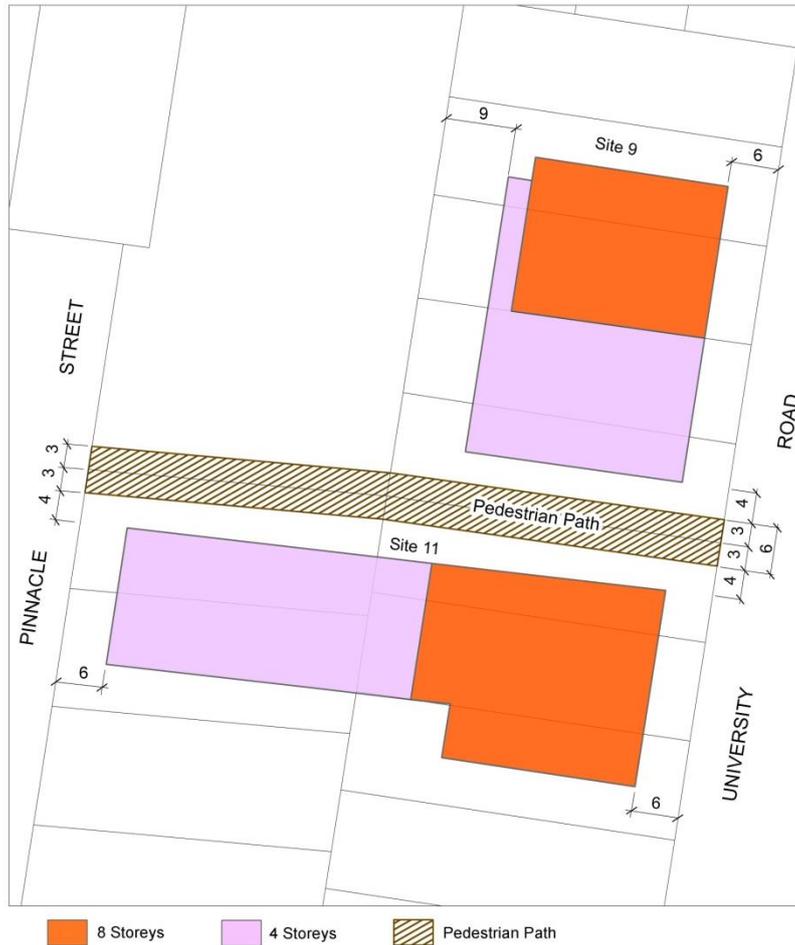
1. Where an alternative building envelope is proposed, the alternative may be considered provided the design achieves good residential amenity for future residents of the development and future developments on neighbouring sites. To support alternative amalgamation plans, the applicant must demonstrate that adjacent sites can be developed with residential flats to their full development potential with satisfactory daylight access and compliance with SEPP 65 and the Apartment Design Guide.
2. A building envelope is determined by compliance with controls such as floor space ratio (FSR), height, landscaped area and setbacks. Its purpose is to provide an envelope within which development may occur but not one which the development should necessarily fill.



Miranda Pinnacle Street Precinct Building Envelope Plan Option 2: (Relocated pedestrian path)

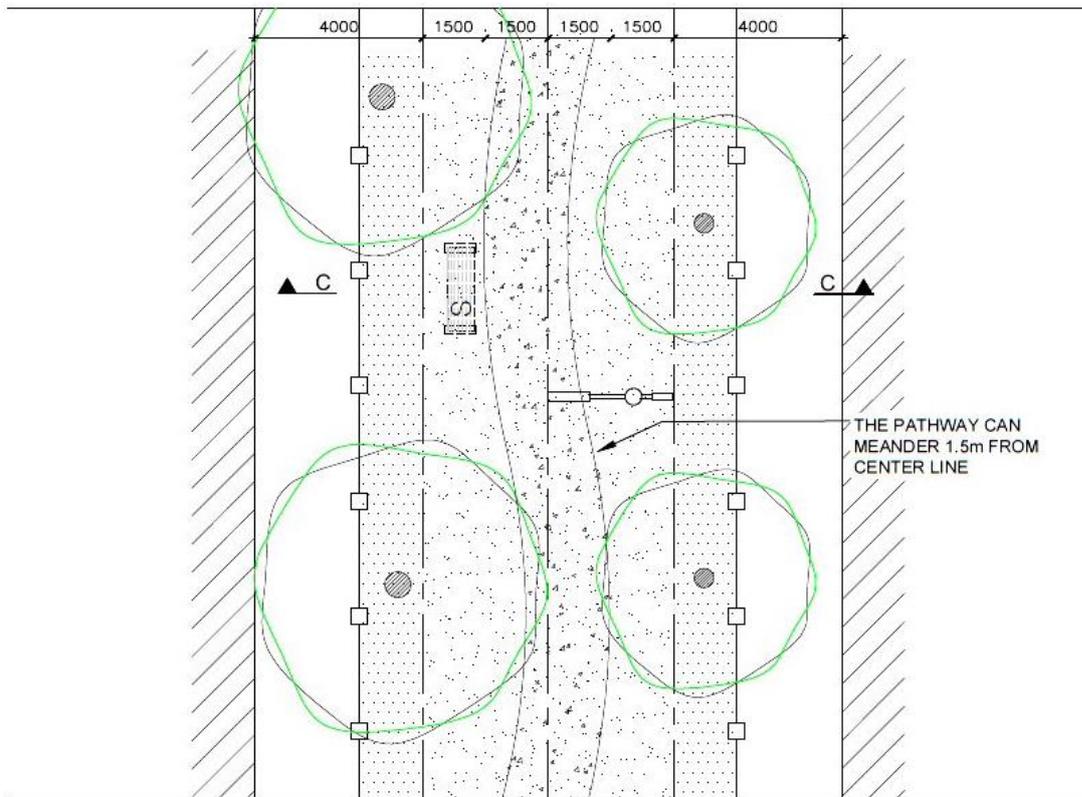
7. Design Guidelines for Specific Sites

Amalgamated sites 9 and 11 (refer Amalgamation Plan)

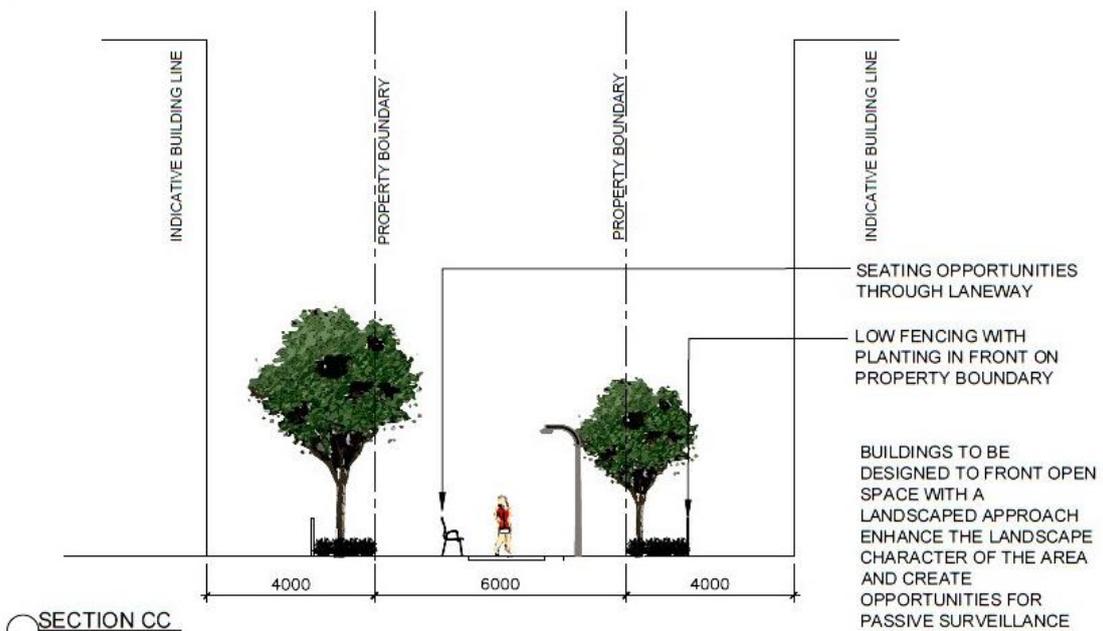


PINNACLE STREET PRECINCT - PEDESTRIAN PATH BETWEEN SITES 9 AND 11

The redevelopment of the amalgamated sites is to accommodate a 6m wide pedestrian path between Pinnacle Street and University Road, in accordance with the above plan. Each site should have a 3m setback which is to be publicly accessible.



PLAN



SECTION CC

Section through pedestrian path looking east towards University Road
 Illustration of draft scheme from Sutherland Shire Public Domain Design Manual (February 2015)

8. Streetscape and Built Form

Streetscape is the urban environment created by the relationship of built elements to the public domain. The quality and scale of architecture, landscape elements, natural elements and works in the public domain determine the streetscape character. Ancillary elements of development such as driveways, parking areas and fencing are important elements of the streetscape. In an area being redeveloped at a greater density, all development will be assessed with regard to a Building Envelope Plan illustrating the preferred future outcome for the whole precinct.

Facades are the external face of buildings and make a very important contribution to the streetscape. The composition and detailing of the building facade has an impact on its apparent scale as well as its appearance. The pattern or rhythm established by the proportions of the facade, the modulation of the external walls, the design of facade elements, their materials and detailing are all important considerations.

Architectural quality contributes to the character and quality of the streetscape. High architectural quality requires appropriate composition of building elements, textures, materials and colours and reflects the use, internal design and structure of a development.

The provision of an accessible built environment is both a design and a legislative requirement. The provision of physical access for people with disabilities, older persons and people with temporary mobility problems is the primary purpose of incorporating accessibility requirements into development. Accessible environments provide all people with the opportunity to have equitable and barrier free movement to shops, transport, employment, recreational facilities and housing.

8.1 Objectives

1. Ensure that all elements of development visible from the street, or the public domain make a positive contribution to the streetscape.
2. Ensure that building services are integrated into the overall building form.
3. Create entrances which provide a desirable and safe identity for the development and which assist in visitor orientation.
4. Ensure that vehicle access and parking areas do not dominate the streetscape and allow for the safe passage of pedestrians along the street and into the development.
5. Improve the visual amenity of the public domain.
6. Establish a barrier free environment for all people who live, work and visit Sutherland Shire.

8.2 Controls

1. Development must be designed and sited so that it addresses the street and must have a clearly identifiable entry. Where possible, ground floor units facing the street should have street access.
2. The building form must be articulated to avoid large expanses of unbroken wall, and to visually reduce bulk.

3. Facades are to be composed with an appropriate scale, rhythm and proportion, which respond to the building's use.
4. Developments on street corners should be designed to define and address the setback and address both street frontages.
5. All parking shall be located in a basement.
6. The finished roof levels of basements are to be located at or near ground level.
7. Basement roofs and walls and vehicular entries must not dominate the overall design of the building or streetscape and are to be integrated into the finished building design and landscaped treatment of the site.
8. A 1m landscaped setback to neighbouring properties is to be provided along the driveways to basement car parks.

Note:

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).

If basement construction protrudes more than 1m above ground level, it is no longer defined as a basement. Floor space in a basement may be counted as part of gross floor area. Refer to the definition of gross floor area in SSLEP2015.

9. Driveway walls adjacent to the entrance of a basement car park are to be treated so that the appearance is consistent with the external finish of the building. If basement car park entry points are to be located on the main street frontage of a development, these should be designed so as to reduce the visual impact.
10. Lift overruns and service plants must be integrated with well-designed roof structures and architectural elements which are an integral part of the building design.
11. The need for additional building services must be resolved at design stage (e.g. electricity kiosk/substation & fire services facilities) and must be coordinated and integrated with the overall design of the development without compromising building or landscape design.
12. Frontage works for all developments must be in accordance with Council's Public Domain Design Manual.
13. Development of residential flat buildings or shop top housing in the Miranda Pinnacle Street Precinct must include the replacement of existing local distribution power lines and other utilities with subsurface utilities and the provision of new street lighting to meet the requirements of Council's Public Domain Design Manual.
14. Where there are powerlines which are not undergrounded or bundled, street tree planting will only be required if they can be located 2m away from the wires. Where power lines are bundled, suitable trees can be planted underneath the bundled wires.

9. Street Setbacks

Street setbacks establish the front building line. Controls over street setbacks create the proportions of the street. Setbacks contribute to the public domain by enhancing streetscape character and the continuity of street facades. Street setbacks can also be used to enhance the setting for the building. They provide for landscape areas, entries to the ground floor of buildings and deep soil zones suitable for planting of canopy trees.

9.1 Objectives

1. Establish the desired spatial proportions of the street and define the street edge.
2. Create a clear threshold by providing a transition between public and private space.
3. Create opportunities for the planting of canopy trees and landscaping.
4. Ensure new development contributes to the desired future streetscape character.
5. Encourage design with good façade articulation.

9.2 Controls

1. A minimum 7.5m street setback from the Kingsway is required for all development.
2. Where a development has a street setback from the Kingsway of 7.5m or greater, building elements may encroach 1.5m into the front setback for a maximum of one third of the area of the façade, forming an articulation zone. Built form encroachments into the articulation zone can include open structure elements such as balconies and hoods, as well as elements which contribute to floor space ratio such as bay windows. Built form encroachments into the articulation zone must not include:
 - Garages, or
 - Lift shafts.

Built form encroachments into the articulation zone must improve the design quality of the development with good façade articulation.

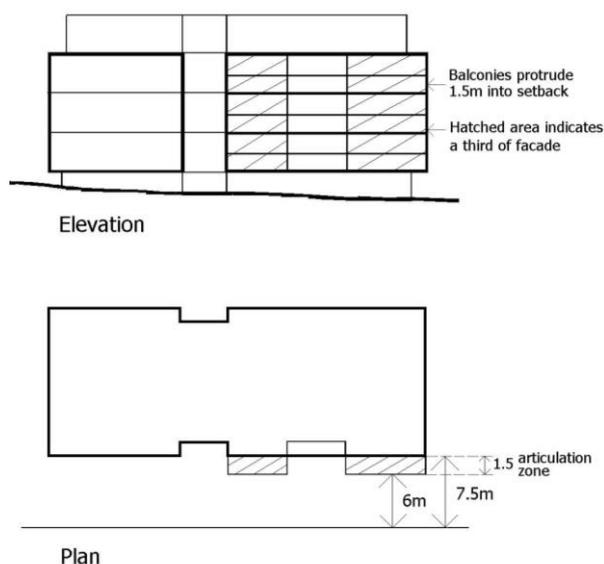


Figure 1: Illustration showing one possible scenario with one third of façade as articulation zone.

3. A minimum 6m street setback from Pinnacle Street and University Road is required (see Building Envelope Plan). Where a 6m front setback is proposed this may not be further reduced with an articulation zone.
4. In the case of corner properties, the 6m setback also applies to the secondary frontage.
5. For development sites on the southern section of Pinnacle Street which comply with the through block Amalgamation Pattern, a minimum 3m setback from the street frontage is required (see Building Envelope Plan). This is a reduced front setback concession for through-block amalgamated sites to achieve increased separation from buildings to the north, to facilitate maximum solar access for the southern residential flats.
6. For development sites on the southern section of Pinnacle Street which do not comply with the Amalgamation Pattern, a minimum 6m setback from the street frontage is required.
7. Basement underground car parks may be allowed within the articulation zone of the street setback, provided the structure is considered in conjunction with the overall landscape design and does not detract from the design quality of the building.
8. Where private courtyards are located in the front setback, their design must not compromise the potential for large scale indigenous trees that will complement the scale of the building. The large trees are to be provided in areas of common property adjacent to the street where they will not be in conflict with built elements as they mature. Privacy to courtyards is to be achieved through the use of open form fencing and vegetation.
9. At grade car parking must not be located within the setback area to a primary street.

Note:

Street setbacks are measured perpendicular from the property boundary to the closest extent of the building, including balconies, sunscreens, podiums and the like.

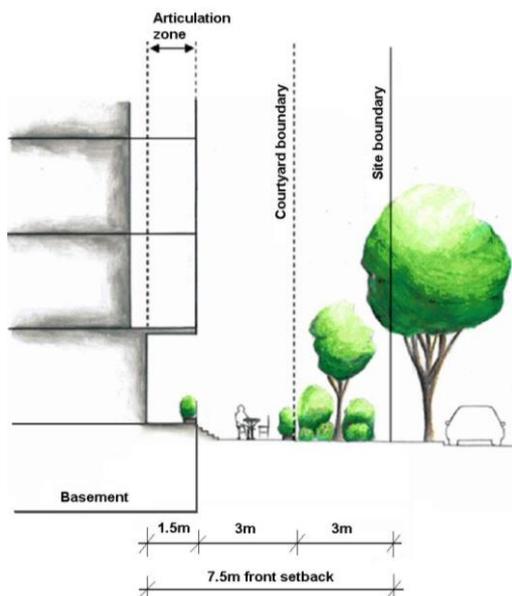


Figure 2: Section through the Kingsway front setback showing one possible scenario under the development controls

10. Side and Rear Setbacks

The spatial relationship of buildings is an important determinant of urban form. Building separation relates to urban form because it affects the spatial continuity and the degree of openness in the street. Spaces between buildings also provide opportunities for landscaping and access.

Separation between buildings is required to minimise adverse amenity impacts. Buildings which are too close together can create amenity problems, including lack of visual and acoustic privacy, loss of daylight access to dwellings and to private and shared open spaces.

10.1 Objectives

1. Provide visual and acoustic privacy for existing and new residents and neighbours.
2. Control overshadowing of adjacent properties and private or shared open space.
3. Provide opportunities for deep soil zones for tree planting.
4. Reinforce the desired spatial character of an area in terms of openness and density.
5. Mitigate the visual intrusion of building bulk on neighbouring properties.
6. Optimise surveillance of the public domain.
7. Facilitate view corridors between buildings.
8. Incorporate architectural detailing and modulation to side elevations to offset building bulk and visual intrusion.
9. Require increased setback with increased building height and length.

10.2 Controls

1. Side and rear setbacks should be in accordance with the Miranda Pinnacle Street Precinct Building Envelope Plan and Amalgamation Plan as follows:
 - a. The minimum side boundary setback is 6m. Where a greater building separation is required by the Apartment Design Guide, building separation distances should comply with that code.
 - b. The minimum rear boundary setback for development on Amalgamated Sites 7 and 9 on the western side of University Road is 9m.
 - c. The minimum rear boundary setback for development on Amalgamated Site 10 on the eastern side of University Road is 19m.
 - d. The minimum rear boundary setback for development on Amalgamated Sites 8 and 13 on the eastern side of University Road is 9m.
 - e. The minimum setback from the F6 Transport Reservation is 10m.

2. Variations on the side setback controls will be assessed against the following criteria. The side setbacks must result in a development that:
 - a. provides resident amenity- including privacy, solar access, ventilation, and landscaped setbacks;
 - b. responds to the local context and provides streetscape amenity, including providing adequate separation from existing and future adjoining development;
 - c. does not prevent a neighbouring site from achieving its full development potential;
 - d. has architectural merit.
3. Side and rear setbacks are measured perpendicular from the side or rear boundary to the closest extent of the building, including balconies, awnings, podiums, sunscreens and the like (excluding eaves).
4. Walls are to be articulated to prevent continuous linear walls and promote variation and interest to setback areas and these walls.
5. Generally, basements/underground car parks must be set back a minimum of 3m from side and/or rear boundaries, except in the case of the rear setback for Sites 8, 10 and 13 on the eastern side of University Road, where basement construction must be set back 6m from the boundary as a 6m deep soil landscaped area is required along the boundary.
6. Variations to basement construction side boundary setback control may be considered if:
 - a. The basement construction does not protrude from the natural ground level, so potential overlooking of the neighbouring property is not increased by the development;
 - b. Opportunities for the planting of trees are provided in the setback area.

10.3 Assessment Principles

1. Where a variation to the setbacks is sought, assessment will be in accordance with the SEPP 65 and Apartment Design Guide building separation distances. Where the neighbouring site is not yet developed, habitable rooms should be assumed when calculating separation distances.
 - Up to four storeys (12m)
 - 12 metres between habitable rooms/balconies
 - 9 metres between habitable rooms and non-habitable rooms
 - 6 metres between non-habitable rooms.
 - Above four storeys (up to 25m)
 - 18 metres between habitable rooms/balconies
 - 13 metres between habitable rooms and non-habitable rooms
 - 9 metres between non-habitable rooms.

2. To test whether a building's side and rear setbacks are appropriate, the following questions should be asked:
 - a. Does the proposed bulk and scale of the development result in excessive visual intrusion when viewed from an adjoining development or public area outside of the site?
 - b. Does the scale and siting of the proposed development result in significant overshadowing or adjoining properties?
 - c. Does the podium wall or any basement level or elements erected on the podium, result in excessive visual intrusion when viewed from outside the site?

If the answer is 'yes' to any of these questions the development should respond to the following principles:

- i. Would the impact of the proposed building be reduced if it provided some degree of articulation of the elevations to create visual interest and to offset bulk and scale? This can be achieved through stepped floor plans, reducing the length of walls between design features, and variation in setbacks of the ground and first floors, provision of bay windows, recessed portions of walls and the provision of portions of feature walls which are of a different texture or material finish, and articulation of roof lines.
- ii. Would the impact of the proposed building be reduced with a greater setback? As a general rule, the setback of a building should progressively increase as the building length and wall height increases. Planting can assist in screening building bulk, but it should not be relied upon as the sole solution to overcome design weaknesses.

11. Landscape Design

Good design recognises that landscape and buildings operate together as an integrated system, resulting in greater aesthetic quality and amenity for the residents, neighbours and the public domain. High quality landscape design protects and builds on the existing site's natural and cultural features to contribute to a development's positive relationship to its context and site.

Enhancing the indigenous Sydney Turpentine Ironbark Forest Ecological Community in this locality will create a strong sense of place while improving local biodiversity. Landscape design that incorporates key species from this community is to be used in both the public and private domain. Turpentine, Grey Ironbark and Grey Gums are the key species in the ecological community

11.1 Objectives

1. Retain and enhance the indigenous tree canopy
2. Contribute to streetscape character and the amenity of the public domain by using planting and landscape elements appropriate to the desired character of the streetscape and the scale of the development.
3. Encourage landscape treatments, both deep soil landscaping and planting on podiums, which provide privacy for residents, and minimise overlooking of private open space.
4. Improve the microclimate and solar performance within development
5. Minimise the impact of driveways and parking areas on existing landscaping, landform and streetscape, in terms of siting and choice of materials.
6. Ensure any planting on podiums, roof tops and in planter boxes is sustainable by providing adequate rainwater storage and water efficient irrigation.

11.2 Controls

1. Except for driveway access, the following setback areas must be deep soil landscaped area, as shown on Miranda Pinnacle Precinct Landscape Plan:
 - a. Minimum 6m of front setback;
 - b. A minimum 3m of side setbacks;
 - c. For lots on the eastern side of University Road (amalgamated sites 8, 10 and 13) minimum 6m of rear setback. This is to be planted with dense screening landscape to a height of 6m;
 - d. For lots on the western side of University Road (amalgamated sites 7 and 9) minimum 3m of rear setback.

Note:

Deep soil landscaping can include deep soil trenches with minimum area of 6m x 4m which are extensions of the side or rear setbacks, and allow opportunities for large trees to be planted in the courtyard areas of developments. These are illustrated in the *Miranda Pinnacle Precinct Deep Soil Landscape and Setback Plan* below. Underground car park design would need to accommodate these areas.

2. The required 10m setback from the F6 road reservation boundary is to be deep soil landscaping.
3. Despite clause 1, in the case of amalgamated sites 3, 4, 5 and 6 on Pinnacle Street, where there is a through- block amalgamation and a 3m front setback is shown on the Building Envelope Plan, the whole 3m front setback should be deep soil landscaped area.
4. The landscape design must include canopy trees that will achieve minimum 8 metres height at maturity within suitable setback areas. Where setbacks allow, the trees must be planted more than 3 metres from adjoining structures.
5. Where there are continuous overhead power lines, a minimum of 1 indigenous canopy street tree that will attain a maximum height of 4m, must be planted at a maximum spacing of 7.5m, at a minimum distance of 1 metre from the kerb and/or footpath, and or masonry fence or retaining wall. Street trees must be selected from the Council's technical specifications and Native Plan Selector available on Council's website
6. Where there are no continuous overhead power lines, a minimum of 1 indigenous canopy street tree that will attain a minimum mature height of 6m must be planted at maximum spacing of 5m, at least 1m from the kerb and/or footpath and/or masonry fence or retaining wall. Informal clumping of trees is encouraged. Street trees must be selected from Council's technical specifications and Native Plant Selector available on Council's website. Turf must also be planted.
7. A minimum rear boundary indigenous tree planting rate is set at 2 trees for every 15m of linear boundary. All indigenous tree species must be selected from Council's Native Plant Selector available on Council's website.
8. The landscape design should achieve opportunities for deep soil landscape planting between buildings that provide a deep soil separation of more than 3m between trees and structures. Planting beds should be a minimum of 900mm wide to support shrubs and small trees.
9. Existing canopy trees in good health in the front and rear setback must be retained.
10. Landscaping in the vicinity of a driveway entrance should not obstruct visibility for the safe ingress and egress of vehicles and pedestrians.
11. Ground floor courtyards must not extend into the 3m landscape strip along the frontage of development.
12. Landscaping and design should be employed to create privacy for residents.

13. Any privacy fencing design and materials must carefully resolved so as to not detract from the architectural quality of the building.
14. Communal open space should have a minimum area equal to 25% of the site for all residential flats with a floor space ratio of 2:1 or greater. Where residential flat buildings have a floor space ratio of less than 2:1, 100sqm of communal open space is required.
15. Communal open space should have a minimum dimension of 3m, and larger developments should consider greater dimensions. This space must have a minimum dimension of 10m, have shelter, furniture and facilities suitable for outdoors, and if provided at ground level, include canopy trees. Communal open space on roof tops should be designed to optimise privacy for occupants and adjoining residents
16. Planting is required on that part of a basement which extends beyond the building footprint. Planting in this area is to have sufficient soil depth to support the species selected and should constitute a minimum of 30% of the area of the exposed basement. This planting is intended:
 - a. To offset the potential for excessive paved areas;
 - b. To provide residents with attractive outlooks from dwellings, and
 - c. To assist in the creation of privacy between dwellings, and between dwellings and common areas.

Note:

The shallow planting required on top of basement structures is shallow soil landscaping. This is in addition to the required deep soil landscaping for 30% of the site.

17. Where planting is proposed on that part of a basement which extends beyond the building footprint, roof tops or within planter boxes, the space to be planted must be designed and constructed to contain a minimum soil depth of:
 - 450mm for grass and ground covers
 - 600mm for shrubs
 - 900mm for small trees
 - 1200mm for large trees.

Species selection must be suited to the future microclimate. Landscaping on-basement roofs and planter boxes must be accessible for maintenance access.
18. Where trees are proposed on roofs or planter boxes, an area of 3m x 3m per tree must be provided. Planter boxes in this case must be stepped, mounded or set down in the slab to reduce their apparent height on the surface to 450mm.
19. Landscaping on basement roofs is to be integrated with surrounding deep soil landscaping and hard paved areas so the basement roof landscaping reads as an extension of the deep soil landscaping.
20. Where planter boxes edge both sides of a pedestrian path or entrance, the vertical height of the planter shall not exceed a height greater than half the width of the pathway.

21. Appropriate paving must be provided to driveways, walkways, entries, fire egress points, garbage bin enclosures, letter boxes and clothes lines and under pergolas.
22. A communal rainwater tank and pump should be located underground in common open space. Common open space areas must be provided with a water efficient irrigation system and taps at a minimum 25m intervals connected to the rainwater tank. Each private open space must be provided with a tap connected to the rainwater tank.
23. An external energy efficient lighting system is to be provided for pedestrian access and driveways located within communal open space.
24. Internal driveways within the drip zone of existing trees should have a pervious surface treatment.

Note:

All indigenous tree species must be selected from Council's Native Plant Selector available on Council's website. The Native Plant Selector is a tool that recommends plants suitable for Sutherland Shire's ecosystems based on the locality. The tool is available online at Council's website.

For additional guidance on landscape design and implementation refer to the Sutherland Shire Environmental Specifications - Landscape. Applicants should also refer to the Greenweb map and controls in Chapter 39 Natural Resource Management. For development application submission requirements refer to Council's DA Guide.

11.3 Assessment Principles for Determining the Quality of Landscaping

In assessing whether the landscaping design is high quality, Council will consider the following:

1. The size, shape and orientation of spaces allocated for landscaped area.
 - a. Narrow spaces can rarely support vegetation of adequate scale. Where a site's landscaped area is largely composed of very narrow spaces the design is unlikely to meet the objectives of the landscape standards despite numerical compliance.
 - b. Whether sunlight access is sufficient to support the growth of the landscaping proposed.
2. Whether the size and shape of spaces allocated for the trees and shrubs proposed are sufficient for the species to grow to maturity.
3. Whether the scale of the trees and landscaping complements the scale of the buildings and the spaces where they are located. For example, where it is desirable to grow medium size trees and shrubs within a side setback to screen development, a minimum width of 3m for landscaping to enable boundary planting is desirable.



Miranda Pinnacle Precinct Deep Soil Landscape and Setback Plan

12. Building Layout and Private Open Space

Good design provides a building layout that maximises the natural attributes of the site. Carefully considered building layout and design also creates a higher level of amenity for occupants through enhanced visual and acoustic privacy, passive heating and cooling, attractive outlooks from living spaces, and flexible and useable indoor and outdoor spaces that meet the needs of workers and/or occupants.

Similarly, good built development design meets the needs of its occupants by providing adequate site facilities. Considering the need and location of site facilities at the design stage is important in achieving good design outcomes. There is less opportunity to achieve good design outcomes for site facilities following construction. Site facilities and ancillary structures that integrate into developments minimise the impacts of such facilities and structures upon the occupants of surrounding buildings, the streetscape and the natural environment.

12.1 Objectives

1. Ensure outdoor living areas are functional and responsive to the environment and appropriate for the internal layout of the building.
2. Promote the design of buildings which are responsive to the orientation of the site.
3. Minimise the impacts of ancillary aspects of development on building occupants or neighbours, and on the streetscape and the natural environment.

12.2 Controls

1. Suitable clothes drying facilities shall be provided which are not visible from a public place and have access to sunlight.
2. Access to all levels of the development, including the basement, must be made available by a lift in order to facilitate access by people with disabilities.

13. Solar Access

Solar access forms an integral part of the design process. Buildings should be sited and designed to provide adequate daylight and sunlight access to living areas and private and communal open space areas. Good solar design improves amenity and energy efficiency.

Daylight consists of two types of light:

- skylight - diffuse light from the sky - and
- sunlight - direct beam radiation from the sun.

The amount and quality of daylight varies with the time of day, the season and weather conditions. This variability contributes to pleasant environments in which to live and work. Achieving maximum daylight access requires consideration of the internal layout and orientation of the development as well as the surrounding development and natural features.

13.1 Objectives

1. Design and locate buildings so that reliance on artificial light sources is minimised.
2. Maximize solar access to private open space, communal open space and living rooms within a development.
3. Ensure that daylight access is provided to all habitable rooms.
4. Ensure development retains reasonable levels of solar access to the neighbouring properties and the public domain.

13.2 Controls

1. New buildings and additions are sited and designed to maximise direct sunlight to north-facing living areas, communal and private open space areas.
2. Living rooms and private open spaces for at least 70% of residential units in a development should receive a minimum of 2 hours direct sunlight between 9am and 3pm in midwinter.
3. New development is to be designed to ensure direct daylight access to communal open space between March and September and provide appropriate shading in summer.
4. Skylights and lightwells must not be used as the primary source of daylight in habitable rooms.
5. For neighbouring dwellings:
 - a. Direct sunlight to north facing windows of habitable rooms and 10m² of useable private open space areas of adjacent dwellings should not be reduced to less than 2 hours between 9.00am and 3.00pm on 21 June.
 - b. Consideration will be given to reduced solar access where the proposed dwelling is generally compliant with all development standards and controls, and the extent of impact is the result of orientation, site constraints, and or existing built forms.

- c. Overshadowing by vegetation should be ignored.
- d. Overshadowing by fences, roof overhangs and changes in level should be taken into consideration.

13.3 Assessment Principles

1. The numerical guidelines for overshadowing will be applied with the NSW Land and Environment Court Planning Principle for sunlight (NSW LEC 1082) in mind where relevant:
 - i. The ease with which sunlight access can be protected is inversely proportional to the density of development. At higher densities sunlight is harder to protect and the claim to retain it is not as strong.
 - ii. The amount of sunlight lost should be taken into account as well as the amount of sunlight retained.
 - iii. Overshadowing arising out of poor design is not acceptable, even if it satisfies numerical guidelines.
 - iv. In areas undergoing change, the impact on what is likely to be built on adjoining sites should be considered as well as the existing development.

14. Visual and Acoustic Privacy

Building design must take into consideration aspects of visual privacy and noise sources and minimise their future impacts on occupants. Amenity is enhanced by privacy and a better acoustic environment. This can be achieved by carefully considering the location of the building on the site, the internal layout, the building materials used, and screening devices. Major roads and rail operations generate noise and vibration, and people living and working near major transport corridors can be adversely affected. Major roads can also impact on air quality due to their volume of traffic. Building design must take into consideration the noise, vibration and air quality effects of busy roads and rail corridors and minimise the amenity and health impacts on future occupants.

14.1 Objectives

1. Ensure a high level of amenity by protecting the acoustic and visual privacy of occupants within all built development and in private open spaces.
2. Ensure buildings are sited and designed so that acoustic and visual privacy and vibration from outside sources are controlled to acceptable levels.
3. Minimise direct overlooking of windows and private open space so that the amenity of adjoining school yards, neighbours and intended occupants is respected.
4. Recognise the outlook and views from principal rooms and private open space without compromising visual privacy of others.

14.2 Controls

1. Locate, orientate and design new development to maximise the provision of visual privacy.
2. In relation to Site 10 on the eastern side of University Road, potential for overlooking of the Sensory Regulation Playground at Miranda Public School is to be minimised through the careful orientation of balconies and windows, coupled with screening devices. A masonry boundary fence 2.4m high is to be provided along the boundary of the Sensory Regulation Playground. A 2m high masonry fence is to be provided along the remainder of the common boundary with Miranda Public School for Sites 8, 10 and 13.
3. Use detailed site and building design elements to increase visual privacy without compromising access to light and air.
4. All noise generating equipment such as mechanical plant or equipment, air conditioning units, swimming pool filters, fixed vacuum systems, mechanical ventilation from carparks, driveway entry shutters, garbage collection areas or similar must be designed to protect the acoustic privacy of residents and neighbours. All such noise generating equipment must be acoustically screened. The noise level generated by any equipment must not exceed an LAeq (15min) of 5dB(A) above background noise at the property boundary.
5. Residential development adjacent to a rail corridor or a busy road as identified on the Road and Rail Noise Buffer Map should be sited and designed to include noise and vibration attenuation measures to minimise noise and vibration impacts. Refer to State Environmental Planning Policy (Infrastructure) 2007 and the NSW Department of Planning's *Development near Rail Corridors and Busy Roads – Interim Guidelines*.

Notes:

Compliance with the NSW Planning and Environment's *Development near Rail Corridors and Busy Roads – Interim Guidelines* is mandatory for roads with an annual average daily traffic (AADT) volume greater than 40,000 and is best practice advice for roads with an AADT volume of 20,000 - 40,000 (based on the traffic volume data available on the website of the RTA).

The Guidelines apply to development:

- located up to 300m from the road kerb and with a direct line of sight to busy roads, and, or
- located within 80m of an operational rail track

The Guidelines require that noise levels in any such residential development not exceed:

- LA eq of 35dB (A) measured within any bedroom in the building at any time between 10pm-7am and
- LA eq of 40dB(A) measured within any bedrooms between 7am-10pm and anywhere else in the building (other than a garage, kitchen, bathroom or hallway) at any time.

Depending on the classification of a development using the screen tests in the *Development near Rail Corridors and Busy Roads – Interim Guidelines*, compliance with specified noise control treatments (Appendix C) may be required or an assessment by an acoustic consultant may be required.

To increase visual and acoustic privacy, building design elements should be used such as recessed balconies and /or vertical fins between adjacent balconies, oblique windows, louvres and pergolas which limit overlooking of lower dwellings, private open space and adjoining school yards.

15. Adaptable and Livable Housing

Adaptable and 'livable' (universally designed) dwellings are conventional dwellings that incorporate construction and design elements to meet people's changing mobility requirements over their lifetime (e.g. level pathways, wider doorways and corridors and reinforced bathroom walls to enable future installation of grab rails). The focus is on creating safe, accessible and functional housing for a diverse demography including the elderly, families with children and people with permanent or temporary disabilities.

An 'adaptable dwelling' is a dwelling with design features that are easily adapted at a later date to flex with the changing needs of the occupants, as specified in AS 4299 (Adaptable Housing). The provision of adaptable housing units within a development can assist people to continue to live in a dwelling which is suited to their mobility and level of ability. It is far more cost effective than relocation or substantial building renovations to modify a home to be more accessible at a later date. Adaptable housing is an important part of the housing mix in the Shire as the number of people over the age of 55 years is above the Sydney average. It is also increasing as a proportion of the total population.

A 'livable' dwelling is a form of adaptability that incorporates elements 'designed in' at the construction stage, thus not requiring subsequent modification or adaptation through the lifecycle of occupants.

For the purpose of this section, a livable dwelling means a dwelling designed to Silver Standard *Livable Housing Design Guidelines*.

15.1 Objectives for Adaptable and Livable Housing

1. Provide housing that will meet the access and mobility needs of any occupant.
2. To ensure a suitable proportion of dwellings include layouts and design features to accommodate changing mobility requirements of residents.
3. To promote ageing in place by extending the usability of dwellings to meet 'whole of life' needs of the community.

15.2 Controls for Adaptable Housing

1. All new multi dwelling housing must provide dwellings designed in accordance with the *Australian Adaptable Housing Standard (AS4299)* to Class C Certification at the following rates:
 - Development containing 3-5 dwellings – none.
 - Developments of 6 or more dwellings – 20% adaptable
2. When the calculations for the number of dwellings results in a fraction, numbers $\leq .5$ should be rounded down.
3. Variations will be considered where it can be demonstrated that site conditions would preclude achieving the controls.
4. An applicant will need to demonstrate compliance with the adaptable housing provisions. This may include a report prepared by an appropriately qualified person

submitted with the development application, specifying how the proposal has addressed the requirements in this chapter, the relevant Australian Standards (e.g., *Australia Standard 1428 – Design for access and mobility*) and the National Construction Code.

5. The design of adaptable dwellings must be integrated into the development with the use of consistent materials and finishes.

15.3 Controls for Livable Housing

1. In addition to complying with the adaptable housing rates in clause 1 above, all new multi dwelling housing developments must provide 'livable dwellings (i.e., dwellings designed to Silver Standard *Livable Housing Design Guidelines*) at the following rates:
 - Developments containing 3- 5 dwellings – 1 dwelling.
 - Developments of 6 or more dwellings –10% of dwellings.
2. When the calculations for the number of dwellings results in a fraction, numbers $\leq .5$ should be rounded down.
3. Dwellings provided in accordance with Clause 1 must incorporate the following *Livable Housing Design Guidelines* :
 - An accessible continuous path of travel from the street entrance and/or parking area to dwelling entrance.
 - At least one level entrance into the dwelling.
 - Internal doors and corridors width that facilitate comfortable and unimpeded movement between spaces.
 - A toilet on the ground (or entry) level that provides easy access.
 - Reinforced walls around the toilet, shower and bath to support the safe installation of grab rails at a later date.
 - A continuous handrail on one side of any stairway where there is a rise of more than one metre.
4. On-site car parking spaces shall be in accordance with Australian Standard – AS 2890.1 (as amended) and Australian Standard – AS 2890.6.
5. Where proposed, all 'livable' dwellings must be clearly identified on the submitted DA plans.
6. Variations to (1) will only be considered where it can be demonstrated that site conditions would preclude achieving the controls.

Note:

For further details on the *Livable Housing Design Guidelines*, applicants are encouraged to visit www.livablehousingaustralia.org.au.

16. Safety and Security

In April 2001, the NSW State Government introduced *Crime Prevention Through Environmental Design (CPTED)* to Section 4.15 of the *Environmental Planning and Assessment Act, 1979*. The guidelines require consent authorities to ensure development provides safety and security for users and the community. If a development presents a crime risk, the guidelines can be used to justify modification of the development to minimise crime risk, or refusal of the development on the grounds that crime risk cannot be appropriately minimised.

16.1 Objectives

1. Reduce crime risk and minimise opportunities for crime.
2. Encourage the consideration and application of crime prevention principles when designing and siting buildings and spaces.
3. Encourage dwelling layouts that facilitate safety and encourage interaction and recognition between residents.
4. Ensure pedestrian and vehicle safety.

16.2 Controls

1. The design of development is to incorporate *Crime Prevention Through Environmental Design* principles.
2. Development is to be designed to incorporate and/or enhance opportunities for effective natural surveillance by providing clear sight lines between public and private places, installation of effective lighting, and the appropriate landscaping of public areas.
3. Balcony balustrades should respond to the location, being designed to allow views and passive surveillance of the street while maintaining visual privacy and allowing for a range of uses on the balcony.
4. Driveways and fencing must provide adequate sight distance for the safety of pedestrians using the footpath area.

Note:

For further information, refer to:
NSW Police Service 2001, *Safer by Design*
NSW Department of Urban Affairs and Planning 1979, *Crime Prevention and the Assessment of Development Applications, Guidelines under Section 4.15 of the Environmental Planning and Assessment Act, 1979*.

17. Parking

Accommodating vehicles can have a significant impact on the design of new development. The location and layout of the parking will influence the layout and design of buildings and landscaping. All development must satisfy the demand for parking that it creates within its own site. The provision of sufficient parking must not compromise the safety of the on street and off street environment for vehicles, pedestrian and cyclists. Parking is required for different types of vehicles according to the proposed use. Vehicles include passenger vehicles, motor bikes, light vehicles and heavy vehicles and pushbikes.

Vehicular access across footpaths to roadways presents a potential point of conflict between vehicles, pedestrians and cyclists. As such the design and location of vehicle footpath crossings requires careful consideration to ensure public safety is optimised.

17.1 Objectives

1. Ensure all land uses and/or combination of activities provides sufficient parking on site to satisfy the demand for parking by different vehicle types generated by the development including Traffic Generating Development.
2. Minimise amenity impacts on neighbouring properties including streetscape, noise and light spill.
3. Maximise safety for residents and visitors to the development.
4. Minimise potential conflicts between pedestrians and vehicles.
5. Minimise the impact of noise and glare from vehicle movements on dwellings within or external to the site.
6. Optimise traffic flows and public safety.
7. Ensure that the most appropriate access point is used to optimise traffic flows, public safety and preserve kerbside parking.
8. Ensure safe and orderly movement of traffic.

17.2 Controls

1. Car parking shall be provided in accordance with the following table.

Residential Accommodation	
Residential Flat Building	A minimum of 1 space per 1 bed, 1.5 spaces per 2 bed, 2 spaces per 3 bed, Plus 1 visitor space per 4 units * Maximum: up to 3 car spaces per unit

*Where more than the minimum parking spaces are proposed per dwelling, the additional space/s will only be considered to meet Council's requirements for parking, and be excluded

from the calculation of gross floor area, if it is provided within a basement and meets the objectives and controls for basement specified in Streetscape and Building Form.

Maximum parking rates in a basement meet Council's requirement for parking, and as such are not included in the calculation of gross floor area.

2. Where the development proposal raises unique traffic and parking issues, or where development is identified as Traffic Generating Development, then a Traffic Report shall be completed.
3. When the calculations for the number of parking spaces results in a part or fraction of a parking space of 0.5 or greater for the whole development, then the actual number shall be rounded up. For example 1.5 spaces shall be rounded up to 2 spaces for the whole development.
4. Where a development is identified as Traffic Generating Development then the parking requirement specified in the RTA Guide to Traffic Generating Development shall apply.
5. Developments with 10 or more dwelling require one designated carwash bay with minimum dimensions of 3m x 7.6m. Additional carwash bays are required in development in excess of 30 dwellings at a rate of 1 per 20 dwellings.
6. Where a development is on the lower side of the roadway or where basement car parking is proposed, the driveway is to be a maximum grade of 5% for 3m immediately inside the boundary to ensure driver visibility.
7. The minimum vehicular crossing and driveway width for a combined vehicular crossing (Entry/Exit) is 5.5m and 4m for a separate vehicular crossing with a minimum spacing between driveways of 3m
8. The design of the all vehicle access ways shall enable all vehicles to enter and leave the site in a forward direction. Turning areas shall be provided to enable a maximum 3-point turn to achieve this egress.
9. Car parking areas must be designed to minimise headlight glare onto the windows of dwellings within the site or neighbouring properties.
10. As a minimum, developments must provide 1 bicycle space per 10 car parking spaces for the first 200 car spaces, plus 1 space per 20 car parking spaces thereafter.
11. Bicycle parking facilities are to be installed in accordance with Australian Standard AS2890.3 – Bicycle Parking Facilities (as amended), Austroad's Guide to Traffic Engineering Practice – Part 14 Bicycles and the Austroads Bicycle Parking Facilities: Guidelines for Design and Installation (AP-R527-16).
12. Bicycle parking facilities must address the following design principles:
 - a. Accommodate all usual types of bicycles such that damage to them is minimised during storage and retrieval.
 - b. Not pose a hazard to bicycle users, pedestrians or motorists.
 - c. Be well lit, safe and secure, easy to access and use.
 - d. Cater for the different needs of residents, employees and visitors to the development.

- e. Be located in convenient and accessible locations within the development that allow for good passive surveillance; such as near key building entrances, the lobby and the lift core.
 - f. When located within a car park, preferably be situated at street level and in a manner that provides the most direct, safe and convenient access while minimising conflict with vehicles and pedestrians.
 - g. Where a bicycle parking and storage facility cannot be located at street level, it must be located no more than one level above or below street level. Access to street level entry and exits must be direct, safe and minimise potential conflicts with vehicles.
13. Further design requirements for car parking and access is provided for in Chapter 36 Vehicular Access, Traffic Carparking and Bicycles.

18. Waste Management Requirements

The design of waste and recycling storage areas within the development determines the efficiency of waste handling as well as affecting occupant amenity and the streetscape presentation of the development.

Multiple households within the property increase challenges with regard to minimising the volume of waste, the ease of access, and the efficiency of waste sorting and removal systems.

18.1 Objectives

1. Ensure appropriate waste storage and collection facilities.
2. Maximise source separation and recovery of recyclables.
3. Ensure waste management systems are intuitive for occupants and are readily accessible, integrated with the design of a development.
4. Minimise risk to health and safety associated with handling and disposal of waste and recycled material, and ensure optimum hygiene.
5. Minimise adverse environmental impacts associated with waste management.
6. Discourage illegal dumping by providing on site storage and removal services for hard waste. Hard waste consists of discarded items of bulky household waste which are awaiting removal.
7. Enable the servicing of the waste management system on site, and the efficient collection of waste and recyclables by collection service providers, with minimum disruption and impact on the community.
8. Ensure bin storage areas/rooms do not dominate the streetscape.

18.2 Controls for multi dwelling housing, residential flat buildings and the residential components of shop top housing and mixed use developments

1. For new multi dwelling housing, residential flat buildings and the residential components of shop top housing and mixed use developments provision for waste management, including storage areas, separation of waste from recyclables, collection areas and the like must be in accordance with Sutherland Shire Council's "Waste Collection Policy for Multi-Unit Dwellings and Residential Flat Buildings".

18.3 Controls (except for multi dwelling housing, residential flat buildings and the residential components of shop top housing and mixed use developments)

1. A waste storage area is to be provided for all developments to store bins for general waste and recyclables. The area must have sufficient space for the storage of garbage, recycling and green waste generated by the development.
2. The residential waste generation rate per dwelling is 120 litres per week of general waste plus 120 litres per week of recycling (for dwelling houses and each dwelling in a dual occupancy), and up to 120L of green waste per week.

Twice weekly collections of 240L bins by Council (by arrangement with Council) can reduce the number of bins required.
3. The location and design of the waste storage area must not detract from the amenity of the development and the character of the streetscape.
4. The location of waste and recycling facilities must not impact on car parking or landscaping requirements of the development.
5. Waste and recycling facilities must be designed to prevent litter and contamination of the stormwater drainage system.
6. Developments must be designed so that bins do not need to be wheeled more than 75 metres.
7. For wheeled bins, a kerbside garbage collection point must be nominated that has sufficient space where they will not pose a traffic hazard. Wheeled bins should not be placed near intersections, roundabouts, slow points or busy arterial roads, or take up more than 50% of the street frontage when presented in single file to the kerbside for collection, with adequate space between the bins to allow for collection (approximately 300mm).
8. Where an agreement has been reached with Council to service 240L bins on site, the site and driveway must accommodate Council's waste collection vehicles. To enable handling of bins during collection the maximum driveway gradient is 5%.
9. Where a private waste contractor is required to service a development, the site and driveway must be designed to accommodate waste collection vehicles used by the private contractor.
10. It is preferable for waste trucks to enter the site in a forward direction, but it is permitted for waste trucks to reverse onto a site, where design and site conditions make it safe to do so. It is never acceptable for a truck to reverse out of a site.
11. The preferred location for storage areas/rooms at ground level is behind the building setback. The storage area must:

- i. be integrated into the overall building design and constructed of materials compatible with the new development;
 - ii. be located in an area so as not to compromise the amenity of the occupants of the development and of adjacent properties in terms of noise, odour and aesthetic impact, such as on a rear land frontage, near windowless walls, away from pedestrian areas and in the least visually obtrusive position; and
 - iii. be screened from view from the street with built form and landscaping so as to not detract from the streetscape.

12. One of the following options for waste collection can be nominated:
 - i. **Waste collection by Council:** where the waste is in 240L bins and the required number of 240L bins does not take up more than **50% of the site street frontage** when presented in single file to the kerbside for collection, these bins may be collected by Council's Waste Services. Bins must be spaced to allow for ease of collection (approximately 300mm). The bins are to be stored in the basement or in a designated bin enclosure set; or
 - ii. **Waste collection by private contractor** (or Council by special arrangement): Where 240L bins take up more than 50% of the site street frontage, larger bins can be used for garbage, recycling and green waste provided the bins are stored in a basement or in an enclosure within 10m of the street. Where it is necessary to move the bins for collection, the bins must be moved by an employee of the body corporate from the storage area to a level area which can be serviced from the driveway to allow for ease of collection. It may be acceptable for the waste truck to straddle private and public property during collection, subject to Council's approval of the arrangement. If the development proposes to rely on Council for collection of waste, prior agreement from Council's Waste Operations Controller must be obtained. A Waste Management Plan for the development must be approved by Council's Waste Operations Controller prior to DA lodgement.

13. Developments with rear lane servicing access can locate waste storage areas in enclosed spaces at ground level for rear lane waste collection.