STRATHFIELD MUNICIPAL COUNCIL

PART C
of
Strathfield
Consolidated Development
Control Plan

Multiple-Unit Housing

(Replaces DCP No. 3)

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1.0 INTRODUCTION

Refer to “General Introduction” of this Consolidated Plan in regards to Background, General Introduction and Definitions etc.

1.1 Purpose of Part C

Part C aims to achieve residential development within the Strathfield Municipal Council Area which is sympathetic and appropriate for the natural and built environment, acceptable to the community and economically feasible.

1.2 Objectives of Part C

The specific objectives of Part C are:

1. To maintain and improve the amenity and character of medium density residential areas in the Council area.

2. To ensure that new residential development is of a type, scale, height, bulk and character that is compatible with the particular streetscape characteristics of the area in which it is proposed.

3. To promote residential development that is attractive, functional, innovative and is of a high quality.

4. To maximise solar access and privacy to existing and proposed developments.

5. To provide an acceptable acoustic environment for residents through appropriate design, layout and construction measures, which mitigate noise and vibration impacts from nearby road and rail transport activities.

6. To preserve existing mature vegetation and encourage the planting of native vegetation suitable for the area.

7. To ensure that an adequate number of on-site car parking spaces are provided for residents and visitors.

8. To ensure that adequate provision is made for landscaped open space for the enjoyment of residents.

9. To promote high quality landscaped areas which complement the overall development and which assist in maintaining existing streetscape quality.

10. To ensure that the heritage value of individual buildings and conservation areas is not compromised by new multiple-unit residential development.

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2.0 SITE PLANNING AND DESIGN PROVISIONS

2.1 Site Analysis and Design Principles

Site Analysis

Objective:

To ensure that site layout and building design consider the existing characteristics, opportunities and constraints of the site and the surrounds which will result in a design sensitive to its environment and be of high quality.

Guidelines and Controls:

All applications must include a site analysis drawing which demonstrates the following matters have been taken into consideration in the design and documentation of applications:

Site	Surroundings
• Survey details, including changes of levels • Easements (drainage or service) • Existing vegetation and other significant site features • Existing buildings or structures • Site orientation and solar access • Significant noise sources • Views • Pedestrian and vehicle access • Natural drainage	• Location, height and use of neighbouring buildings (including location of doors or windows facing the site) • Predominant built form and character of locality (including fencing and garden styles) • Private open space areas adjacent to site • Adjacent public open space • Location of major trees on adjacent properties • Elements of street frontage (street trees, vehicular cross-overs, bus stops, etc) • Differences on levels between site and neighbouring properties • Significant noise sources, such as railway or roads

Refer to Figure 1 for an example of a site analysis drawing.

Design Principles

A site analysis must be carried out in respect of all proposals.

Site layout and building design are to consider the existing characteristics, opportunities and constraints of the site and the surrounds to result in a high quality design that is sensitive to its environment.

Council will consider the results of the site analysis, and will not grant consent to a multiple-unit residential development unless it is satisfied that:

1. The development is consistent with the height limits illustrated in Appendix 1.
2. The development is compatible with the predominant height, bulk, scale and future character of the locality.

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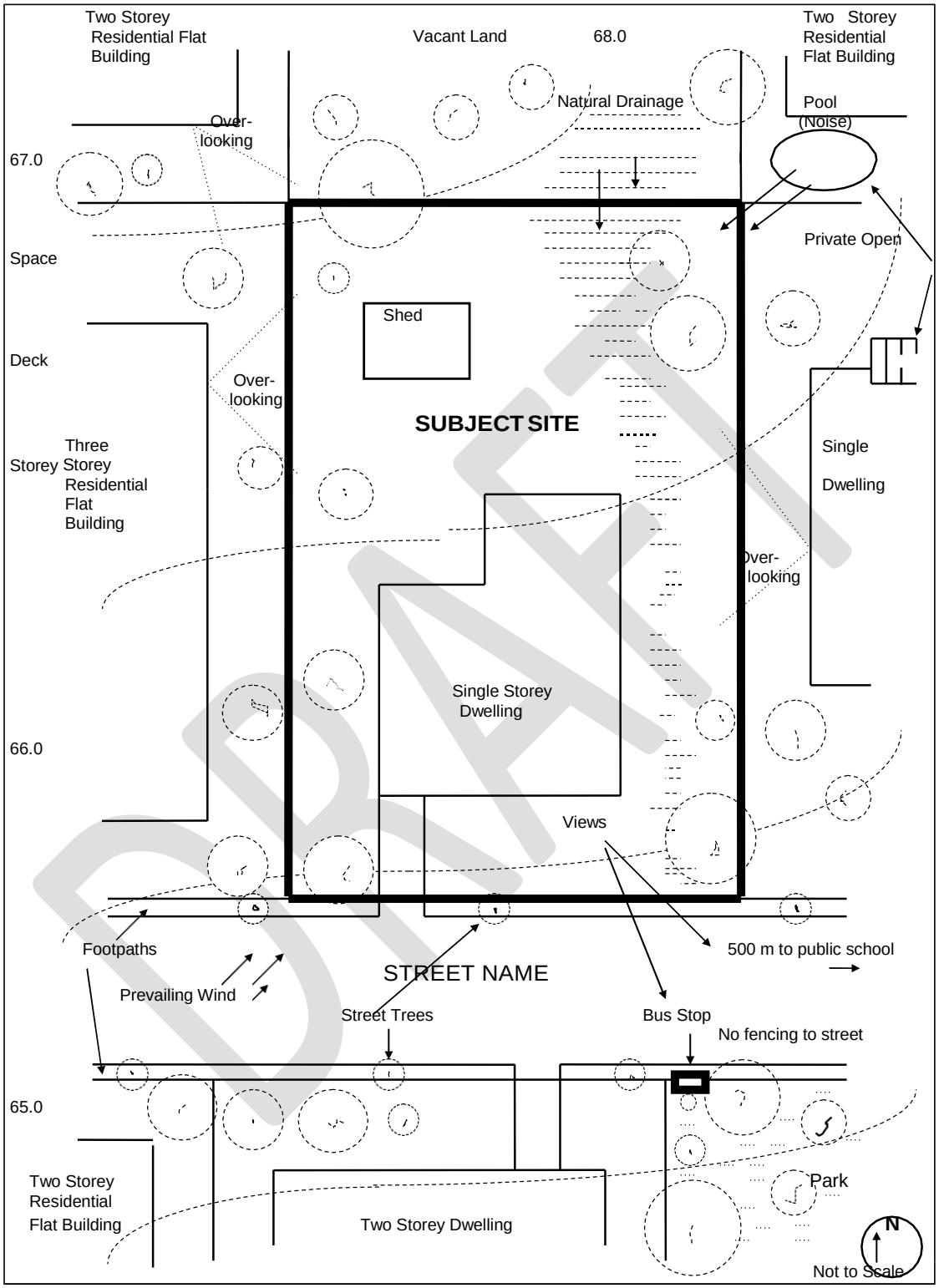


FIGURE 1: SITE ANALYSIS DRAWING

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3. The proposed development is generally consistent with the existing streetscape character of the locality (as defined in Appendix 2).
4. The height, scale, character and external detailing of the development is compatible with any adjoining heritage item or conservation area.
5. The development is unlikely to adversely affect the amenity of any existing residential development in terms of overshadowing, privacy, excess noise, loss of views or otherwise (refer to Figure 2).

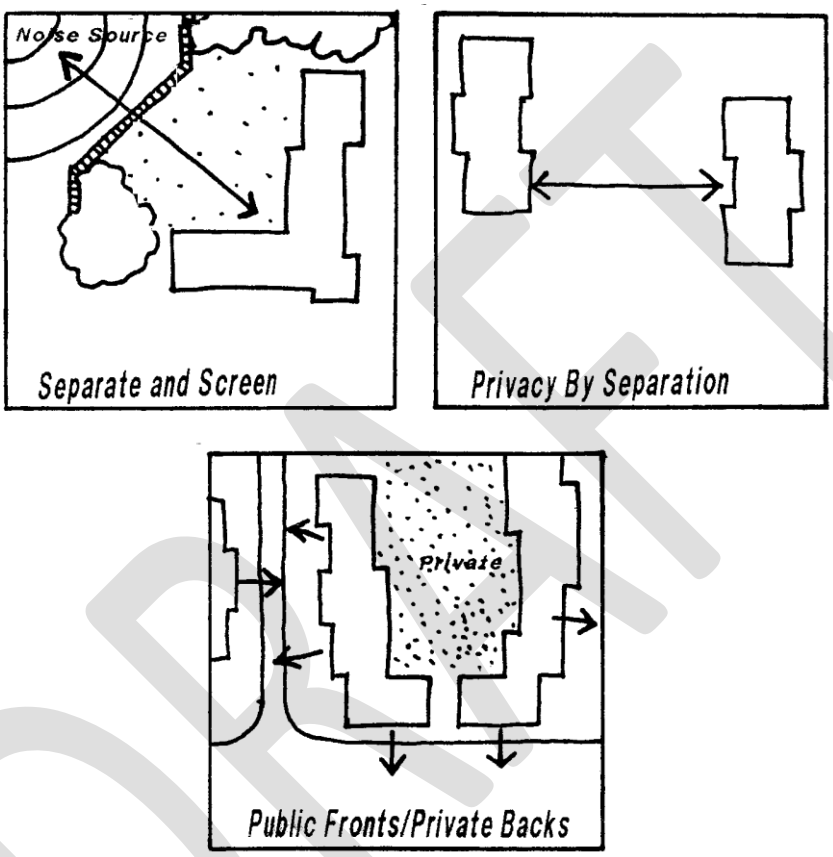


FIGURE 2: PRIVACY AND NOISE IS A KEY CONSIDERATION AT THE SITE PLANNING AND LAYOUT STAGE

Source: AMCORD 1997

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2.2 Density, Bulk and Scale

Objectives:

a) To establish appropriate building envelopes for multiple-unit residential development throughout the Strathfield Municipality, while allowing flexibility in siting buildings;
b) To ensure that the amenity, character and environmental quality of the Strathfield Municipality is maintained by grouping together compatible residential development;
c) To clearly define appropriate site requirements for multiple-unit residential development; and
d) To encourage vertical, rather than stepped or terraced building forms, as appropriate to an area's predominant built character.

Site Requirements

The following site requirements are the basic minimum area requirements for all residential development, and in particular, sites with frontage to an arterial road:

1. Multiple-unit housing shall not be permitted on allotments less than 1000m^2 in area and 30 metres in width. The frontage of all sites however should be of sufficient width to permit adequate and safe vehicular access, and side boundary setbacks.

2. Along arterial roads, a minimum allotment frontage of 25m is required. Exceptions to this standard will only be considered where:
   (i) alternative means of access via a secondary street is available; or
   (ii) where, due to site constraints, a frontage of 25m is not possible, and no objection is raised on traffic grounds.

Building Envelope (Height, Scale and Setbacks)

Building Height and Scale:

1. The bulk, scale and height of any development shall be determined by the building envelope applicable to the site, as set out below. The maps included in Appendix 1 identify the location of the Density sub-zones.

Density Sub-Zone	Maximum Storeys Permissible
5-7 storey units	5-7 storeys
3-4 storey units	4 storeys
2-3 storey townhouses and units	3 storeys
up to 2 storey, townhouses	2 storeys
villa houses	1 storey

2. The finished floor level of the ground floor units, being the units with immediate access to street level shall be not more than 1200mm above the natural ground level.

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Front Setbacks:

1. Front boundary setbacks are intended to achieve a reasonably consistent arrangement and alignment of buildings to the street where there is a particular feature of the streetscape, provide areas for landscape planting in front of buildings, and to achieve adequate sight distances for vehicular safety, particularly at intersections.

   Developments are required to comply with the following front setback controls:
   (i) Subject to exceptions set out below, a minimum setback to the street alignment of 9m is required for all new buildings.
   (ii) For sites with frontage to two or more streets, the total sum of the two setback areas must be equal to or greater than 12 metres and each setback must be a minimum of 3 metres.
   (iii) All car parking structures are to be located behind the front building alignment. On corner sites in particular, such structures should be designed and suitably landscaped or screened to ensure the character and visual amenity of the streetscape is maintained and not compromised. Generally, all parking areas are to be located behind the front building line. Council may permit surface visitor parking within the building setback, provided the finished surface complements the landscaping and allows surface water to permeate and a substantial landscaping buffer is provided to screen the spaces from the street.

2. Not withstanding requirement 1, developments may be setback less than 9 metres where the predominant setback in the street block is less than 9 metres or the setback would not conflict with the existing streetscape.

Building Envelope and Side and Rear Setbacks:

1. Buildings shall be sited within a building envelope determined by a plane projected at an angle of 45 degrees over a site from a height of 3.5m above natural ground level along the side and rear boundaries of the land, subject to the matters listed below (refer to Figures 3, 4 and 5).

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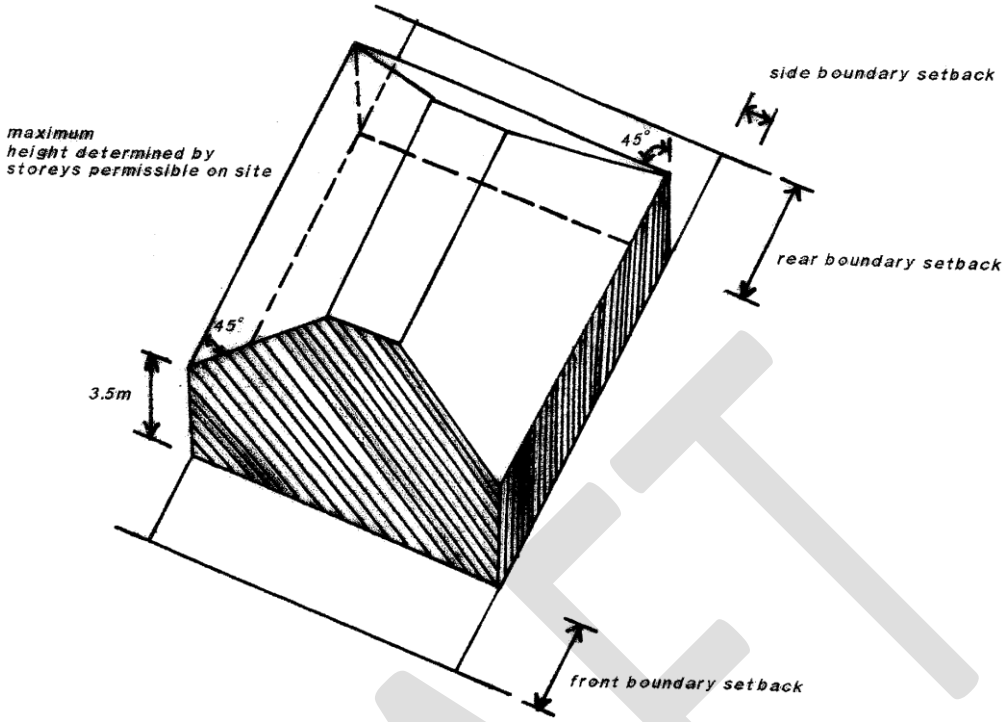


FIGURE 3: BUILDING ENVELOPE

Source: AMCORD 1997

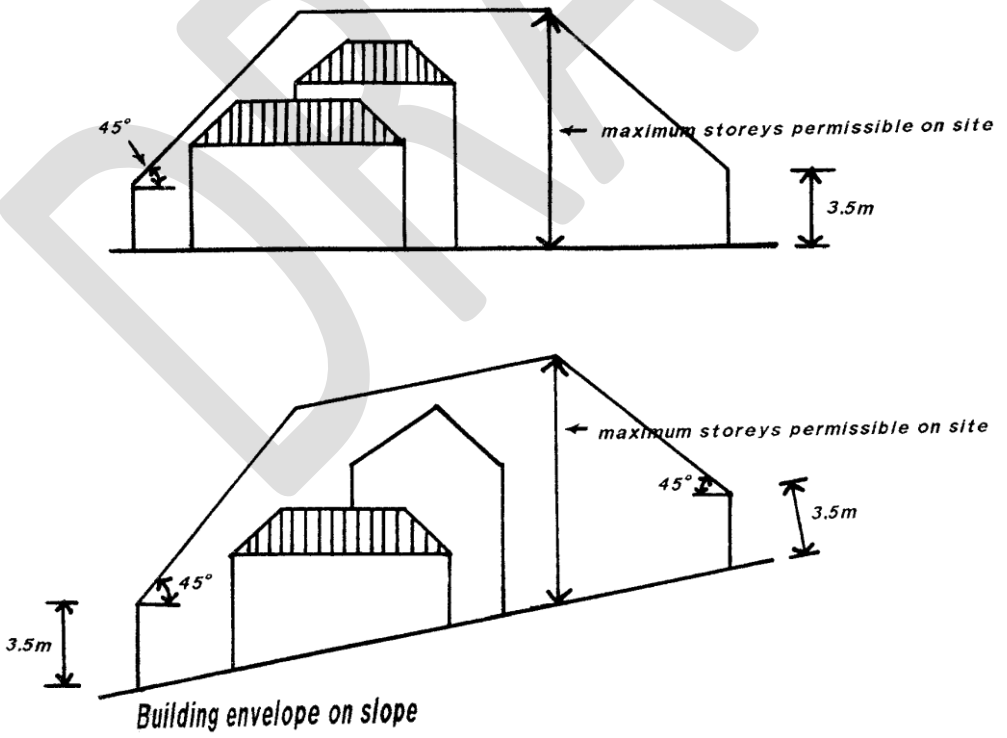


FIGURE 4: SIDE ELEVATION OF BUILDING ENVELOPE

Source: AMCORD 1997

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2. Departures from the building envelope will be considered for characteristic design elements, such as chimneys, vents and eaves, and for other features such as dormer windows and aerials where it can be demonstrated that no significant non-compliances are likely to occur with the privacy and overshadowing provisions of this Plan.

3. Buildings should be sited in a manner which is consistent with the principles contained in the Streetscape Analysis included in Appendix 2, and should maintain or enhance the existing streetscape, particularly where there is an established building line.

4. Side and rear setbacks are intended to maintain a reasonably consistent relationship between buildings, allotment boundaries and adjacent development, limit potential for overlooking of neighbouring properties and allow adequate daylight, sunlight and ventilation to living areas and private open spaces of new and neighbouring dwellings.

   Within the building envelope, developments are required to comply with the following side and rear setback controls:

   (i) A minimum side setback of 4 metres each side shall be provided in all development. Minor encroachments to this minimum setback shall be considered on their merits for elements such as eaves, pergolas, electricity or gas meters, steps, ramps or the like.

   (ii) Side and rear setbacks for buildings containing 2 or more storeys shall be determined by the building envelope, and the ability of the development to comply with Solar Access and Privacy requirements as set out in sections 2.3 and 2.6 of this Plan. Encroachments to the building envelope and setback controls will be considered on sites with frontage to a public place (including road or open space area), and will be determined on their merits.

   (iii) Exceptions to the side and rear setback controls will also be considered for sites with frontage to a major noise source, such as an arterial road or the railway line. The extent and nature of variations will be determined on the merits of the case.

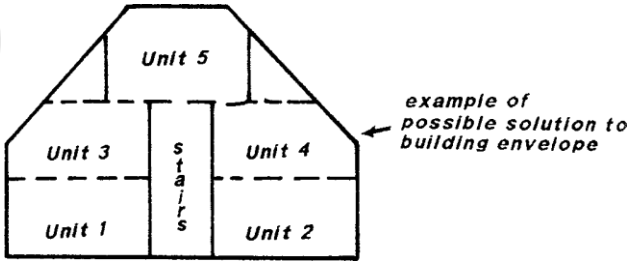


FIGURE 5: AN EXAMPLE OF A SOLUTION TO THE BUILDING ENVELOPE

Source: AMCORD 1997

Basement Setbacks:

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The outer walls of basements shall comply with the setbacks required in this section.

Setback from Easements:

Sydney Water Corporation requires that all buildings and structures be at least one metre from any easement or public sewer main. Exceptions may be considered on their merit. In all cases, development must comply with the Corporation's requirements for building over or adjacent to sewer mains.

2.3 Dwelling Unit and Building Design

Objectives:

a) To ensure that a choice of housing is available throughout the Strathfield Municipality.

b) To ensure that housing is accessible to older people and people with mobility disabilities.

c) To encourage materials used in new developments to be compatible with adjoining developments and the streetscape in terms of type, form and colour.

Guidelines and Requirements:

Building Design

1. A minimum of 15% of the total number of dwellings within every multiple unit development must be designed in accordance with Australian Standard AS 4299 – Adaptable Housing (Class C) to ensure units are internally designed to allow occupation by older people and people with disabilities.

2. For areas designated for townhouses/villas in Part C Maps included in Appendix 1, the following building design requirements apply:

   - Developments are to incorporate a minimum 6 metre building separation at the halfway point of the length of the allotment (refer to Figure 5A).
   - No single building shall have a continuous wall length of more than 30 metres without a separation.
   - The building closest to the street frontage can consist of townhouses and villa homes and the rear building(s) shall consist of villa homes only.

3. For developments consisting of all townhouses, 50% of the total number of townhouses are to have at least one bedroom and bathroom facilities located on the ground floor.

4. For residential flat developments, at least one main entry which is convenient and provides a barrier free access must be provided for access (complying with AS1428.1) to ground floor units.

5. Walls along adjoining property boundaries shall be broken or staggered at intervals of at least every 10 metres so as to avoid appearing unduly massive or long.

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6. Access to common areas should be direct and without unnecessary barriers. Obstructions which cause difficulties should be avoided. These include:
   - uneven and slippery surfaces
   - steep stairs and ramps
   - narrow doorways, corridors and paths
   - devices such as door handles that require two hands to open.

7. Adequate and convenient seating and amenities for people with mobility disabilities is to be provided.

8. Adequate parking for people with mobility disabilities, and safe, easy and convenient access to the building shall be provided. Parking spaces for persons with disabilities which is provided within basements is to have wheelchair access to the residential units by either a ramp with a 1:14 gradient, a passenger lift complying with AS1735.12 1999 or a fixed stair lift complying with AS1735.7 -1998.

9. Design of the building must comply with the Building Code of Australia and Australian Standard AS1428 1 – 2001 Design for Access and Mobility.

10. Building materials, finishes and colours are to be sympathetic with the materials, finishes and colours of adjoining buildings and buildings in the streetscape.

11. In order to maintain the character of the Strathfield Municipality, the preferred finish of buildings are face brick and tile. The following requirements apply to brickwork:

    - Dark and light toned bricks of different colours shall not be used together in the same brickwork, so that the brickwork does not detract from the appearance of the streetscape.
    - Darker and lighter toned bricks of the same colour may be used in brickwork where the colour and appearance of the different tones add interest and are sympathetic to the streetscape.
    - Mottled colours and mottled tones of the same colour in the composition of individual bricks, may be used in brickwork where the colours and appearance are sympathetic to the streetscape.

12. A mixture of face brick and painted cement render is permissible to provide variation and contrast, however, face brick must be the predominant finish. Non traditional building materials such as fake sandstone and metallic finishes are discouraged.

13. Colours used on the proposed finishes are to be natural/subdued tones that are not bright or white so that they do not detract from the streetscape. Where cement rendering or textured finishes are proposed to be used, the colours of the proposed finishes are to be provided by way of colour charts submitted with the development application.

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Unit Sizes and Layout

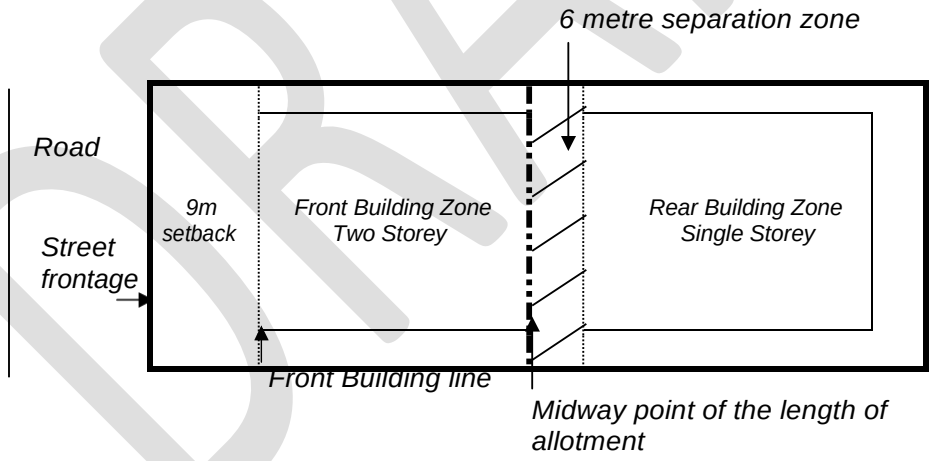
14. The following minimum unit sizes shall apply

Dwelling type	Size in m^2
1 bedroom apartment	70
2 bedroom apartment	85
3 bedroom apartment	100
More than 3 bedroom apartment	110
2 Bedroom townhouse/villa	100
3 bedroom townhouse/villa	110
More than 3 bedroom townhouse/villa	120

Attic Space

15. Council does not permit the use of attic space for any form of habitable purposes including living area, bedrooms, balconies, study or the like. Attic space can be used for storage purposes however no dormer windows are permissible.

BUILDING FOOTPRINT FOR REGULAR SIZE BLOCKS



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BUILDING FOOTPRINT FOR LONG BLOCKS

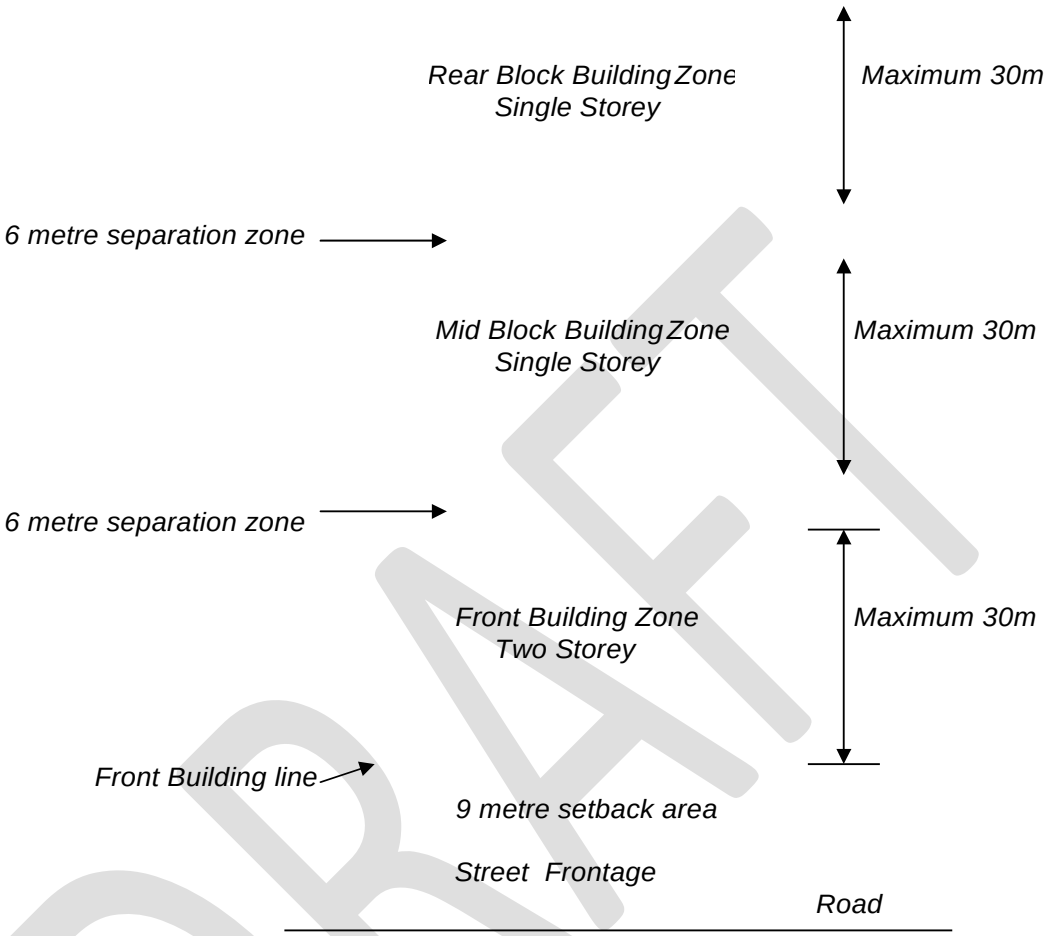


FIGURE 5A: BUILDING DESIGN FOR TOWNHOUSE/VILLA DEVELOPMENTS

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2.4 Energy Efficiency and Water Conservation

This section of the DCP has been developed as part of the Council's and growing community's desire to achieve greater efficiency in domestic energy use. It stems from the concern about the effects of greenhouse gases generated by energy use on the environment and over use of domestic water supplies.

The following provisions illustrate how energy efficiency can be achieved in all new developments through the use of appropriately designed buildings, passive solar energy, use of energy smart appliances and water efficiency which will dramatically reduce the need for non-renewable energy thereby reducing both costs and air pollution and in turn increase the level of living standards and comfort within the dwelling.

Applicants are encouraged to consult the Sustainable Energy Development Authority's (SEDA), *Energy Smart Homes Policy* for design solutions to the minimum requirements specified in this plan.

Objectives:

a. To locate buildings and open space areas so that existing and proposed dwellings have reasonable access to sunlight, shade and have optimal outlook and aspect; and
b. To achieve a high level of energy efficient urban housing, using passive solar design, that provides residents with all year round comfort and reduces energy consumption; and
c. To conserve water via the use of rainwater tanks and water-saving appliances; and
d. To encourage the use of devices which promote energy efficiency and water conservation and which respect the residential qualities of the areas in which they are located; and
e. To promote the reduction of greenhouse gas emissions through ensuring a thermally efficient building envelope and the use of greenhouse gas friendly hot water systems; and
f. To encourage building materials and insulation which assist in thermal performance and maintain internal comfort levels; and
g. To encourage the use of recycled building materials where appropriate.

General

An Energy Performance Statement is required to be submitted which details and justifies the energy performance of the proposal, covering thermal efficiency, greenhouse gas friendly hot water systems, provision of suitable outdoor space for clothes drying, the inclusion or otherwise of clothes dryers with a minimum SEDA Greenhouse Appliance Score of 3.5. The statement must also address any overshadowing of adjoining properties, energy efficiency influences on the landscape design and general efficient influences on the design in general.

The individual elements to be covered in the Energy Performance Statement are detailed below.

2.4.1 Energy Efficiency

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Requirements

Thermally efficient building envelope

1. All proposals for multiple unit housing developments must achieve, for each unit proposed, a minimum House Energy Rating of 3.5 stars (using Nationwide House Energy Rating Software NatHERS or equivalent), assessed by an accredited HMB Assessor - accredited by the House Energy Rating Management Body (HMB).

2. A NatHERS assessment must be submitted for each unit plan which has a unique solar orientation and position within the development. The Energy Performance Statement must justify why rated units have been selected as 'representative' of the thermal conditions of the non-rated units.

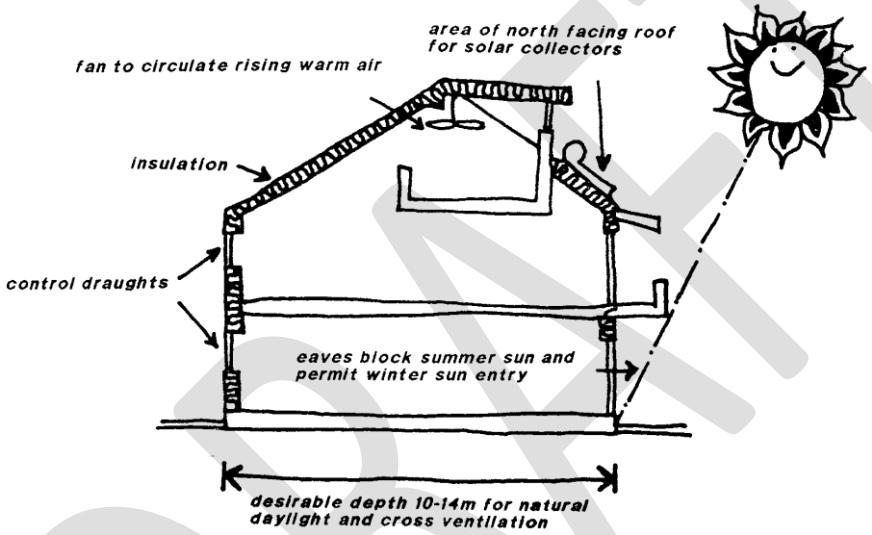


FIGURE 6: BUILDING DESIGNED TO MAXIMISE BENEFITS OF ENERGY EFFICIENCY

Source: Urban Form, Urban Design & Energy Use: Occasional Paper Series 2 Paper 2

2.4.2 Solar Access

Requirements

1. To the extent that existing developments and site orientation allow, site layout and design shall ensure:
   (i) reasonable solar access to the site;
   (ii) the protection of solar access to neighbouring properties;
   (iii) buildings to maximise the benefits of solar access in terms of reducing winter heat loss and the impact of summer afternoon sun (refer to Figures 6 and 7);
   (iv) adequate natural light to the living areas of dwellings for normal domestic duties; and
   (v) orientation to the north, with priority in dwelling layout being given to living areas and bedrooms (refer to Figure 8).

2. Residential buildings are to be designed to maximise solar access to living areas and private open space. The following guidelines indicate the

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preferred levels of solar access for new developments, and any departures from these standards will require justification that resulting energy efficiency and solar access is acceptable:

(i) the main living areas and at least 50 percent of the principal private open space of each dwelling shall have at least three hours of sunlight between the hours of 9am and 3pm on June 22 (winter solstice); and

(ii) solar access to the windows of habitable rooms and to the majority of private open space of adjoining properties must be substantially maintained or achieved for a minimum period of 3 hours between 9.00am and 3.00pm at the winter solstice (June 22).

3. Solar access to existing neighbouring solar collectors including solar hot water systems and photovoltaic systems must be maintained or enhanced.

4. Shadow diagrams are required to accompany all applications, and are to include:

(i) details of the existing shadows affecting the property;

(ii) projected shadow impacts of the proposed development to the site and adjacent properties at 9am, midday and 3pm, 22 December (summer equinox) and 21 June (winter solstice); and

(iii) details of windows/living areas of adjacent properties likely to be shadow affected by the proposal.

Note: Shadow casts in elevation (to determine the extent of overshadowing impact) may be required if windows of adjoining buildings are affected.

5. Shadow diagrams are required to be in accordance with the Department of Environment and Planning's (now Department of Planning) 'Technical Bulletin 13: Sunlight Indicators'.

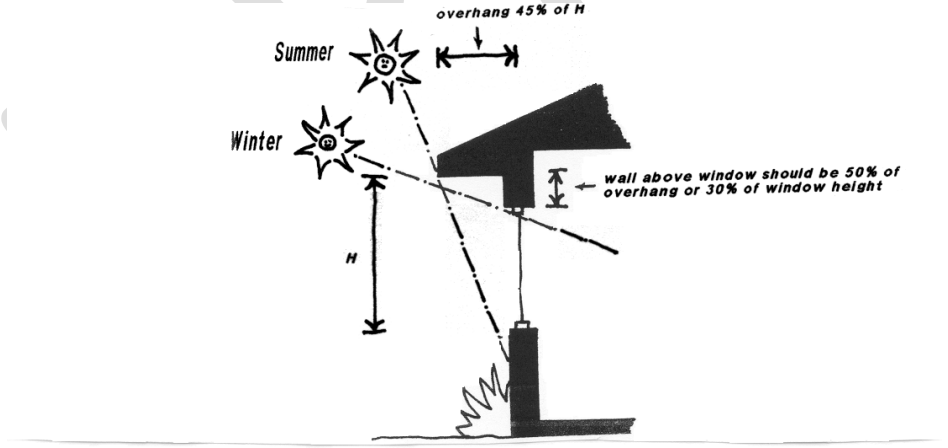


FIGURE 7: BUILDING DESIGNED TO MAXIMISE BENEFITS OF SOLAR ACCESS

Source: Urban Form, Urban Design & Energy Use: Occasional Paper Series 2 Paper 2

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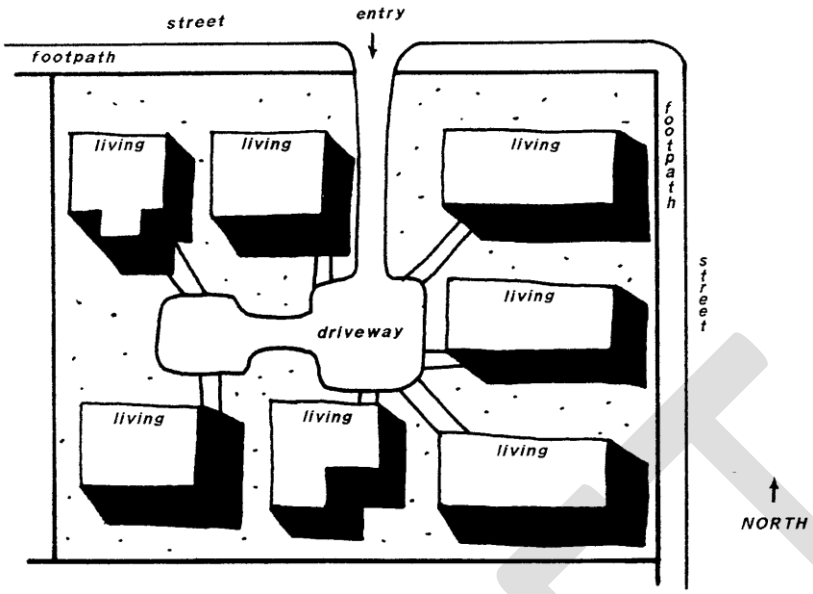


FIGURE 8: ORIENTATION OF LIVING AREAS TO NORTH

2.4.3 Natural Space Heating and Cooling

Requirements

1. It is desirable that the use of artificial heating and cooling devices be minimised. Heating and cooling needs should be considered at the design stage.

2. Developments shall be designed/oriented in a manner which minimises heat gain during summer and maximises solar access during winter, thereby reducing the need for artificial cooling and heating (and the associated consumption of natural energy resources).
3. The need to artificially heat each dwelling unit during winter, for example, can be minimised via the techniques indicated below.

    - The orientation of living areas to the north so as to make full use of available heat from the sun.
    - The use of deciduous trees (rather than non-deciduous trees) to the north of the building so as to allow for improved solar access during winter.
    - The use of thermal mass to retain solar heat made available during the day. Thermal mass refers to the ability of a material to store and retain heat. Dense materials such as brick and concrete have a high heat storage capacity. For example, an internal brick wall that receives direct sunlight during the day (preferably only) in winter will store heat that is then released during the evening.

4. The need to artificially cool a residential unit during summer, (via air conditioning) for example, can be minimised via the techniques indicated below.

    - The shading of windows and walls (particularly those which face east and west) with both horizontal and vertical shading devices, including appropriately sized eaves and louvres.

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- The shading of windows and walls via appropriately located trees.
- The positioning of windows and openings so as to capture prevailing breezes.
- The positioning of windows and openings so as to allow for cross-ventilation.
- The use of ceiling fans to maintain movement of air.
- Allowing windows to be locked in a slightly-open position so as to admit cool air yet maintain security.

5. Single oriented apartments are discouraged.

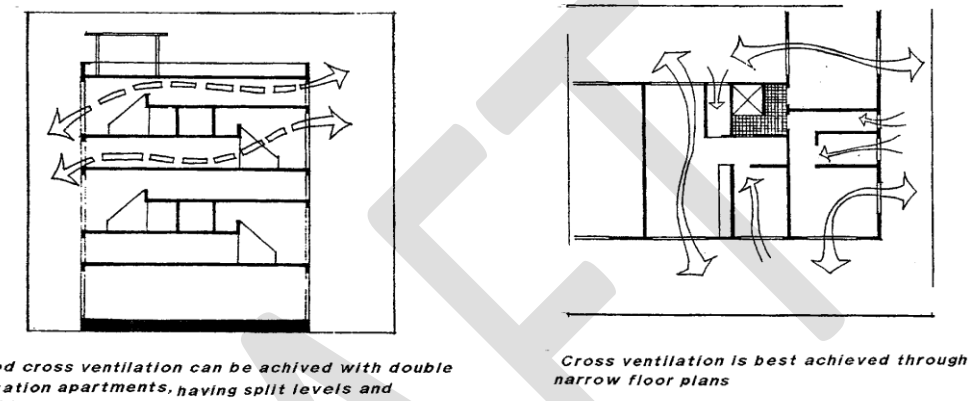


FIGURE 8A: GOOD CROSS VENTILATION IS ACHIEVED BY HAVING SPLIT LEVEL DWELLINGS AND NARROW FLOOR PLANS

Source: Better Urban Living: Department of Urban Affairs and Planning

2.4.4 Natural Lighting

Requirements

1. Residential units are to be designed so as to maximise natural lighting.

   The need to artificially light each unit and common areas (stairs, lobbies and corridors) during the day can be minimised by allowing as much natural light as possible to enter the building. Minimised use of artificial lighting results in reduced electricity consumption. Natural light can be achieved via north, east and south facing windows; glass bricks and translucent, glazed or otherwise treated glass which allows for the transmittal of light but which maintains privacy.

   The installation of some of the above features will require shading devices, either externally or internally such as eaves, pergolas, verandahs, awnings or a solar blind to be incorporated within the building design to provide maximum shading in summer and minimum shading in winter.

2. In order to reduce the consumption of conventional non-renewable resources in new developments, all internal and external common areas within a multiple unit housing development are to be lit utilising renewable energy resources generated on site and or supplemented by green energy generated off-site.

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3. To improve pedestrian safety in public places at least one lamp post on each street frontage is to be installed as part of the development which provides light of at least 150W onto public pedestrian footpath areas. For sites in excess of 30 metres one lamp post is to be provided for each 15 metres or part thereof. It is preferred that the light be positioned near the main entrance to the site.

2.4.5 Building Materials

Requirements

1. Building materials and insulation that assist in providing acceptable thermal conditions are to be used wherever possible.

2. Materials of high thermal mass should be used for living areas and located to receive maximum sun during cooler months.

3. Existing buildings which are in sound condition can be converted in whole or in part for multiple unit dwellings.

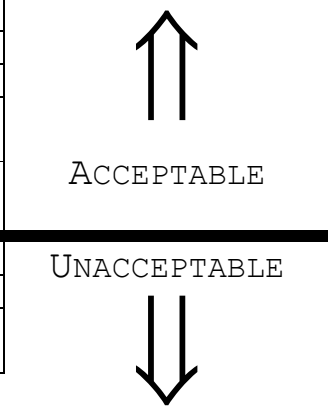
2.4.6 Water Management

Requirements

Greenhouse Gas Friendly Hot Water Systems

1. A greenhouse gas friendly hot water system that achieves a minimum 3.5 SEDA Hot Water Greenhouse Score must be installed for all multiple unit housing developments. Systems which comply with this requirement are outlined in the table below.

Water heater Type		Greenhouse Score
Solar-Gas boost *	Storage	5
Gas	Instantaneous	4
Gas-Storage	High Efficiency	4
Electric-Storage	Heat Pump	4
Gas-Storage	Low Efficiency	4
Solar-Electric Boost*	Continuous	4
Solar-Electric Boost*	Off Peak 2	4
Electric	Instantaneous	2
Electric	Continuous	1
Electric-Storage	Storage (Off Peak 1, Off-Peak 2)	1



* greater than 50% solar contribution

2. Installation details of proposed solar hot water systems are required to be submitted including:
   - Position on roof and orientation;
   - Type of system – eg split system, direct or indirect system;
   - Size of system and colour of tank and collectors;
   - Specifications for attaching the system to the host structure.

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Solar water heaters should generally be located below the ridge line of a roof. Where possible, a solar water heater should be located on a section of roof that is not visible from the street or that is otherwise set back from the street. Particularly in situations where north-facing sections of roof face the street, consideration will need to be given to the visual impact of a solar water heater upon the quality of the streetscape.

3. For the purpose of child safety and energy conservation, all new or replacement hot water systems must include a mixing device which delivers hot water at a maximum temperature of 50 degrees Celsius to all taps, shower heads and other outlets.

Water Saving Devices

1. Developments are required to be fitted with appliances and plumbing hardware which have a "AAA" Australian Standards Water Conservation Rating and meet the manual of Assessment Procedure for Water Efficient Appliances SAA MP64-1995 which aim to reduce water consumption, including those devices indicated below:

    - Shower head which allows 9 litres flow or less per minute
    - Water tap which allows 9 litres flow or less per minute
    - Dual flush toilet with maximum 6/3 litre capacity dual flush cistern or approved dual flush equivalent
    - Low water use dishwasher and washing machine.

Mandatory Rainwater Storage

1. A rainwater collection tank must be included in all multiple unit housing developments. The use of tank water for outdoor purposes such as garden watering should have the effect of 'saving' higher-grade water. The size of the rainwater tank will be based on the following calculation:

    First 10 dwellings – minimum 500 litres per dwelling = 5000litres
    Each dwelling thereafter – additional minimum 250 litres per dwelling

2. The following controls apply to all water:

    a. The water tank(s) are to be located underground. Where it is not possible to locate a water tank wholly underground, it must at least be located behind the front building line. Care should be taken to reduce the visibility of the water tank from the street.

    b. The water tank(s) and any associated support structure and plumbing should be the same colour as the development or a colour, which complements the building.

    c. The water tank(s) must be located at least 900mm from any property boundary.

    d. The top of any aboveground tank(s) is to be located below the top of the nearest fenceline or 1.8 metres, whichever is the lesser.

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e. The water tank(s) should be positioned to collect rainwater which falls on the roof of the building(s). Tank water is to be used for non-drinking/non-consumption purposes only. Taps associated with the tank(s) are to be clearly marked 'NOT FOR DRINKING'.

f. Overflow from the water tank(s) is to be piped directly to the approved stormwater drainage system. Where stormwater for a particular property is required to be directed to on-site stormwater detention (OSD) storage (as per Council's Stormwater Management Code) then the overflow from the water tank(s) must also be directed to the OSD storage.

g. Plumbing from the water tank(s) is to be kept separate from the reticulated water supply system.

h. The water tank(s) inlet is to be screened to prevent entry of any foreign/animal matter and insects such as mosquitos. The water tank(s) should be enclosed.

i. No part of the water tank(s) or support stand is to rest on a wall footing.

j. The water tank(s) is to be installed in accordance with the manufacturer's specifications.

k. The design of any water tank(s) support structure is to be in accordance with the requirements of a qualified practising structural engineer or to the maker's specifications.

l. A pump associated with the tank(s) is to be no louder than 5dBA above background noise levels.

3. Council may consider the combining of the rainwater storage and on-site stormwater retention in one tank. In this regard you are required to contact Council's Drainage Unit for the minimum requirements.

4. The use of 'Grey water' for domestic purposes is encouraged. Developers are required to investigate the treatment and re-use of 'Grey' water for non-potable uses as part of the development.

Greywater System

1. Where possible, new multi-unit and residential flat building developments are to have greywater systems form part of the development.

2. Greywater systems shall be located in the rear garden. Where this is not possible the system should be screened from the public domain.

Greywater is the wastewater from your washing machine, laundry tub, shower, bath and hand basins. It does not include wastewater from a toilet or urinal. Greywater can be utilised as an alternative to using drinking water and as a result reduce fresh water consumption and household bills.

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There are three ways that greywater can be reused which is detailed in the table below:

Methods	Description	Council Approval Required	How the water can be used
Manual bucketing	Collect water in a bucket from your washing machine or shower. Don't store or keep the collected greywater for more than one day. This avoids the risk of spills and bad odours.	No	Above ground irrigation Toilet bowl flushing
Greywater diversion device	Diverts greywater to a small holding tank and then to an irrigation system that's below the soil surface. These systems should be self-draining so that greywater isn't stored for more than a day. They also have a valve to make it is easy to divert greywater directly to the sewer when it's raining or when the soil is saturated. NSW Health maintains a register of accredited Greywater diversion devices.	No	Sub-surface irrigation
Domestic greywater treatment systems	Greywater treatment systems use all the greywater your home generates. After treatment, the greywater is clean enough to be stored but not to be consumed.	Yes	Above-ground irrigation Toilet flushing Washing machine

2.4.7 Energy Smart Appliances

1. The use of top star rated energy smart appliances and lighting including dryers, dishwashers, refrigerators, freezers and washing machines is required.

2. Energy smart appliances are those that use less energy to do the same job as other less efficient models. The Label Star Energy Rating System gives a rating to a range of appliances based on their energy efficiency. The more stars you see, the more efficient the model.

3. Energy Smart light includes the use of fluorescent and compact fluorescent globes, self-timing systems, dimmers, motion sensors and specific purpose switches. The use of natural lighting should be maximised wherever possible.

2.5 Streetscape and Building Orientation

Objectives:

a) To ensure that residential development is of a type, height and scale that is generally compatible with or which improves the appearance of existing buildings and contributes positively to the future character of the street;
b) To provide design solutions which will assist in achieving residential development which is attractive, functional and convenient for residents; and
c) To ensure street facing facades incorporate appropriate decorative elements to provide interest to the development and address the street frontage.

Guidelines:

1. New development, particularly when viewed from the street or other public places is to be compatible with the predominant character and architectural detail of existing residential development in the street and in particular with any existing building to be retained on the site. New development shall also address the street frontage (refer to Figure 9).



FIGURE 9: NEW DEVELOPMENT SHOULD ALWAYS ADDRESS THE STREET FRONTAGE

Source: AMCORD 1997

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2. In areas where one period or style of architecture predominates, new development is to reflect either that style or the main stylistic features such as roof pitch, gable end details, building height, window and doorway proportions, verandah detailing, building materials, front boundary setbacks, etc (refer to Appendix 2).

3. All building elements are to be integrated in design detailing, including the design of carports, garage openings, verandah and balcony balustrades, garbage enclosures, gateways and fencing.

4. The dwelling/s facing the street frontage shall have their entries readily apparent from the street so as to convey a sense of individual street address (refer to Figure 10).

5. Garages and parking structures, including underground parking entries, shall be sited and designed not to dominate the street frontage (refer to Figure 11).



FIGURE 10: BUILDING ENTRY READILY APPARENT FROM THE STREET CONVEYING A SENSE OF ADDRESS

Source: AMCORD 1997

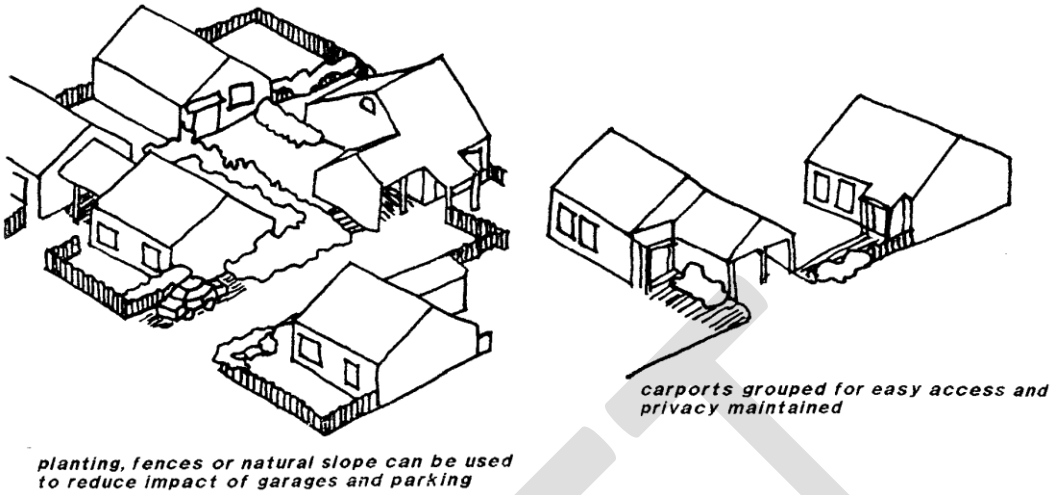


FIGURE 11: GARAGES AND PARKING STRUCTURES SITED AND DESIGNED NOT TO DOMINATE THE STREET FRONTAGE.

Source: AMCORD 1997

6. Developments adjoining a major road or railway line shall take into consideration impacts of the noise source on the future amenity of residents on the site, ensuring noise sensitive uses are placed in more shielded locations (refer to figure 12).

   For development located close to busy roads, reference should be made to AS2107 "Acoustics – Recommended Design Sound Levels & Reverberation Times for Building Interiors" and AS3671 – 1989 "Acoustics – Road Traffic Noise Intrusion – Building Siting & Construction".

   For development located close to railway lines, reference should be made to Hornsby Shire Council's Code of Practice for Sound Insulation of Residential Buildings and the State Rail's Publication titled "Rail Related Noise & Vibration".

   For development that may be impacted by vibration from road or rail, reference should be made to AS2670.2 Evaluation of Human Exposure to Vibration – Part 2: Continuous and Shock Induced Vibration in Buildings (1Hz to 80Hz).

   Such sites are also required to demonstrate adequate noise attenuation can be achieved within all dwellings through the use of materials and mitigative measures such as double-glazing in windows. The costs of any on-site noise attenuation measures required for the amenity of a development are to be borne entirely by the developer.

   Council may require a Noise Assessment report to be submitted with such applications, evaluating the likely noise environment of proposed developments.

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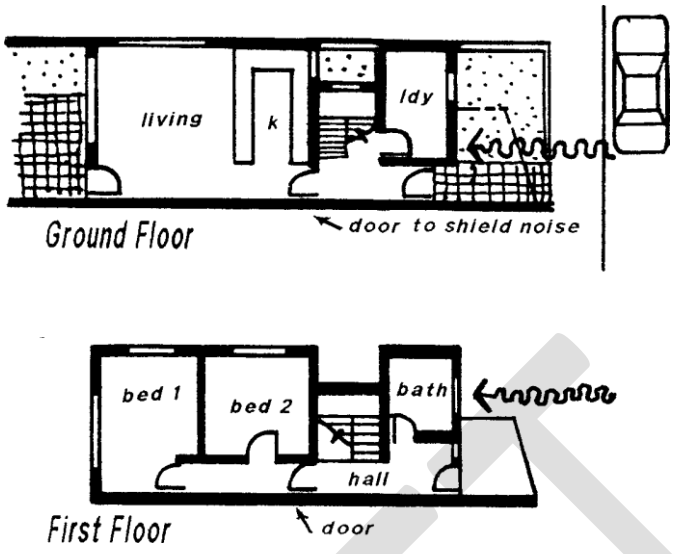


FIGURE 12: SERVICE ROOMS LOCATED CLOSE TO NOISE SOURCE SHIELDING NOISE SENSITIVE ROOMS

Source: AMCORD 1997

Front Fences

1. Fences and gates are to be sympathetic to the design of the development to maintain and unify the character of both the development and the street.

2. Front fences or side fences forward of the building line shall generally not exceed a height of 900mm.

3. Wrought iron or similar fencing may be constructed on the street alignment to a maximum height of 1.8 metres measured from the footpath. Similarly, fences consisting of 900mm in height of solid brickwork and 900mm open wrought iron or similar material supported at a minimum of 3 metre centres on brick columns, may be constructed directly on the street alignment.

4. Solid fences or fences with less wrought iron inserts than specified above, over 900mm in height, must be setback a minimum of 1.5 metres from the street alignment and the setback area is to be suitably landscaped to Council's satisfaction to effectively screen the fence.

5. Council may agree to solid fences being a maximum height of 1.8 metres if the applicant can satisfy Council that:
   - the fence is compatible with the architecture of the development; and
   - the fence would provide an interesting facade when viewed from the street and would not conflict with the streetscape or fences on adjoining properties; and
   - where the site is located on a major road or is exposed to other significant noise sources.

6. Provision is to be made for access to public utility installations by the relevant authorities, ie electricity, gas and water meters.

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Side and rear fences

1. Side and rear fences are to be no more than a maximum 1.8 metres in height (including any retaining walls).

2. Side and rear fences on a slope must be designed to allow water to flow through.

3. Side fences forward of the front building line are to taper down to the height of the front fence line. Solid sections of the side fence forward of the front building line shall not exceed a height of 900mm. A transparent section of the fence is therefore required to taper down from the height of the side fence to the height of the front fence. Piering above 900mm will be permitted to support the transparent section.

4. Where the front fences of adjoining properties are dissimilar in height, the owners of both properties are to come to an agreement on which front fence the side fence is to taper down to.

5. Side fences forward of the front building line are to be constructed in the same materials as the front fences of the adjoining dwellings. Where they are dissimilar, the owners of adjoining dwellings are to come to an agreement on the materials in the construction of the fence. The materials used must be in keeping with the architectural styles and materials of both development and must not dominate or detract from the streetscape.

6. The transparent section of the fence may be constructed with open inserts of wrought iron, timber or similar materials. To be considered transparent, the inserts must be spaced apart so that the building and the property forward of the front building line are clearly visible through the fence from the street.

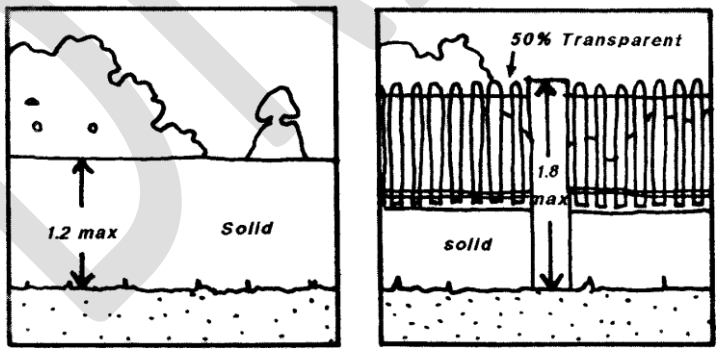


FIGURE 13: MAXIMUM FENCE HEIGHTS
Source: AMCORD 1997

2.6 Heritage and Conservation

Strathfield Council is committed to the conservation of buildings and structures of special significance within the local government area where there are a number of buildings and structures listed as heritage items in areas where multiple unit

development is permissible. Special requirements apply to applications involving or affecting heritage items. Schedule 9 of the SPS lists the heritage items within the Strathfield Municipality. The Scheme also provides requirements for submitting applications relating to sites with heritage items or adjoining other sites containing a heritage item.

Objectives:

a) Protect and enhance items of environmental and heritage significance; and

b) All new developments and works to existing developments or adjoining heritage properties are to be designed to be compatible with the heritage significance of listed heritage items.

Guidelines and Controls:

1. Proposed developments involving heritage items or adjoining heritage items must comply with the heritage provisions contained in the Strathfield Planning Scheme Ordinance.
2. When submitting an application in respect of or adjoining a heritage item, the onus is on the applicant to demonstrate that the heritage significance of the item or structure would not be compromised by the proposal.
3. Where a development involves or adjoins a heritage item, Council requires that a statement of effect be lodged with a development application. That statement must set out the heritage significance of the structure or place and the effect the proposed works will have on the significance of the heritage item.

2.7 Open Space and Landscaping

Objectives:

a) To limit site coverage and support building envelope and height controls in establishing appropriate residential densities in Strathfield;
b) To provide adequate open space for the recreation needs of residents;
c) To ensure open landscaped space relates well to the living areas of dwellings;
d) To maintain the park-like vistas of the Council area; and
e) To retain existing vegetation where appropriate.

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Guidelines:

Landscape design should be used to provide attractive and useable outdoor living areas. The design should also aim to protect the privacy of occupiers and neighbours and define the function of buildings and spaces within the development.

Landscaped open space is required in Multiple-unit housing development for recreation and to achieve a sense of openness between buildings.

1. Landscaped area **at ground level** is to be provided on site in accordance with Table 1.

TABLE 1: Landscaped Area Requirements			
Development	**3-4 storey zone**	**2-3 storey zone**	**up to 2 storey zone**
Residential units	50%	50%	n/a
Townhouses	n/a	40%	40 %
Villa houses	n/a	n/a	40 %

For the purposes of this clause, **"landscaped area"** is defined to include those parts of the site not occupied at or above ground level by any structure, which is or is proposed to be predominantly landscaped by way of trees, gardens, lawns or shrubs and is available for the use and enjoyment of the occupants of the building.

In the case of residential flat buildings:

(i) landscaped area does not include any area set aside for driveways, parking, side setback areas less than 1.2m in width, pools, outbuildings, and the like; and
(ii) at least 60 percent of the landscaped area must remain as unpaved or "soft" landscaping.

In the case of townhouses and villa house developments, driveways and other unbuilt upon areas can be included in the landscaped area calculation, provided:

(i) at least 70 percent of the total landscaped area remains unpaved or "soft" landscaping;
(ii) courtyards comply with or exceed the minimum requirements set out below, with a desirable level of amenity, including sun access and privacy; and
(iii) the development provides a positive contribution to the streetscape, with appropriate and quality landscaping in the front setback area.

2. At least 35% of the required landscaped area is to provide for deep soil landscaping. Buildings and basement car parks shall be planned to allow contiguous deep soil areas, and planned to allow planting of large trees.

3. For multiple-unit housing developments an area of common open space equal to 10% of the total site area or 100m^2, whichever is the greater, and with minimum dimensions of 7 metres is required to be provided. Such an area is to be positioned to receive sunlight and shade, be conveniently located for all residents and be clearly visible from the windows of the majority of dwellings and include an appropriate area for recreation by

resident's children where safe and durable play equipment can be provided. Such area must be located behind the front building setback.

Townhouses and Villas

4. For townhouses and villa house developments, each dwelling shall be immediately adjacent to and have direct access to at least one area for private landscaped open space which has a minimum area of at least 40m^2, a minimum width and breadth dimension of 4m and is screened where necessary to ensure adequate privacy (refer to Figure 14). The preferred shape and aspect of private open space areas in multiple unit development is shown in Figure 15.

5. For the purposes of calculating a courtyard, areas under balconies or eaves can be included where the projection or overhang does not extend more than 1500mm from the external face of the building at the courtyard level.

Residential Flat Developments

6. Where dwellings do not have access to ground level open space, at least one main balcony having access from each dwelling unit's living area/s is to serve as private open space. The minimum total balcony area is:
   - 12 m² for up to 2 bedroom dwellings; and
   - 15 m² for 3 or more bedroom dwellings.

   All balconies must have a minimum width and depth of 2 metres.

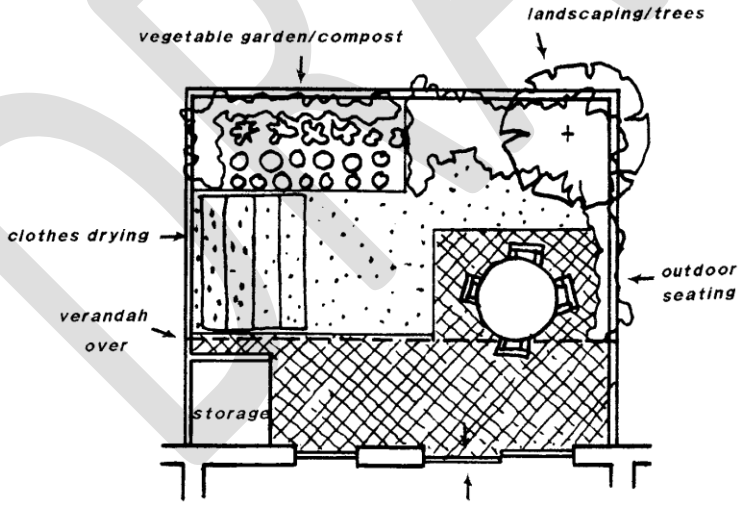


FIGURE 14: PRIVATE OPEN SPACE FULFILS A NUMBER OF FUNCTIONS

Source: AMCORD 1997

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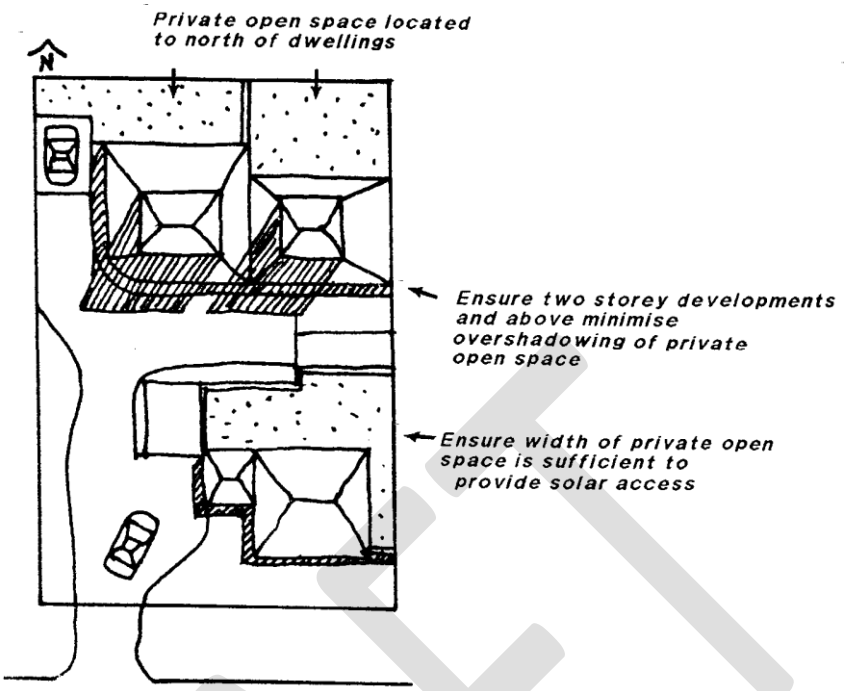


FIGURE 15: PREFERRED SHAPE AND ASPECT OF PRIVATE OPEN SPACE IN MULTIPLE UNIT HOUSING DEVELOPMENTS

Source: AMCORD 1997

7. Exceptions to the above standards may be considered where:

   - It can be demonstrated that a slightly reduced amount of landscaped open space is adequately compensated by the amount, position and quality of the open space provided.

   - Evidence is provided that the likely profile of occupants of the proposed building involves particular open space requirements (eg a low probability of resident children meaning a specific playing area is not necessary).

8. Balcony balustrades are to be designed to provide adequate privacy and conceal service areas and also allow for passive surveillance of public areas to improve public safety.

General

9. Trees and shrubs with invasive root systems must not be planted over existing service infrastructure.

10. A Landscape Concept Plan is required to be submitted with the application indicating the location and treatment of landscaped areas and private open space areas and the location, size and species of existing trees and plantings. Refer to Council's Application Information Kit for details required for a Landscape Concept Plan.

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11. The design of the development should consider the retention of existing mature trees and shrubs on the site and any potential impacts on trees and shrubs on adjoining properties.

2.8 Privacy and Security

Objectives:

a) To ensure the siting and design of buildings provides visual privacy for residents and their neighbours in their dwellings and open space areas; and
b) To provide personal and property security for residents and visitors and enhance perceptions of community safety.

Guidelines:

1. The privacy aspects of all development shall be considered in the context of the development itself and its relationship to surrounding development. The siting and layout of buildings shall ensure that windows and doors are to be designed/located to reduce direct overlooking into an adjoining dwelling. Where the windows are less than 9 metres apart from an adjoining dwelling, the windows in the proposed dwelling:
   - are to be offset from the edge of the windows in the adjoining dwelling by a distance of at least 0.5 metres (refer to Figure 16); or
   - have a sill height of at least 1.7 metres above the floor; or
   - have fixed obscure glazing in any part of the window below 1.7 metres above the floor.

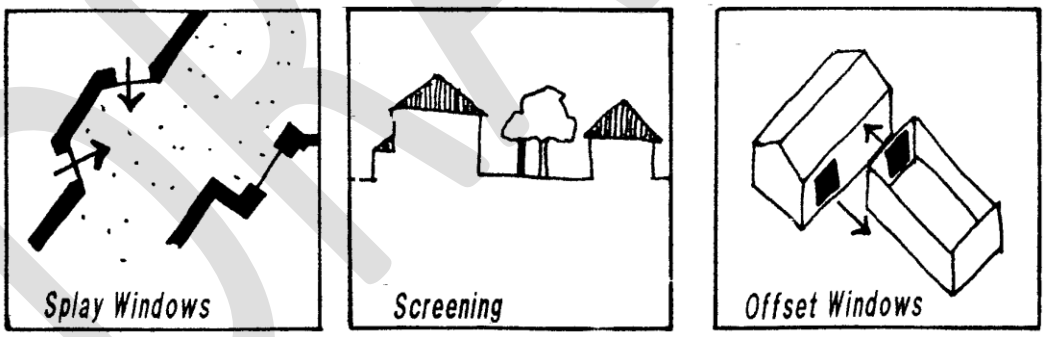


FIGURE 16: WINDOWS LOCATED TO LIMIT OVERLOOKING

Source: AMCORD 1997

2. Suitable screening shall be provided within developments when direct overlooking is likely from proposed dwellings to the private open space areas of adjacent existing dwellings, or to balcony or private open space areas of dwellings within the same development (refer to Figure 17).

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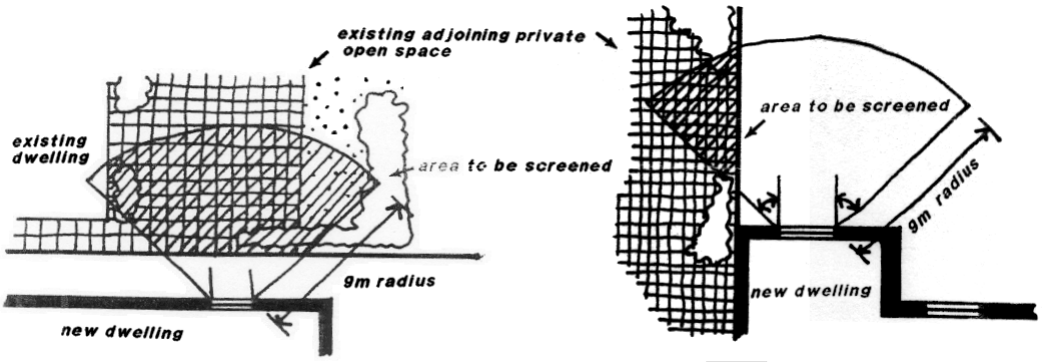


FIGURE 17: SCREENING VIEWS TO ADJACENT PRIVATE OPEN SPACE

Source: AMCORD 1997

3. The acoustic privacy of all development shall be considered in the context of the proposed development and its relationship to the surrounding environment. The site layout and building design shall ensure that:
   (i) active communal recreation areas, parking areas, accessways and service equipment areas are separated from bedrooms and minimise the entry of high levels of external noise to dwellings;
   (ii) bedrooms of one dwelling do not adjoin living rooms or garages of adjacent dwellings; and
   (iii) dwellings close to high-noise sources (such as busy roads, railway lines and industry) are designed to locate habitable rooms and private open space away from noise sources and are protected by appropriate noise-shielding devices (refer to Figures 18 and 19). Refer to Section 2.5 of Part C for noise criteria to be referenced.

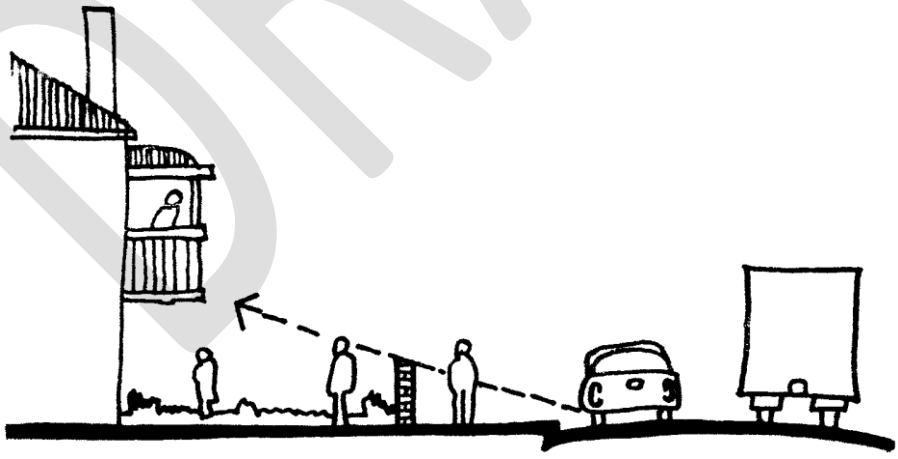


FIGURE 18: LOW FRONT FENCES WILL BLOCK SOME NOISE AND ALLOW INTERACTION AND SURVEILLANCE

Source: AMCORD 1997

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4. The security aspects of all development shall be considered in the context of the proposed development itself. The siting and layout of buildings shall ensure that:
   (i) shared pedestrian entries can be locked and serve a limited number of dwellings; and
   (ii) buildings adjacent to public streets or spaces are designed to allow casual surveillance and should have at least one habitable room window facing that area (refer to Figure 20).

5. External common areas such as pathways and entrances shall be provided with appropriate artificial lighting at low levels to provide safe access at night.

6. For privacy reasons, a balcony on the second storey of a townhouse must not overlook an adjoining property.

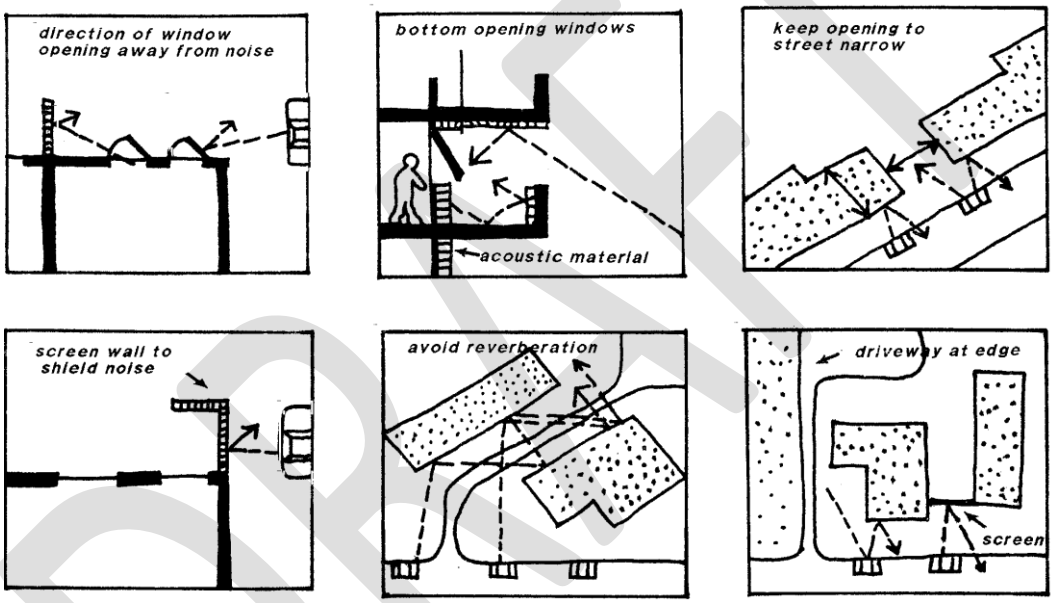


FIGURE 19: SOME IDEAS FOR ACHIEVING ACOUSTIC PRIVACY

Source: AMCORD 1997

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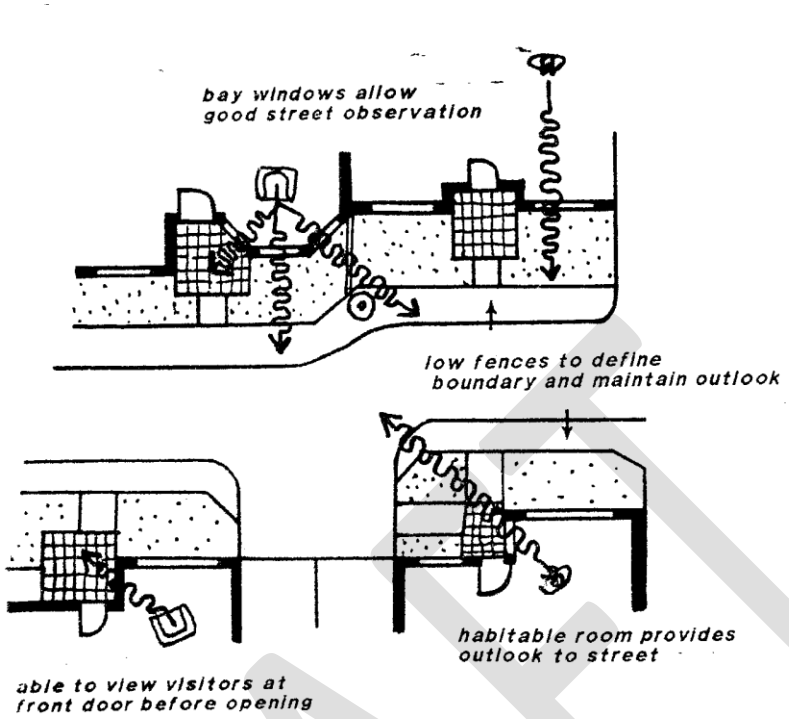


FIGURE 20: SECURITY BY DESIGN - CASUAL SURVEILLANCE OF THE STREET

Source: AMCORD 1997

2.9 Access and Parking

Objectives:

a) To provide adequate off-street car parking for residents and visitors within each development;
b) To ensure that access driveways and manoeuvring areas are provided which are adequate for the convenience and safety of residents and visitors to the site; and
c) To encourage the integrated design of access and parking facilities to minimise visual and environmental impacts.

Guidelines:

For the purpose of this clause -

“Large dwelling” means a dwelling with gross floor area greater than 110m^2.

“Medium dwelling” means a dwelling with gross floor area greater than 75m^2 but less than 110m^2 .

“Small Dwelling” means a dwelling with a gross floor area less than 75m^2.

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1. On-site, resident parking shall be provided in accordance with the requirements of Table 2.

TABLE 2: On-site Parking Requirements	
Dwelling Size	**On-site Parking Requirement (Minimum)**
1 bedroom dwelling	1 space
2 bedroom dwelling	1.5 spaces
3 or more bedroom dwelling	2 spaces

2. On-site visitor parking shall be provided on site at a rate of 1 space for every 5 dwellings or part thereof.

3. The above requirements determine the minimum number of spaces to be included in any development. The number of spaces provided in any development may be reduced where it can be demonstrated that:

   (i) the impacts on existing parking conditions will not be unreasonable, including the availability of on-street parking for visitors;
   (ii) the projected requirements of people occupying the development, taking into account, age, car ownership details, life cycle and other relevant factors, confirm the likely needs will be less than the minimum required by the schedule;
   (iii) reduced parking requirements of comparable developments have not generated significant impacts; and
   (iv) the site layout and location maximises opportunity for use of public transport.

4. Accessways and driveways shall be designed to provide sufficient manoeuvring areas to enable vehicles to enter and leave the site in a forward direction. Dimensions of access driveways and manoeuvring areas are to be in accordance with the provisions of "Policy and Guidelines for Traffic Generating Developments" published by the RTA.

5. The minimum size for spaces is 5.5m x 2.5m (open parking). Minimum internal dimensions of a single lock up garage is to be 3m x 5.5m unobstructed, with any car access opening being at least 2.4m wide.

6. Garage doors shall **not** be sited to face the street to which the building has its main frontage.

7. For residential development of 10 or more dwellings a designated car washing bay shall be provided on the site.

8. Car parking spaces may be "stacked" but **only** to the extent of one car space behind one other for each dwelling. Both spaces must belong to the same dwelling.

9. Applicants should note that variations to the standards relating to access and car parking may be required by the Council in response to a recommendation from the relevant traffic committee.

10. Suitable facilities for accommodating bicycle parking in all residential flat buildings must be provided.

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Ramp/driveway Gradient and Design

1. The minimum and maximum dimensions and gradients for ramps/driveways leading to basement garages are provided in the table below. Figure 21 also details the minimum and maximum dimensions and gradients allowed.

Minimum and Maximum Requirements For Ramps	
Minimum Lane Width (a)	3.0 (refer to note)
Maximum Transition Zone Gradient (b)	1:10
Maximum Transition Zone lengths (c)	2.0
Maximum Ramp Gradient (d)	1:5 (refer to note)

Note: Where waste storage facilities are located in a basement or an area required to be accessible via ramps, the minimum width of vehicular ramps shall be four (4) metres and the gradient shall not be steeper than 1:8 to allow the safe and easy transfer of waste and recyclable material to the street.

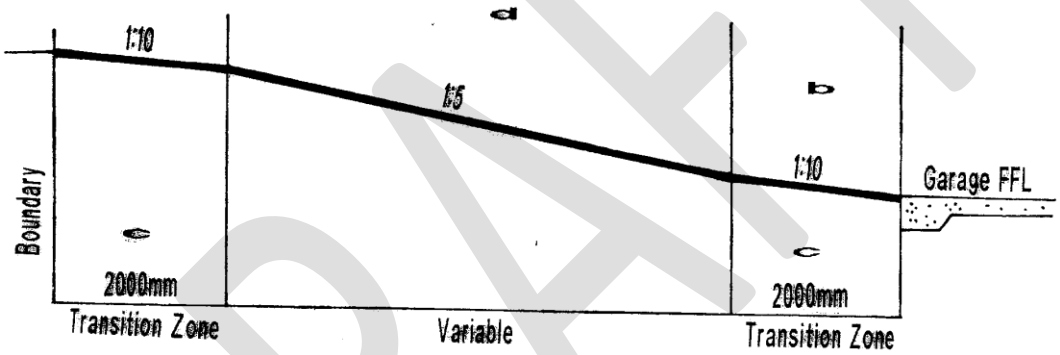


FIGURE 21: MINIMUM AND MAXIMUM REQUIREMENTS FOR RAMPS

2. Applications for steeper gradients will generally not be supported unless a written submission accompanies the application justifying the departure. Any such submission shall address the impact of the ramp on the streetscape.

3. The ramp/driveway is to be designed in accordance to Australian Standard AS 2890.1 - 1993.

4. Applicants are required to submit plans at a scale of 1:200 of the ramp showing long sections of both the side and centre of the driveway from the garage to the centre of the road carriageway with their development application.

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2.10 Site Facilities and Water Management

Objectives:

a) To preserve and protect the amenity and property of residents, property owners and the community;
b) To ensure the safety of residents and the community;
c) To protect the physical environment and receiving waters of the catchment;
d) To ensure that site facilities and essential services and amenities are well integrated into residential developments, and are unobtrusive; and
e) To ensure that site facilities are adequate, convenient and easy to maintain.

Guidelines:

2.10.1 Site Drainage and Water Management:

1. Stormwater runoff from all roof and paved surfaces is to be collected and discharged by means of a gravity pipe system to the Council's drainage system.

2. Where gravity drainage is not feasible to the street frontage, a private easement for stormwater drainage must be obtained to enable gravity discharge of stormwater from the site. Where private easements are used, the Certificate of Title, both of the dominant and subservient tenement, must be submitted to Council before construction certificate plans are released, to ensure that the grants of the easement have been registered and such easements must contain a clause that they shall not be extinguished without the written consent of the Council.

3. In accordance with Council's Stormwater Management Code, the development is required to include a system of on-site stormwater detention and provision for overland flow of stormwater. Council will not permit above ground detention basins which alter the natural ground level.

4. A Positive Covenant under Section 88E of the Conveyancing Act shall be created on the title of the property detailing the on-site stormwater detention system and surface flowpaths.

5. In accordance with Council's Stormwater Management Code the development is required to provide and regularly maintain during construction measures to prevent sediment and polluted waters discharging from the site.

6. Run-off from roofs or paved surfaces is to be passed to surface storage devices, which allow the slow release of stored water into the development's landscaping or use for the purposes of car washing.

7. Pervious areas shall adjoin paved areas to reduce stormwater run-off (refer to Figure 22).

8 All costs associated with providing any additional capacity of stormwater and drainage services as well as water and sewerage supply shall be met by the developer in accordance with Council's or Sydney Water's requirements.

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FIGURE 22: PERVIOUS AREAS ADJOINING PAVED AREAS REDUCE STORMWATER RUN-OFF

Source: AMCORD 1997

2.10.2 Garbage Facilities

Refer to Part H – Waste Management.

2.10.3 Electricity and Telecommunications Supply

Requirements

1. To improve the visual amenity of developing areas, the following is required:
    - All electricity and telecommunications supply to the development and throughout the site is to be placed underground; and
    - Arrangements are to be made with the relevant electricity supply authority and telecommunications carriers to place all overhead wires which hang in front of the development site between electricity power poles to be placed underground including any supplies required from the opposite side of the public road at the developers expense.

2. Energy Australia may require an area within the site suitable for location and maintenance of a substation kiosk. The location must satisfactorily meet the requirements of both Energy Australia and the Council and be finalised prior to release of the Construction Certificate. Applicants are encouraged to contact Energy Australia at the design stage to ascertain their requirements.

2.10.4 Letterboxes

1. Provision shall be made for mail delivery service by Australia Post in accordance with the following:
    - letterboxes are to be chosen to suit the development;
    - deliveries will only be provided to one point at each property;
    - the point of delivery should entail the least possible deviation by delivery staff from the public footpath;
    - letterboxes shall be between 900mm and 1200mm from the ground;

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- letterboxes shall be included in a separate structure located within the property along the pedestrian accessway. The wall of the letterbox structure containing the front of the letterboxes is to be positioned at 90º to the street frontage;
- letterboxes are not to be surrounded by trees, shrubs and rocks that make it difficult to deliver mail; and
- letterboxes are to have Australia Post approved minimum dimensions which include the following:
  - 230mm wide;
  - 330mm long;
  - 160mm high; and
  - the slot should be the full width of the box (230mm), 30mm deep and be positioned at least 130mm above the base of the box.

2. Letterboxes are to be located fully within the site and positioned so as to avoid any unsightly or untidy appearance from the street frontage.

2.10.5 TV Antennas

1. A master antenna and / or satellite receiving dish is to be provided for any development of more than two dwellings.

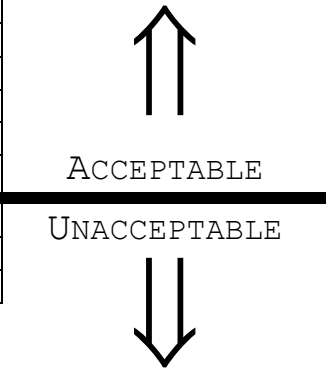
2. Any cable TV connection is to be provided by a single underground cable.

2.10.6 Clothes Drying Facilities

All multiple unit developments must include sufficient outdoor clothes drying space. The drying of clothes in balcony areas visible from the street is prohibited.

In addition, where clothes dryers are proposed to be installed as part of the development, these must achieve a minimum SEDA Greenhouse Score of 3.5. The Greenhouse Score is found by comparing the Label Energy Star rating to the Greenhouse Score on the table below.

Label Energy Rating	Greenhouse Score
4.5	6.0
4.0	5.5
3.5	5.0
3.0	4.5
2.5	4.0
2.0	3.5
1.5	3.0
1.0	2.5
0.5	2.0



2.11 Section 94 Contributions

Council has the ability under the Environmental Planning and Assessment Act to charge a developer/applicant a monetary contribution towards the provision of

community infrastructure such as open space, traffic management and community facilities. Please refer to Council's Section 94 Developer Contributions Plan for details of contributions.

2.12 Excavation of Sites

The following guidelines refer to works that require deep excavation such as basements, cellars and in ground pools:

1) All areas of excavation shall be setback from property boundaries in accordance with the building setbacks required in section 2.2 – Front Setbacks and Building Envelope And Side and Rear Setbacks. No cut shall be made to the ground within the required setbacks.

2) Where excavation work is proposed, the work shall not affect or undermine the soil stability or structural stability of any buildings on adjoining properties. Adequate precautions must be undertaken during excavation to ensure there is no soil subsidence or slip. Council encourages the consideration of soil subsidence and slip issues at the design stage of a proposed development.

3) The provisions of the Building Code of Australia must be complied with to ensure that earthworks will be carried out safely and avoid potential damage to adjoining structures and property through soil collapsing or subsiding during building works.

4) All excavations and backfilling associated with the erection or demolition of a building must be executed safely and in accordance with appropriate professional standards.

5) All excavations associated with the erection or demolition of a building must be properly guarded and protected to prevent them from being dangerous to life or property.

6) The applicant is required to produce a dilapidation report for all buildings, which adjoin proposed excavation areas.

Note: The owner of the adjoining allotment of land is not liable for any part of the cost of the work carried out, whether carried out on the allotment of land being excavated or on the adjoining allotment of land.

Note: Plans prepared by a qualified Structural Engineer indicating the design details and specifications of the basement walls and excavation shall be submitted with the development application. The plans shall include sections and plan views showing the extent of excavation and setbacks from boundaries. A qualified Structural Engineer shall certify that the excavation works will not result in damage to adjoining properties.

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3.0 RESIDENTIAL DEVELOPMENT IN THE BUSINESS ZONES

In general, Multiple-unit housing in business zones will be subject to similar objectives and development standards to those set out in Part 2 of Part C, particularly where the development site adjoins land in a residential zone. In that case the provisions of DCP No. 6 - Development Within and Adjoining Residential Zones may also be relevant.

The key principles and standards applicable to residential development in business zones are set out below. These act as variations to the provisions of Part 2, which would otherwise be applicable -

1. Where practicable, development should provide a frontage to the street that creates a continuity of existing shopping centre forms. For example, this could include a retail frontage, which may also act to screen parking structures behind.
2. A retail or commercial component of a development may be erected to the street alignment, where that is the predominant existing characteristic. Any residential component above should be set back to achieve a consistent facade height on the retail strip.
3. Vehicular access should be provided from the side or rear. Where there is no alternative to access from the front, the access should be designed to minimise disruption to the street and footpath.
4. Buildings may be erected to the side and/or rear boundaries provided -
   (a) no windows are located in walls on the boundary;
   (b) if windows are provided, the Council is satisfied that this will not prejudice the reasonable redevelopment of any adjoining land; and
   (c) residential development is not adversely affected by either location or scale of walls erected to the boundary.

5. Maximum building heights are as follows -
   - Strathfield Town Centre - subject to merits and the provision of LEP 70 and DCP No 13;
   - Homebush and Homebush West business zones - 4 levels above ground (including any aboveground parking level);
   - 3(a) and 3(b) zones - 3 levels aboveground (including any above ground parking level); and
   - 3(c) Zone - 2 levels aboveground (including any abovegro parking level).

6. Open space and recreation facilities may be provided in the form of balconies, roof-top decks and the like, and may include indoor facilities. No specific standards apply.

7. Parking arrangements will depend on the circumstances and land use mix. Where adequate off-street parking is provided for business zones, Council may dispense with on-site visitor parking and customer parking or require a contribution towards these facilities as set out in Council's Section 94 Contribution Plan.

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4.0 APPENDIX 1 – DCP MAPS

HOMEBUSH (NORTH OF M4 MOTORWAY)



MAP 1

KEY: CONSOLIDATION PATTERN

T/HOUSES VILLAS — **DENSITY ZONE**

HOMEBUSH WEST



MAP 2

KEY: **CONSOLIDATION PATTERN**

2-3 STOREY ZONE **DENSITY ZONE**

HOMEBUSH



MAP 3

KEY: **CONSOLIDATION PATTERN**

2-3 STOREY ZONE **DENSITY ZONE**

STRATHFIELD



MAP 4

KEY: **CONSOLIDATION PATTERN**

2-3 STOREY ZONE **DENSITY ZONE**

LIVERPOOL ROAD EAST

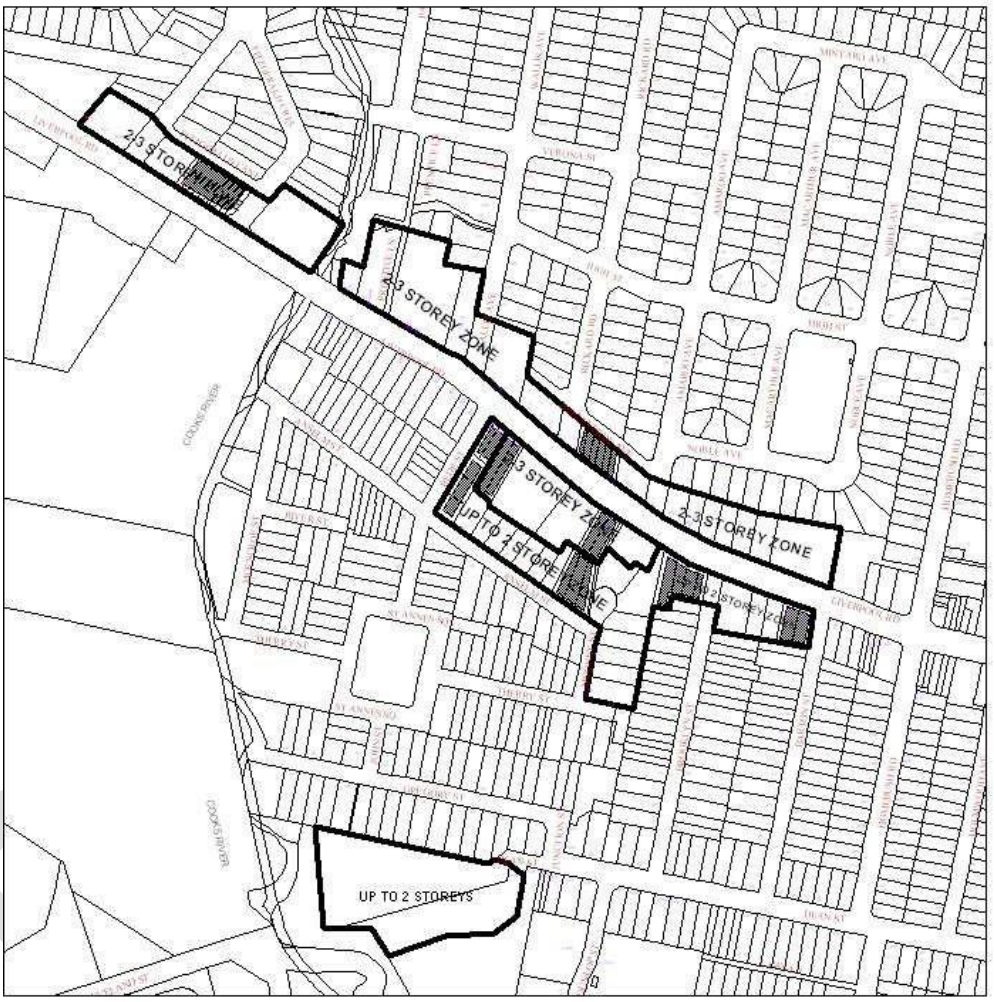


MAP 5

KEY: **CONSOLIDATION PATTERN**

UP TO 2 STOREYS ZONE **DENSITY ZONE**

LIVERPOOL ROAD WEST

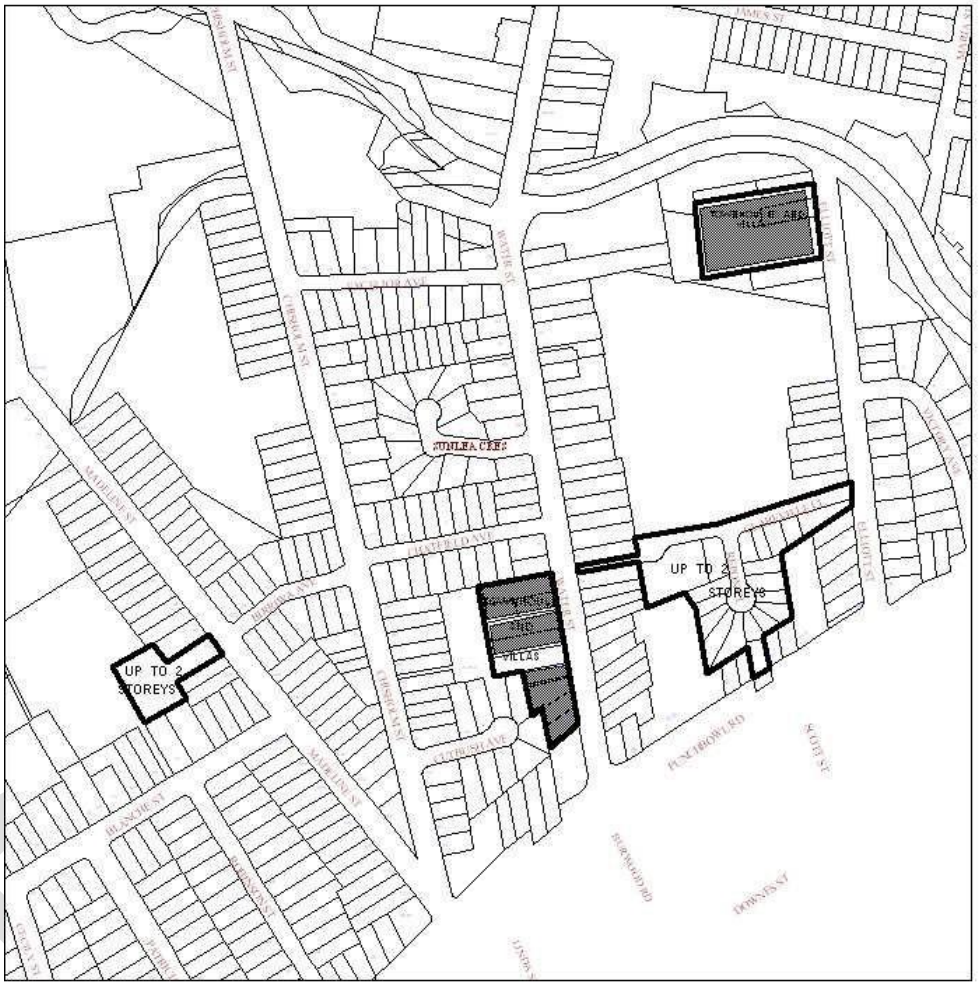


MAP 6

KEY: **CONSOLIDATION PATTERN**

UP TO 2 STOREYS ZONE **DENSITY ZONE**

BELFIELD



MAP 7

KEY: **CONSOLIDATION PATTERN**

UP TO 2 STOREYS ZONE **DENSITY ZONE**

HOMEBUSH WEST - COURALLIE AVENUE PRECINCT



MAP 8

KEY: **CONSOLIDATION PATTERN**

2 - 3 STOREYS ZONE **DENSITY ZONE**

GREENACRE



MAP 9

KEY: **CONSOLIDATION PATTERN**

2 - 3 STOREYS ZONE **DENSITY ZONE**

5.0 APPENDIX 2 – STREETSCAPE ANALYSIS

General

Streetscape, in general terms, refers to the area between the building alignment of a development extending through to the building development on the other side of the street. Strathfield's streetscape has been developed chiefly by a combination of quality building stock, landscaping of private gardens and extensive use of street trees.

The maintenance and enhancement of the streetscape is of paramount importance in preserving neighbourhood character.

Streetscape elements that should be taken into account in the design of the residential development are:

Topography - The topography of the street is the most immediate feature when analysing streetscape. For example:

- an undulating topography offers vistas within the street due to elevation; and
- a street with a marked cross fall has a strong bearing on the way height of dwellings are perceived in the streetscape.

Width of Carriageway - Width of road, nature strips and footpaths should be considered in residential design. A narrow carriageway, with an avenue of street trees and single storey development, creates an intimate character. Two storey or more developments placed too close to a narrow street may dominate the streetscape.

Street Tree Planting - Streets lined with mature trees are a prominent feature of the Strathfield Municipality. Mature plantings form framed vistas which add to the quality and character of streets. Where street plantings are removed, new developments become far more dominating. The pattern of street plantings should be taken into account in residential design, particularly in the design of driveways. All care should be taken to preserve street plantings.

Allotment Size/Width - The size and shape of the lot should be a major consideration in residential design. The general pattern of development in the Strathfield Municipality is of larger properties with substantial dwellings having large setbacks from the street and smaller lots with smaller dwellings having less setback from the street frontage. Care should be taken in the siting of new multiple-unit developments too close to the street frontage to avoid negative impact on the streetscape.

Boundary Fences - The boundary fence establishes a relationship between private property and public property. The majority of housing in the Strathfield Municipality has low scale period fences which contribute to the character of the street. Low scale fences allow a visual link with the street, while large masonry fences can interrupt the link. Fences that use similar or harmonious materials to the development are preferred.

Existing Building Line - Existing building line setbacks for the majority of the municipality were established by the estate subdivisions of the late nineteenth and early twentieth centuries. Increased building line setbacks contribute to

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the amenity of the streetscape. The impact of new developments is reduced by an increased setback allowing:

- more landscaping to soften the appearance of the development; and
- the existing development and character to dominate.

Building Character - When development within the street is of similar scale and architectural style, a strong relationship is formed that unifies the streetscape. A departure from that character, usually designed with no consideration of scale, bulk or mass, introduces an inappropriate contrasts that detracts from the quality of the streetscape.

Roof Forms - Roof forms should relate to those in the adjoining neighbourhood in style and pitch. Roofing materials should also be carefully selected to harmonise with neighbouring buildings (refer to Figure A).

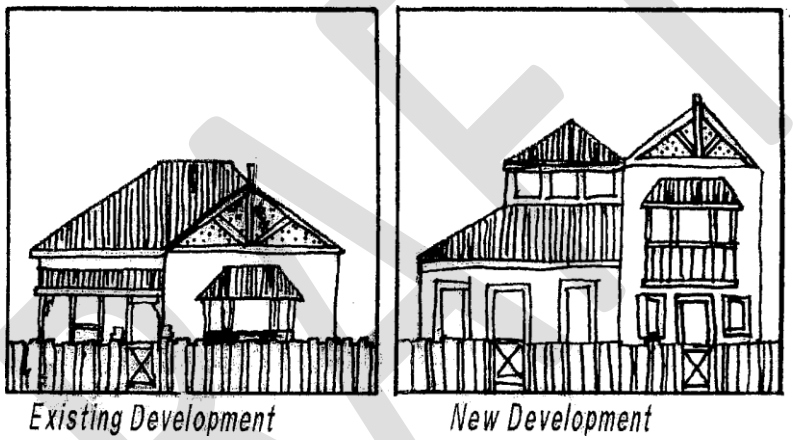


FIGURE A: ROOF FORMS SHOULD RELATE TO THOSE IN THE ADJOINING NEIGHBOURHOOD

Source: AMCORD 1997

Landscaping - Planting on individual allotments can complement and support street planting thereby contributing to the overall character of the street (refer to Figure B). It is important in new developments that hard landscaped areas (concrete paving and bitumen) are kept to a minimum. Hardpaving is not in keeping with the grassed front yards of the prevailing early twentieth century housing stock in the Municipality. Trees and mature shrubs help screen new development consisting of 2 or more stories.

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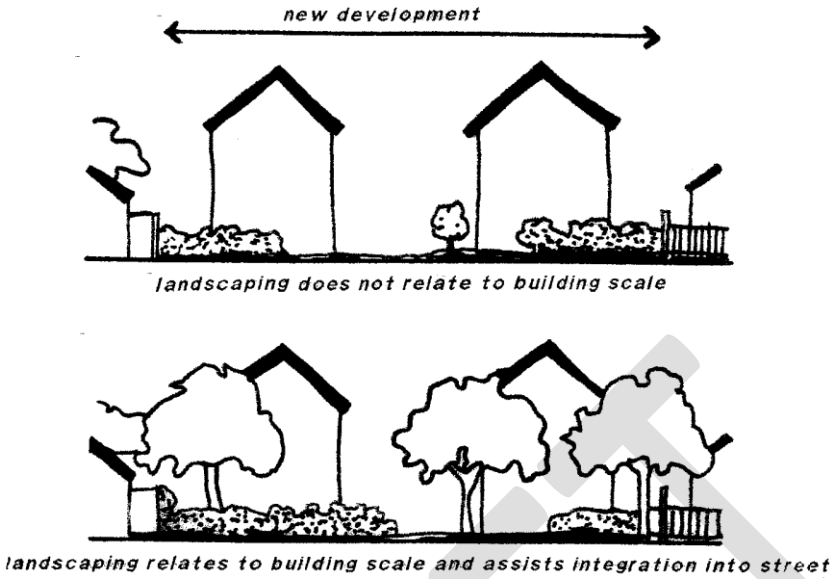


FIGURE B: LANDSCAPING SHOULD BE DESIGNED TO INTEGRATE NEW DEVELOPMENT INTO A STREET

Source: AMCORD 1997

Any new development should respond to each of these elements and the streetscape should be considered as a total of all these elements.

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6.0 APPENDIX 3 – CHECKLIST

The following checklist provides a quick guide as to the DO'S and DON'TS of designing a multiple unit residential development. The purpose of the guide is to assist developers with producing a development which meets the requirements of the DCP and expectations of the community.

√ DO consider the characteristics of the site and the adjoining developments

√ DO ensure that new developments maintain the same setback and streetscape character of the neighbourhood

√ DO ensure that the development is appropriate for the site

√ DO ensure that dwellings will be accessible to people with disabilities, or are able to be modified

√ DO ensure the development is designed and uses materials and finishes which are characteristic of Strathfield Municipality

√ DO ensure that the dwellings and open space make best use of the sun, are energy efficient and are environmentally friendly

√ DO ensure that buildings entries to dwellings address the street and are clearly visible from the street or internal driveways

√ DO design to fit with the type and quality of landscaping in the area

√ DO consider the quality of private open space and how it relates to the layout of the dwelling

√ DO ensure that entries, parking areas and paths are well lit and able to be viewed from public spaces

X DON'T let driveways or garages dominate the view of the development from the street

X DON'T forget communal open space and play facilities for children

X DON'T leave acoustic and visual privacy protection out of the design of the development

X DON'T ignore design techniques which assist safety issues

X DON'T treat all land as being the same. Recognise its special character and design your development to maximise the advantages of the site.

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