

## **D.2 URBAN HOUSING**

### **2.1 INTRODUCTION**

This chapter is designed to reflect the needs of individuals, families, extended families and community groups by encouraging a range of affordable housing types whilst protecting and enhancing the amenity of existing neighbourhoods.

The role of the development industry is crucial to public acceptance of new forms of housing and the future environment of the Lower Hunter. Designers and developers should recognise that good design and high standards of development will increase public acceptance of housing variety.

#### **2.1.1 Application**

This Chapter applies to all land where residential development is permissible under the provisions of the Cessnock Local Environmental Plan (CLEP).

It covers a wide variety of housing forms such as boarding houses dual occupancies, and multi dwelling housing.

At this stage the Chapter does not address residential flat buildings or shop top housing and applicants are referred to SEPP 65 - Design Quality of Residential Flat Development and have regard to the publication Residential Flat Design Code (*DoP September 2002*)

Applicants are referred to SEPP – Seniors Living with regard to Seniors Housing.

It does not apply to single dwellings.

#### **2.1.2 Purpose**

To encourage high quality urban housing.

#### **2.1.3 Aims and Objectives**

The objectives of the Chapter are to:

- (a) provide a user friendly document with flexible performance-based criteria to guide development;
- (b) encourage high quality urban design and residential amenity in urban housing development;
- (c) support the efficient use of residential land and expand the variety of housing options available;
- (d) set appropriate environmental criteria for solar access, privacy, noise, vehicular access, parking and open space;
- (e) ensure that the impact of urban housing proposals on the amenity of adjoining properties is a prime and initial consideration of applicants when preparing their development proposals;
- (f) encourage an increased community acceptance of urban housing in its various forms and to minimise associated conflict; and
- (g) encourage ecologically sustainable development.

## **2.2 HOW THIS SECTION WORKS**

### **2.2.1 *How it works for persons interested in development potential only***

Section 2.6 contains a 'Yield Table' which enables a relatively quick determination of development potential. This may form the basis of a feasibility assessment.

### **2.2.2 *How it works for applicants & designers***

The 'Performance Approach' means addressing each Design Element by consideration of objectives, performance criteria and provisions. Variations of provisions are achievable if it can be clearly demonstrated that the Design Element objectives will be satisfied.

Designers do not need to refer to the 'Yield Table' in section 2.6.

### **2.2.3 *How it works for Council assessment staff***

Council staff is expected to take a flexible approach with the assistance of the comprehensive range of matters examined in Sections 2.3, 2.4 and 2.5.

### **2.2.4 *Should I just use the 'yield table' and the provisions?***

No. Using a purely numeric approach to design will give a partial result and not satisfy the assessment requirements Councils are responsible for.

### **2.2.5 *Why has this format been selected?***

This format has been selected to achieve a higher standard of urban housing through encouraging use of the 'Performance Approach' to design and assess projects, whilst still enabling a quick though conservative estimate of development potential using the 'Yield Table'.

### **2.2.6 *Should design elements be separated?***

No. The design elements have been divided into three distinct sections, although it is recognised that the design process incorporates an integrated consideration of each of the design elements.

### **2.2.7 *What is the benefit of the performance approach?***

The distinct benefit of the 'Performance Approach' rather than 'design by numbers' is that the end product is likely to incorporate a higher standard of urban design and the development may also achieve additional dwellings on the site.

## **2.3 DESIGN ELEMENTS – SITE ANALYSIS, PLANNING & LAYOUT**

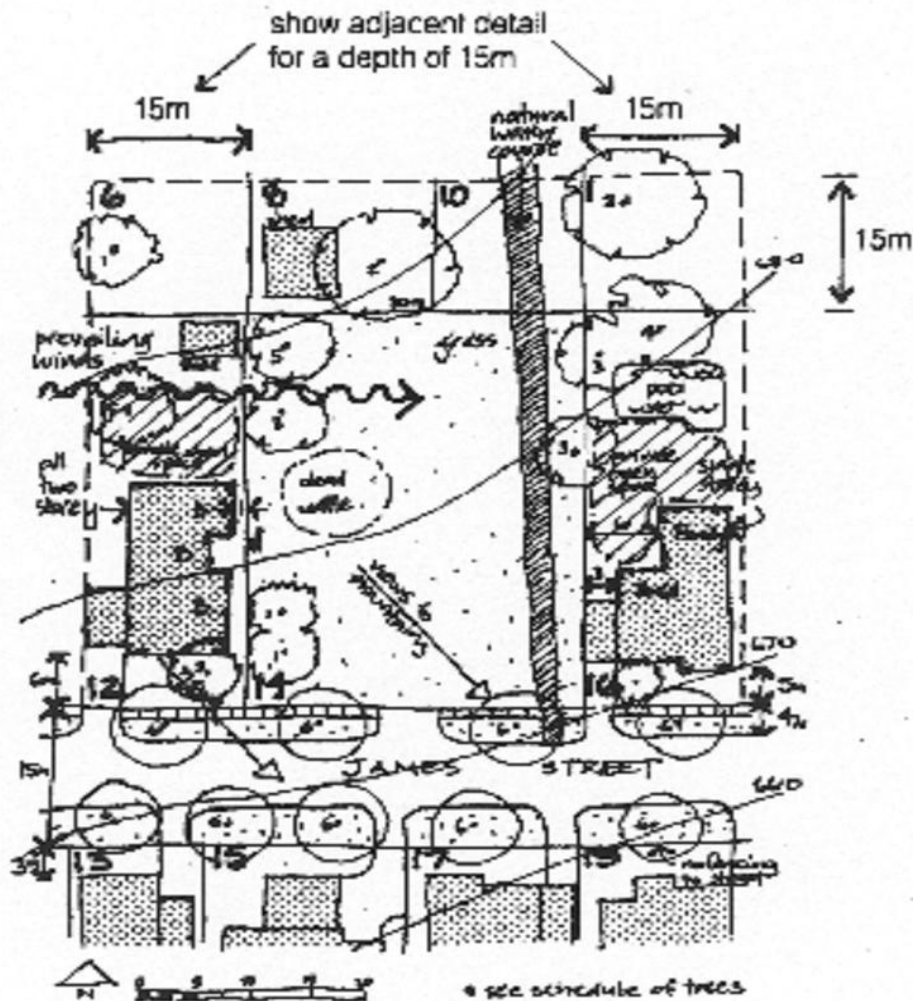
### **2.3.1 *Where does the design process begin?***

The initial step in the design process is site analysis. This allows the designer to gain a full appreciation of the opportunities and constraints that relate to the site. These include a consideration of the various natural and man-made environmental features on or around the site. Following the completion of this analysis, the next step is site planning and layout. This incorporates the location of buildings, streets and open space and an indication of where buildings might be set back or where zero lot lines might be permitted.

### 2.3.2 Site Analysis

#### Objectives

1. To encourage development that shows 'good manners' to surrounding development by considering the characteristics of adjacent sites at the outset of the design process.
2. To ensure that site attributes and constraints are carefully considered.



Site analysis can improve design responses. This is an example of site analysis information for a small infill site

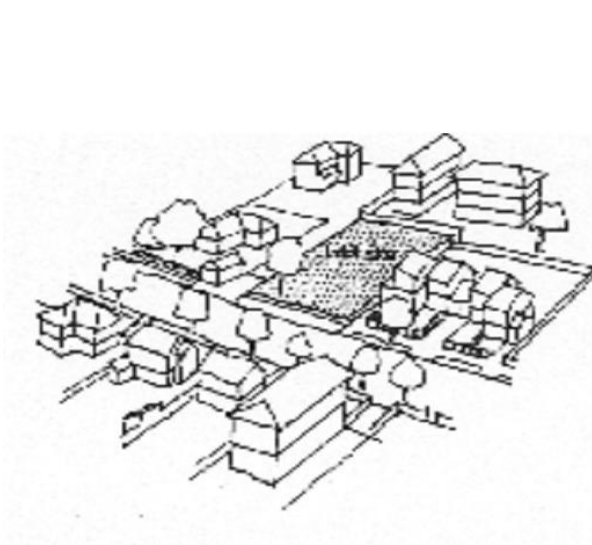
#### Performance Criteria

1. When assessing the suitability of overall site planning, Council will have regard to the extent that the attributes and constraints of the site have been considered, with particular regard to:
  - the likely impact on surrounding development, particularly with regard to overshadowing, privacy and obstruction of views;
  - topographical features such as slope, existing natural vegetation and opportunities for the creation of views and vistas;
  - opportunities to maximise northerly aspect for buildings and private open spaces;
  - the character of surrounding development, particularly setbacks and subdivision layout;

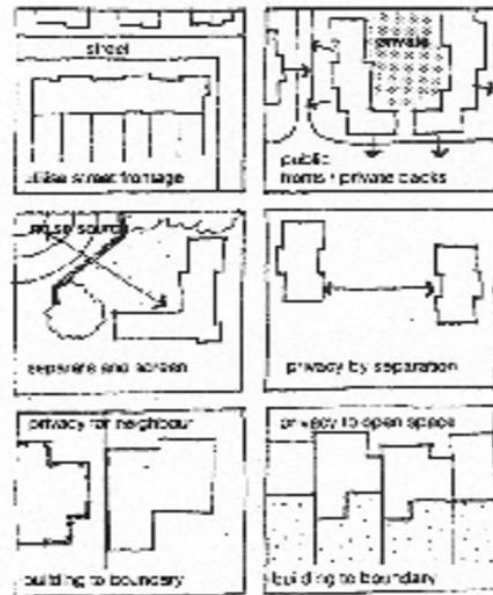
- opportunities to link into existing open space, pedestrian and cycle networks;
- the extent to which driveways and/or parking areas are likely to dominate the appearance of the development;
- the visibility, width and design speed of proposed roads and/or driveways; and
- pedestrian access which is visible and safe.

### Provisions

There are no Provisions for this section.



*Small site development should be designed to respond to size constraints*

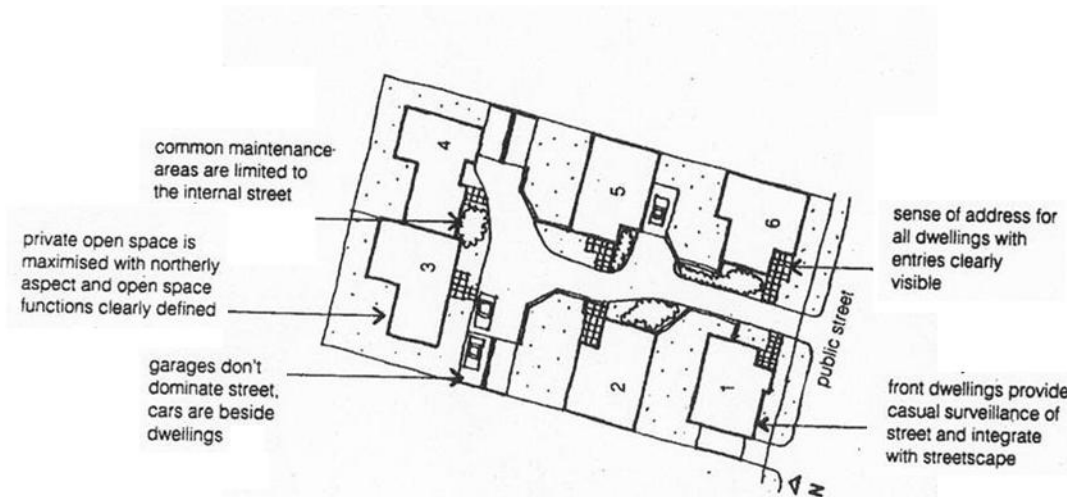


*Privacy is a key consideration at the site analysis stage*

### 2.3.3 Site Planning and Layout

#### Objectives

1. To achieve a coherent site layout that provides a pleasant, attractive, manageable and resource efficient living environment.
2. To ensure that streetscape, amenity and energy-efficiency are considered at the outset of the design process.
3. To encourage the concurrent planning of subdivision layout with dwelling siting and design.
4. To encourage site planning and building design that optimises solar access to land and buildings.
5. To ensure that urban areas are not fragmented by minor multi dwelling housing development.



*Consider image of development, amenity and ongoing management at the site layout stage.*

## Performance Criteria

Applicants are to demonstrate that the following site planning issues have been considered;

- appropriateness of built form and landscape in relation to the site context, topography and urban character;
- building arrangement and their relationship to streets and open spaces;
- accessways within and beyond the site;
- location, function and opportunities for casual surveillance of open space;
- ongoing site management considerations;
- personal privacy and security;
- parking arrangements and reducing the predominance of driveways;
- energy efficiency in building design and siting;
- heritage and conservation opportunities and constraints;
- opportunity for future subdivision into individual lots and communal spaces, including servicing arrangements.

All applicants are required to provide a site plan which annotates the manner in which site attributes and constraints have been considered.

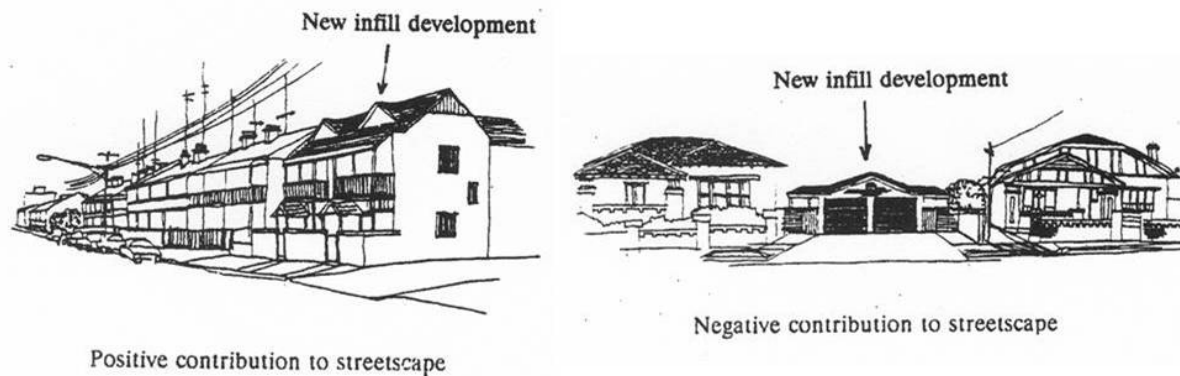
## Provisions

There are no Provisions for this section of the Chapter.

### 2.3.4 Streetscape & Front Setbacks

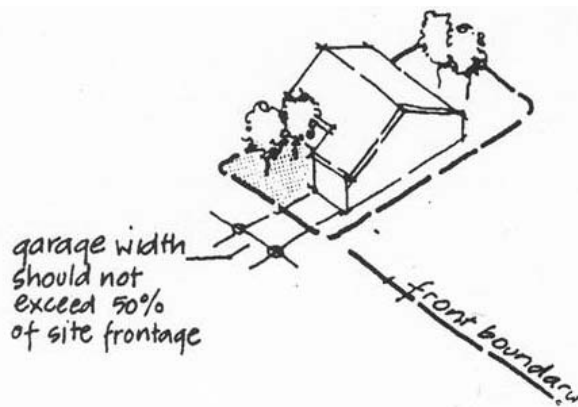
#### Objectives

1. In developed areas, to ensure that new development enhances and makes a positive contribution to the character of existing streetscapes.
2. In new areas, to ensure that new development establishes appropriate and attractive streetscapes which reinforces the function of the street and is sensitive to the landscape and environmental conditions of the locality.



### Performance Criteria

1. The scale and appearance of new development is compatible and sympathetic to existing development in the locality, particularly on the perimeter of the development site and where that locality or development site has some heritage significance or distinctive character.
2. The streetscape reflects the functions and characteristics of the street type in the traffic movement network and is designed to encourage pedestrian access and to support or establish a sense of place and street identity.



*Garage on allotment less than 600m<sup>2</sup>*

3. Front setbacks are generally consistent with those of adjoining development, though not necessarily identical. Some variations to minimum setbacks can be considered particularly where such variations are used to create streetscape variety and interest.
4. The setbacks of buildings is related to their height and to the width of the street, in such a way to ensure pedestrians do not feel buildings are overbearing.
5. Setbacks provide space for residents to feel an adequate sense of visual and acoustic privacy when using rooms fronting the street.
6. Parking and garages do not dominate the frontage of the development (refer to section 2.4.8 for greater detail).

### Provisions:

1. In new areas, setbacks from the boundary with the road reserve should be as specified in Table 1.

Street Type	Minimum Frontage Setback
Access Place & Access Street (carriageway width 3.5 - 5.0 metres)	4.0 metres
Other Street (carriageway Width >5.0 metres)	6.0 metres

- The garage width on allotments of less than 600m<sup>2</sup> should not exceed 50% of the site frontage, the remainder of which shall be landscaped.

### **2.3.5 Private Open Space**

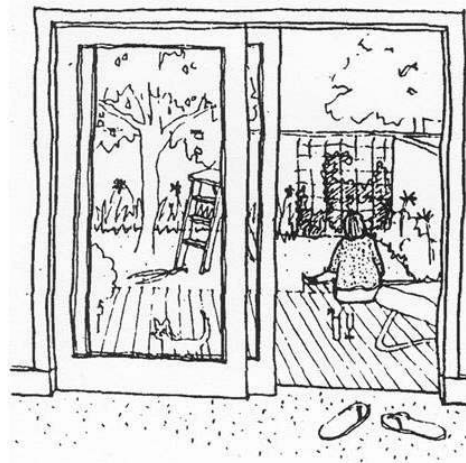
Private open space does not include public open space. The provision of public open space is dealt with in the relevant S.94 Contributions Plan.

To be included in private open space calculations, open space at ground level shall have a minimum dimension of 3.0 metres (and above ground level a minimum dimension of 2.0 metres).

Roof gardens, terraces, balconies and verandahs can count as usable open space provided they are not enclosed and if it can be demonstrated that the bulk of the building is satisfactory and no undue lack of privacy results.

### **Objectives**

- To ensure that private open space provided for a dwelling-house is usable and meets user requirements for privacy, safety, access direct sunlight, outdoor activities and landscaping.
- To locate any private open space to take account of outlook, natural features of the site and neighbouring buildings or public open space.



*Private Open Space*

### **Performance Criteria**

- Private open space is clearly defined to distinguish it from communal open space.
- Private open space areas are of dimensions to suit the projected requirements of the dwelling occupants, and to accommodate some outdoor recreational needs as well as providing space for service functions.

3. Part of the private open space is capable of serving as an extension of the function of the dwelling for relaxation, dining, entertainment, recreation and children's play, and of being accessed from a main living area of the dwelling.
4. Orientation of the private open space enables solar access and helps to achieve comfortable year round use.

### Provisions

1. If the objectives and performance criteria of this section are achieved, private open space can be a minimum of 50m<sup>2</sup> per 1 or 2 bedroom dwelling or 70m<sup>2</sup> per 3+ bedroom dwellings provided:
  - the 'principal area' of private open space, where the dwelling is located at or near ground level, is not less than 4.0 metres x 4.0 metres and is directly accessible from the living area;
  - screening is provided to maintain privacy;
  - where the dwelling is located above ground level, a balcony is provided having a minimum area of 8m<sup>2</sup>, and a minimum dimension of 2.0 metres with direct access from the main living area of the dwelling.

## 2.4 DESIGN ELEMENTS – BUILDING DESIGN & APPEARANCE

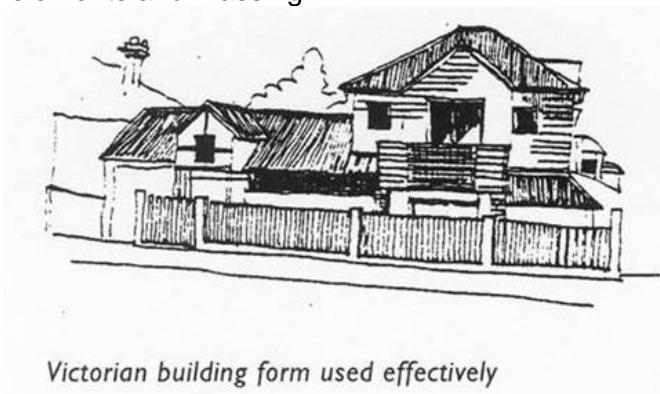
### 2.4.1 General

This section addresses the various elements involved in building design. Emphasis is placed on the appearance, height and scale of buildings, together with measures for energy conservation. Good neighbour measures are also included, particularly for maintenance of views and privacy. Other important elements include the provision of car parking and heritage considerations.

### 2.4.2 External Appearance

#### Objectives

1. To encourage the creation of attractive, well designed residential development.
2. To allow flexibility in design and use of materials while encouraging high architectural standards.
3. The provision of good design which provides continuity of character between the local building forms and new development by using a selection and/or combination of characteristic elements and massing.



#### Performance Criteria

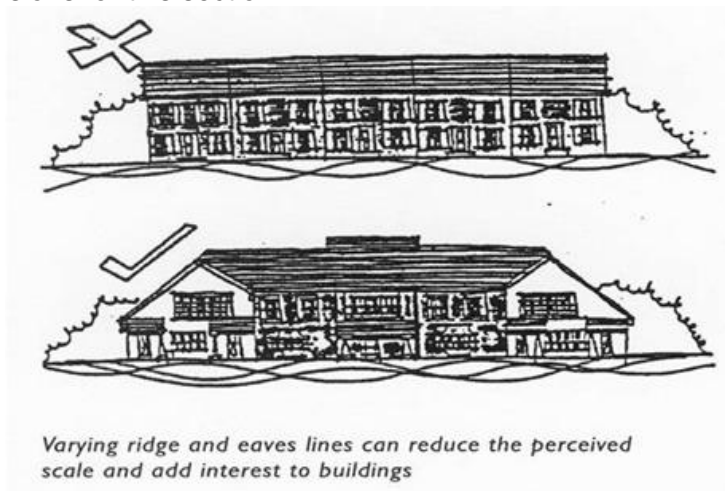
1. The building design and the Statement of Environmental Effects that accompanies the proposal shall demonstrate that the following matters have been addressed:

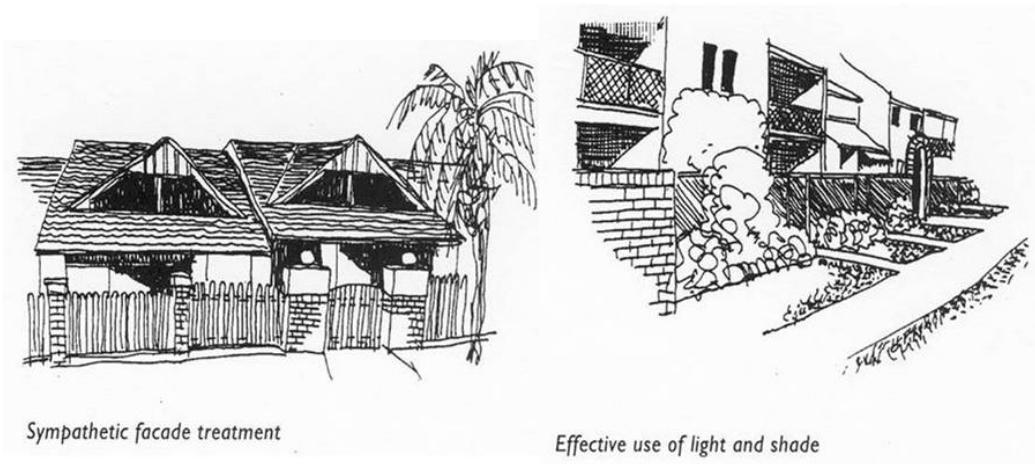


- consideration of the existing scale, character and massing of development in the immediate area;
  - finishes which are 'textured' rather than bland, through the use of light and shade, diversity in materials and finishes and appropriate decorative treatments;
  - consideration of both typical and rare fenestration (door and window) patterns and the relationship between glazed and solid wall areas;
  - traditional relationship of roof mass to wall ratio, roof pitch and design, length of unbroken ridgelines, parapets, eaves and roofwater guttering detailing.
2. The provision of a variety of experiences for the users achieved in the design through attention to silhouette, pattern, texture and colour. The amount and length of unbroken roof ridge lines, unpunctuated facades, fencing and repetitive form should be minimised.
  3. Design diversity within and between developments should be sought by maximising the advantages of orientation, landforms, views and natural vegetation.
  4. The following features of existing areas should be considered and integrated into new development proposals where possible:
    - traditional street and lane patterns;
    - street setbacks;
    - groupings of buildings;
    - corner feature sites;
    - pedestrian walkways;
    - promenades, squares and courtyards;
    - characteristic kerb and gutter treatment; and
    - pavement design, materials and finishes.

### Provisions

There are no provisions for this section.

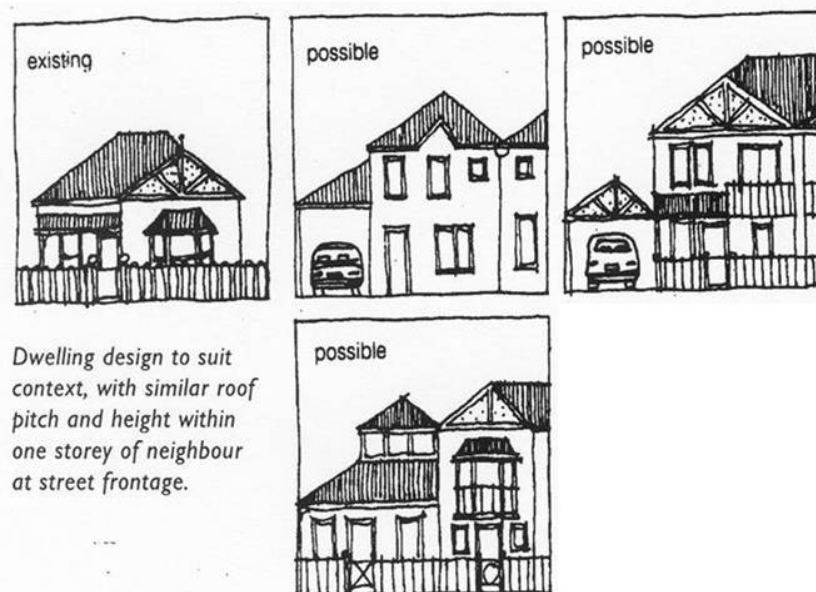




### 2.4.3 Building Height and Scale

#### Objectives

1. To ensure that the height, scale and length of new development is not excessive and relates well to the local context.
2. To encourage design which creates desirable living conditions and ensures that the amenity of surrounding properties is properly considered.



#### Performance Criteria

1. Walls are sited and are of such length and height that there is no significant loss of amenity to adjacent dwellings and land. This can be achieved through:
  - setbacks that are progressively increased as wall heights increase to reduce bulk and overbearing;
  - building siting and height that are related to land form, with minimal cut and fill;
  - building forms that enable a sharing of views with neighbours;
  - building bulk, that is generally distributed to reduce impact on neighbours and on the public street;
  - building heights similar to those in the public streetscape;

- building to the boundary, which maximises privacy for neighbouring dwellings and their private open space;
- boundary walls, limited in length and height, to minimise the impact on neighbours; and
- adequate separation between facing dwellings for privacy.

## Provisions

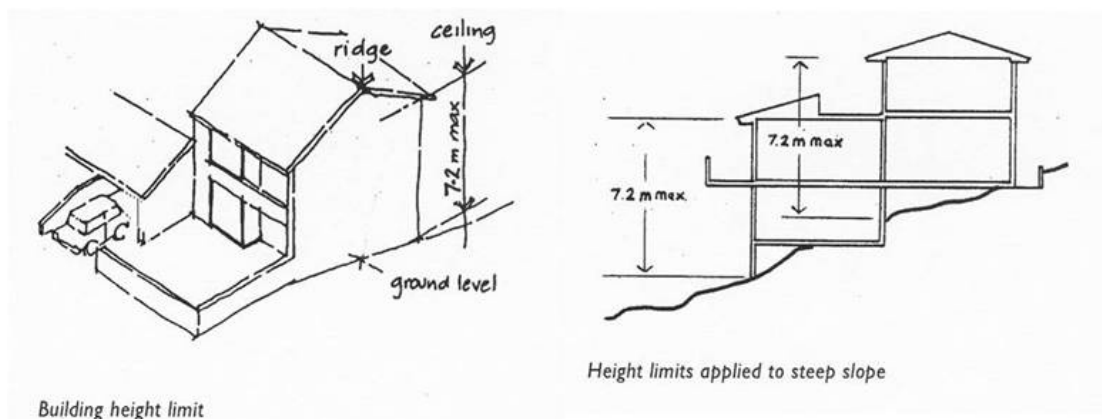
### Interpretation

- Height is measured vertically from existing ground level prior to the commencement of any works to the underside of the ceiling in the uppermost habitable room:
- Loft spaces will not be included in the height measurement where they do not significantly alter the roof design or building bulk:
- Cathedral ceilings are permitted and will not be penalised:
- The maximum height for boarding houses, dual occupancies, dwelling-houses, group homes, multi dwelling housing and seniors housing is 7.2m (to the underside of the ceiling in the uppermost habitable room – excluding lofts).

### Variation

Variation of this height limit may be permitted where it can be shown that:

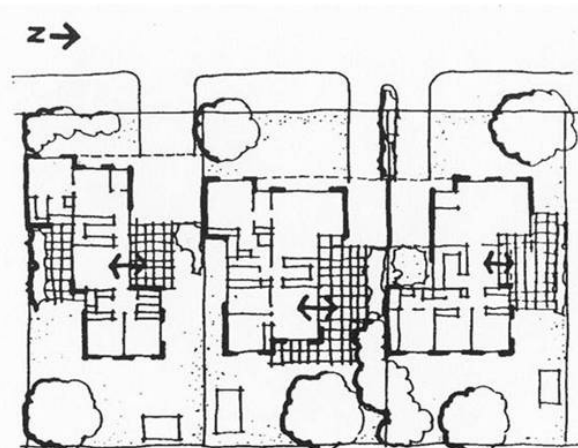
1. the height of the proposed building is equivalent or less than the height of a building on an adjacent site; or
2. the variation is minor and would satisfy the objectives and performance criteria of this section; and
3. other requirements of this chapter relating to streetscape, daylight, sunlight and privacy are satisfied.



## 2.4.4 Side and Rear Setbacks

### Objectives

1. To allow flexibility in the siting of buildings and the provision of side and rear setbacks.
2. To allow adequate natural light and ventilation between dwelling-houses.

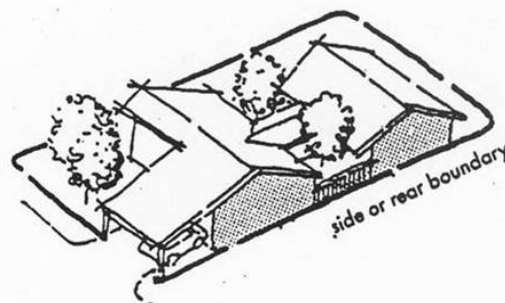


*Innovative use of narrow lots with plan designs that link the outside to the inside of the house, can make good use of building to a boundary techniques.*

### Performance Criteria

Walls are sited and are of such length and height that there is no significant loss of amenity to adjacent dwellings and land. This can be achieved through:

- setbacks that are progressively increased as wall heights increase to reduce bulk and overbearing;
- building siting and height that are related to land form with minimal cut and fill;
- building forms that enable a sharing of views with neighbours;
- building bulk, that is generally distributed to reduce impact on neighbours and on the public street;
- building heights similar to those in the public streetscape;
- building to the boundary, which maximises privacy for neighbouring dwellings and their private open space;
- boundary walls, limited in length and height, to minimise the impact on neighbours; and
- adequate separation between facing dwellings for privacy.

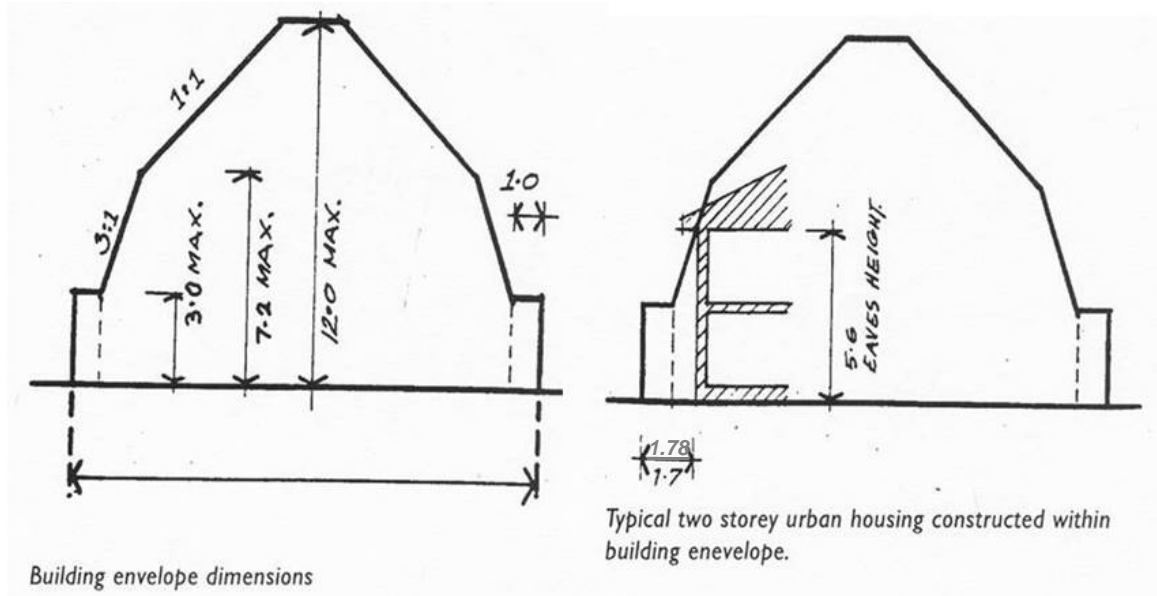


*Building to boundary can maximise privacy and usable open space*

### Provisions

1. A minimum side or rear boundary setback of 1.0 metre shall be provided for walls up to 3.0 metres in height unless the wall is built to the boundary.
2. For that part of the wall over 3.0 metres and less than 7.2 metres in height the minimum setback shall be 1.0 metres plus 300 mm for every metre of height over 3.0 metres.

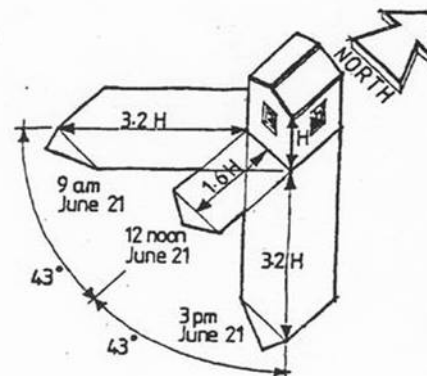
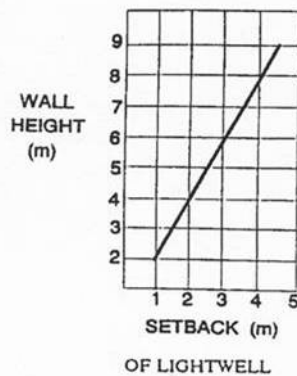
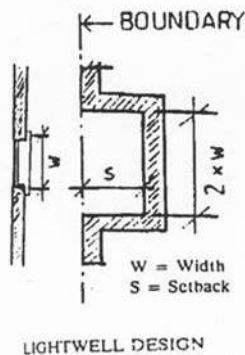
3. For that part of a wall over 7.2 metres in height the minimum setback shall be increased by 1.0 metre for every metre of height over 7.2 metre.
4. Walls may be built to the side and rear boundaries where:
  - they do not contain any openings unless such openings comply with the fire resistance levels of the Building Code of Australia and are infilled with translucent or opaque materials; and
  - the wall height and length match an existing or similarly constructed wall on the adjoining site; or
  - the maximum wall height is 3.0 metres and there will be minimal impact on privacy, use of private open space and solar access to adjoining properties.



### 2.4.5 Energy Conservation

#### Objectives

1. To provide dwellings with adequate daylight and natural ventilation to habitable rooms and adequate sunlight to private open spaces.
2. To avoid the potential for significant overshadowing of habitable rooms and private open spaces.
3. To reduce total energy use in residential buildings by reducing heat loss and energy consumption for heating and cooling.
4. To encourage the use of building materials that are energy efficient, non harmful and environmentally sound.



Guide to shadow lengths on level sites in Lower Hunter.

### Performance Criteria:

1. Buildings shall be orientated with the main indoor and outdoor living spaces and major window areas facing towards the north and east.
2. To the fullest extent possible, buildings shall be insulated.
3. When a wall is likely to obstruct light to the window of a habitable room, it may be necessary to construct a lightwell based upon the table above.
4. Buildings shall include adequate thermal mass and windows located, sized and shaded to facilitate thermal performance.
5. West facing walls shall be designed with windows fitted with appropriate shade structures, and/or landscape screens.
6. The building materials that are selected shall have low energy inputs in their production and cause minimal damage to the environment.
7. Buildings shall be designed, wherever possible to include a north facing roof upon which a solar hot water system or collector could be installed. The building's internal plumbing shall be designed to facilitate the installation of such a system.
8. The design of the building shall maximise the cooling potential of natural ventilation by seasonal prevailing winds.
9. Solar access to adjoining properties shall be protected.

### Provisions

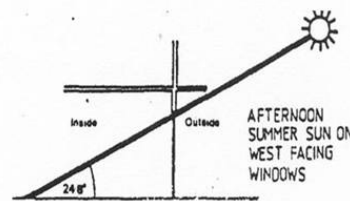
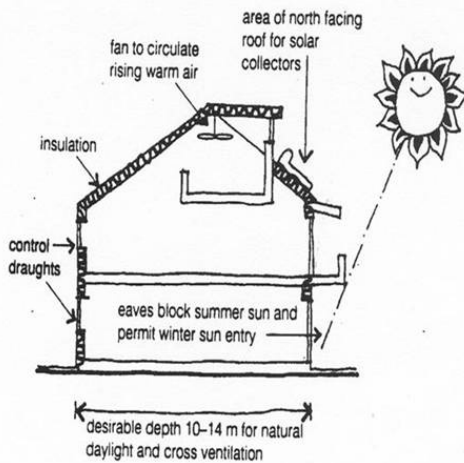
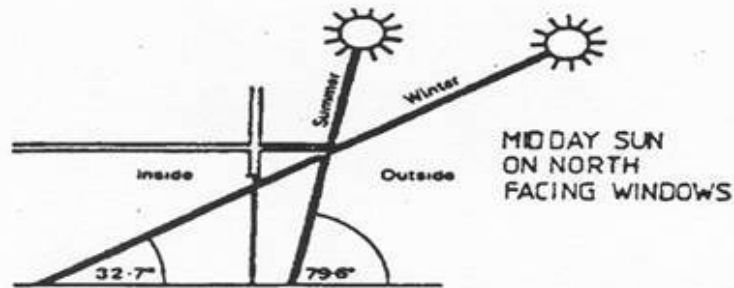
1. Dwellings shall be sited to comply with the ventilation requirements of the Building Code of Australia by locating windows not less than a horizontal distance of 1.0 metre from any facing building.
2. The windows of living areas facing north should receive not less than three hours of sunlight between 9:00am and 3:00pm on June 21. Buildings shall not reduce the sunlight available to the windows of living areas that face north in existing adjacent dwellings to less than the above specification.

Sunlight to the principal area (4.0 metres x 4.0 metres) of ground-level private open space of adjacent properties shall not be reduced to less than 2 hours between 9:00am and 3:00pm on June 21. Where existing overshadowing by buildings and fences is greater than this, sunlight shall not be reduced by more than 20%.

For designers proposing development where lot size, orientation, degree of slope, scale and / or setbacks of buildings create a potential for loss of solar access of adjacent properties, Council may require an applicant to prepare shadow diagrams.

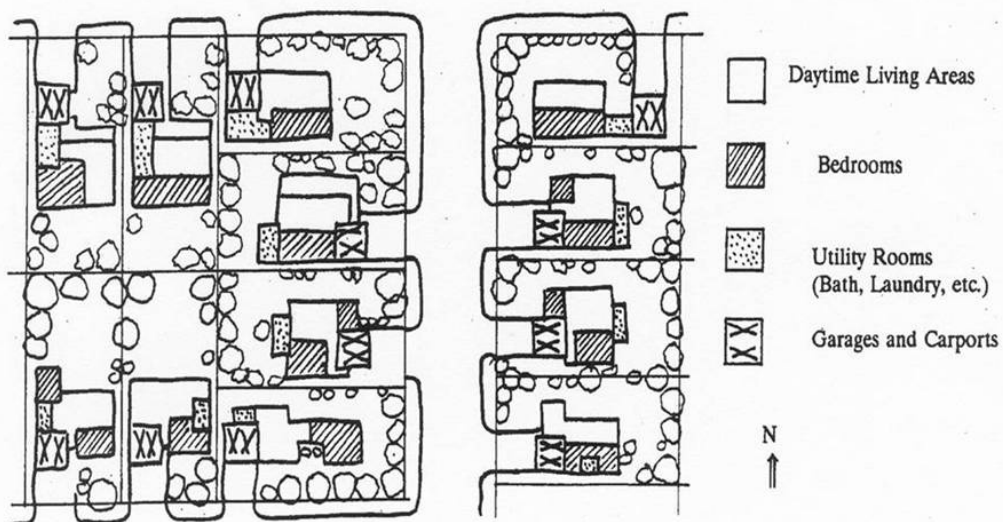
The following measures may be required to reduce overshadowing:

- the building re-sited or setbacks increased;
- heights reduced; and/or
- the roof design amended.



Exclude hot afternoon Summer sun by shading west facing windows

Some considerations for solar efficiency housing

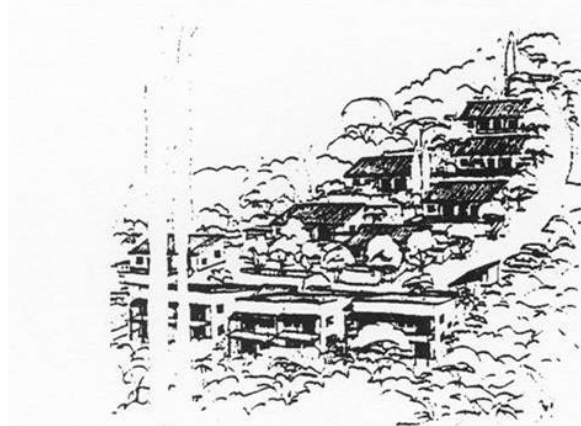


Good solar access can be achieved with appropriate design regardless of allotment orientation

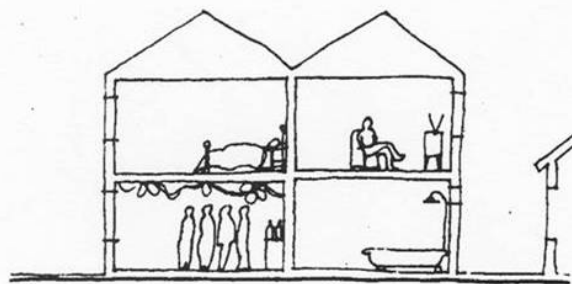
### 2.4.6 Views and Privacy

#### Objectives

1. To encourage the sharing of views whilst not restricting the reasonable development potential of a site.
2. To site and design buildings to meet projected user requirements for visual and acoustic privacy.
3. To protect the visual and acoustic privacy of nearby buildings and private open space.



*Varied height and orientation of dwellings on a sloping site allows maximisation of view sharing*



*Acoustic privacy begins with site and dwelling layout and is reinforced in building design*

*Acoustic privacy by design*

#### Performance Criteria

##### View Sharing

1. All property owners are able to develop their property within the established planning guidelines, however, existing views should not be substantially affected where it is possible to design for the sharing of views.
2. Grand vistas and views which are recognised and valued by the community should not be obscured by new development.
3. Heritage or familiar dominant landmarks should be retained and not obscured.

##### Privacy

4. Development is designed so that the privacy of individual dwelling-houses and adjacent dwelling-houses is protected, with particular regard to private open spaces and the windows of habitable rooms.

Measures utilised to ensure that this standard is satisfied may include:

- proper consideration of privacy outcomes at the site planning stage;
- screening, including lattice or mature planting;
- offset windows;
- innovative balcony design; or
- separation by distance.



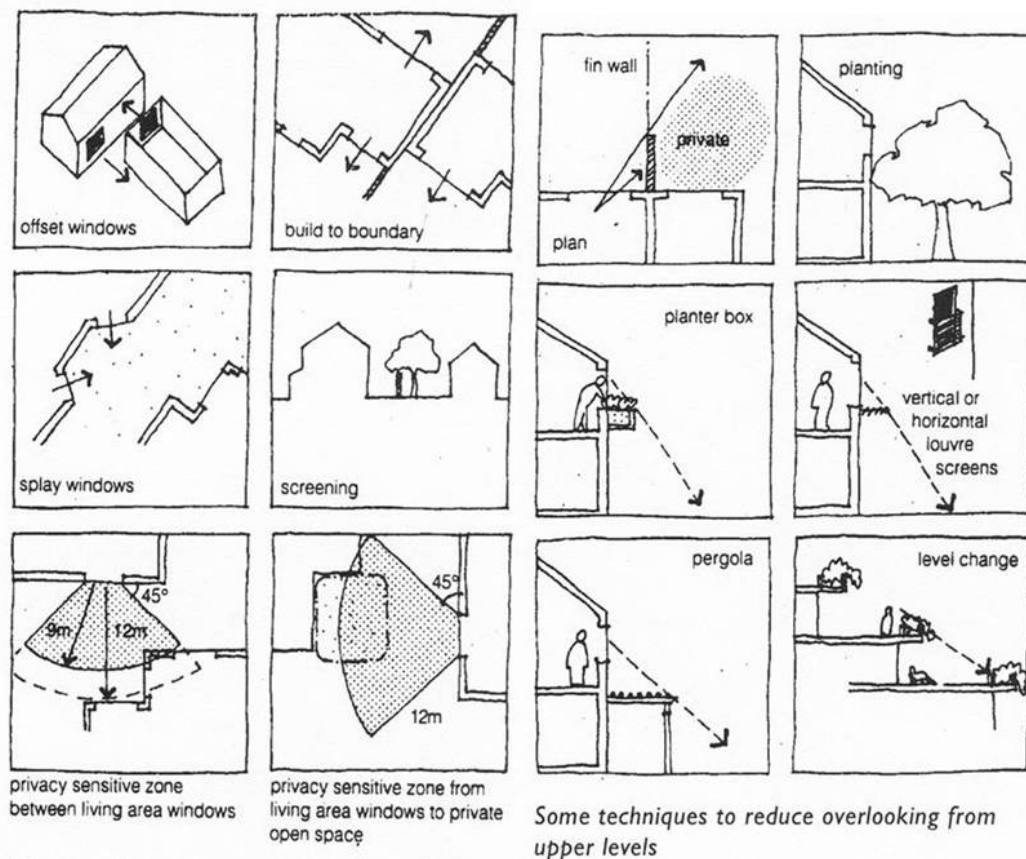
## Provisions

### Visual Privacy

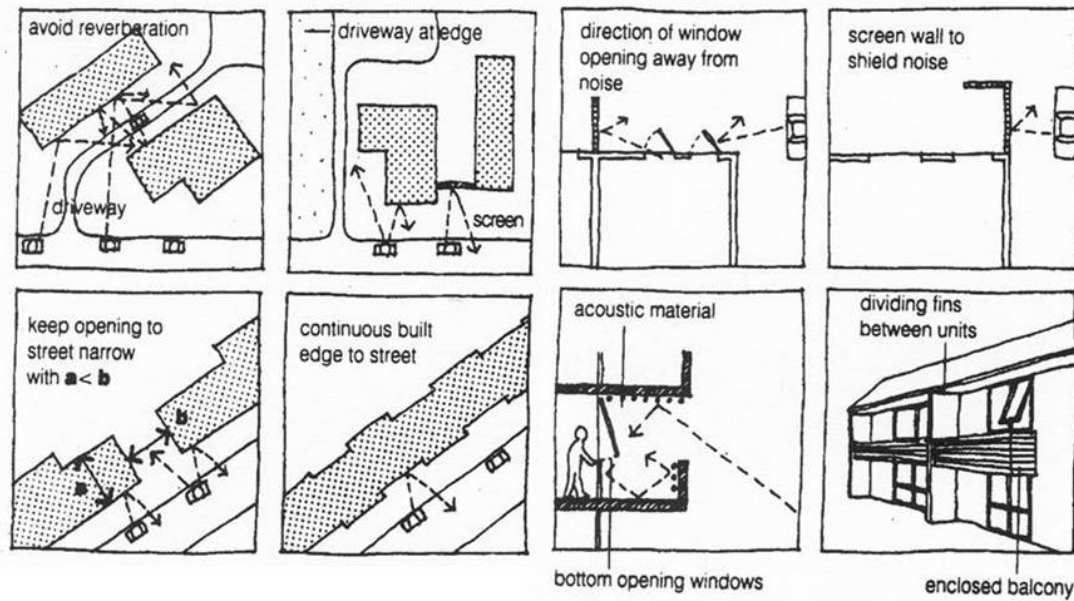
1. A minimum 9.0 metre separation shall be provided between the windows of habitable rooms of facing dwellings that abut a public or communal street.

This distance shall be increased to 12.0 metres for windows above first floor level.

2. Direct views between living area windows of adjacent dwellings shall be screened or obscured where:
  - ground and first floor windows are within an area described by taking a 9.0 metre radius from any part of the window of the adjacent dwelling. An area so defined is described as a 'privacy sensitive zone';
  - other floor windows are within a 'privacy sensitive zone' described by a 12.0 metre radius.
3. Direct views from living rooms of dwellings into the 'principal area' of private open space of other dwellings shall be screened or obscured within a 'privacy sensitive zone' described by a 12.0 metre radius.
4. Direct views described in 2 and 3 may be obscured by one of the following measures:
  - 1.8 metre high solid fences or walls between ground-floor level windows or between a dwelling and open space where the slope is below 10%;
  - screening that has a maximum area of 25% openings, is permanently fixed and is made of durable materials; or
  - landscape screening either by existing dense vegetation or new planting that can achieve a 75% screening effectiveness within three years.



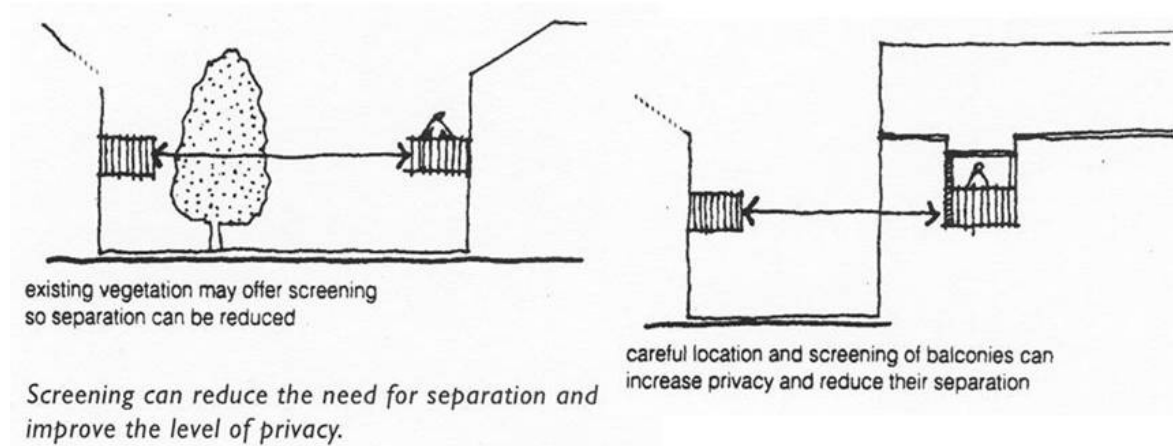
*Minimise direct views or screen where they cannot be avoided.*



Some ideas for achieving acoustic privacy.

### Acoustic Privacy

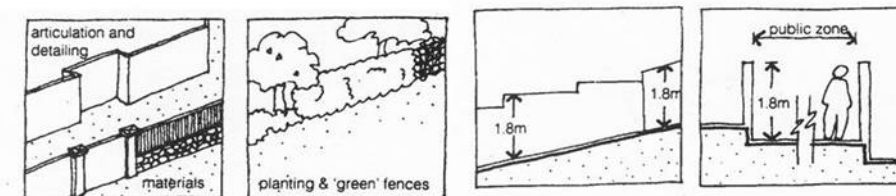
- 5 Site layouts shall ensure parking areas, streets and shared driveways have a line of sight separation of at least 3.0 metres from bedroom windows.
- 6 Openings of adjacent dwellings shall be separated by a distance of at least 3.0 metres.
- 7 Shared walls and floors between dwellings shall be constructed to limit noise transmission.
- 8 Dwellings adjacent to high levels of uncontrollable external noise shall be designed to minimise the entry of that noise.
- 9 Site layout shall separate active recreational areas, parking areas, vehicle accessways, and service equipment areas from bedroom areas of dwellings.
- 10 Mechanical plant or equipment shall be designed and located to minimise noise nuisance.



## 2.4.7 Fencing and Walls

### Objective

- To ensure that front and side fences and walls provide privacy, security and noise attenuation without having a detrimental impact upon the streetscape and adjacent buildings.

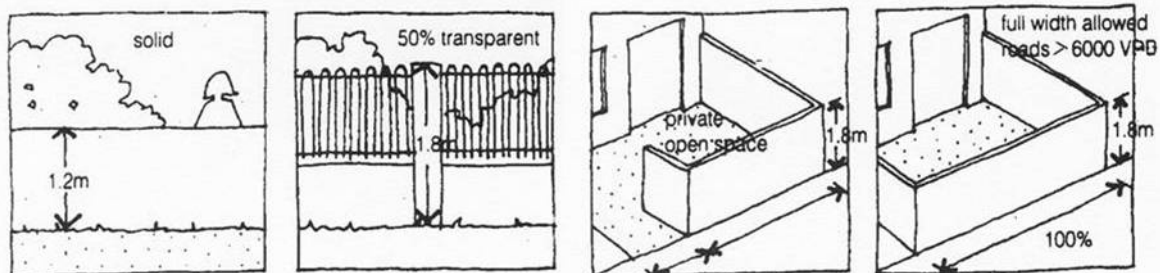


Fences should provide visual interest and integrate with landscape

Fence height determined in relation to pedestrian in public zone.

### Performance Criteria

- The design sets out the role of proposed front fences and walls where they are a component of the streetscape of a public street.
- Front fences and walls:
  - enable some outlook from buildings to the street for safety and surveillance;
  - assist (if used) in highlighting entrances and in creating a sense of communal identity within the streetscape;
  - are designed and detailed to provide visual interest to the streetscape;
  - are constructed of materials compatible with proposed housing, and with attractive visible examples of fences and walls in the streetscape to offer a sense of continuity; and
  - are compatible with facilities in the street frontage area, such as mail boxes and garbage collection areas.
- The use and/or design of fences and walls in streetscapes of significance is appropriate to the heritage or environmental context of the site.



Low walls and semi-transparent fences are encouraged in preference to high solid walls

High front fences permitted under certain traffic or design considerations

### Provisions

- Front fences and walls should be no more than 1.2 metres if solid. This height may be increased to 1.8 metres if:
  - the main private open space is in the front of the dwelling-house (not encouraged); and

- the fence has openings which make it not less than 50% transparent; or
  - traffic volumes and/or noise exceed 6000 vehicles per day and/or 60 dB(A) and
  - the development site is not located in a heritage conservation area.
2. Front fences and walls shall be designed to use similar or compatible materials to that used in attractive buildings in the locality.
  3. The use of sheet-metal fencing shall be avoided adjacent to public places, unless the visual impact is to be softened by landscaping.

### 2.4.8 Car Parking

#### Objectives

1. To provide convenient, accessible and safe parking to meet the needs of residents and visitors.
2. To encourage the design of access and parking as part of the overall landscape design.
3. To allow service vehicles access where necessary.



*Poor relationship to street - the garage dominates the dwelling when viewed from the street*



*Improved relationship to street - garages do not dominate the dwellings when viewed from the street*

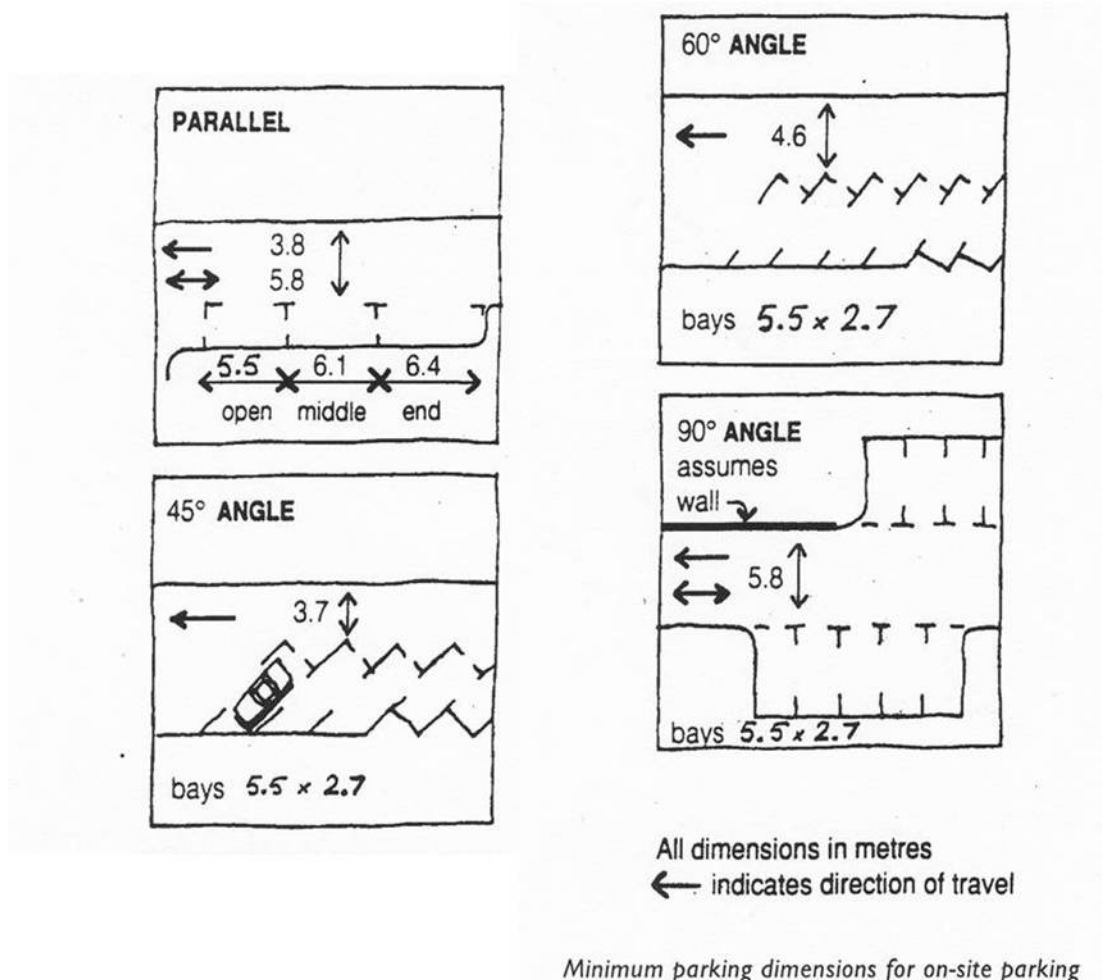


*Well integrated parking provision in Urban Housing development.*

#### Performance Criteria

1. Parking requirements for any development shall have regard to:
  - proximity and frequency of public transport; and
  - street width, traffic volume and on-street parking capacity.
2. The design of driveways and parking areas shall have regard to the safety of pedestrians, cyclists and vehicles.
3. Vehicles shall be able to enter and exit the site in a forward direction except where it can be demonstrated that the scale of development and the local conditions make this unnecessary.
4. The visual dominance of driveways and garages/carports shall be minimised by:
  - the use of irregular driveway alignment;
  - minimising the width of driveways;
  - the selection of paving materials e.g. decorative paving and brick banding;

- breaking up the appearance of driveways with landscaping;
  - the use of screen planting; and/or
  - car parking structure designs that add interest to the development.
5. The area of driveways shall be minimised to reduce the volume of runoff and increase the area available for landscaping.
  6. All car parking spaces shall be adequately drained, marked and designated on the site.
  7. Encourage the environmentally friendly disposal of car wash waste water.



### Provisions

1. Parking shall be provided as per Part C: General Guidelines, Chapter 1: Parking and Access, and the minimum number of off-street car spaces will be as follows:
  - one space for each one or two bedroom dwelling; or
  - two spaces for each dwelling containing more than two bedrooms; and
  - one visitor space for the first three dwellings and one space for every five thereafter or part thereof for multi dwelling housing; or
  - 0.5 visitor spaces for each unit in residential flat buildings and shop top housing developments.
2. The minimum dimension of a car parking space is 5.5 metres by 2.5 metres (parallel parking) or 2.7 metres (angle parking).
3. The minimum dimension of an entrance-way is 3.0 metres with the driveway itself not being less than 2.5 metres wide with adequate turning areas provided.

4. The preferred dimensions of parking bays and driveways for common parking layouts are shown above.
5. Where parking is provided in separate garages the turning area shall be increased to 6.5 metres with a minimum garage entrance width of 2.4 metres.
6. The provision of stacked parking will be considered on merit.
7. The grade of a driveway shall not exceed 1 in 5, except where it can be demonstrated that steeper driveways provide safe access on particular sites.

### 2.4.9 Heritage Considerations

#### Objectives

1. To ensure preservation of the distinctive character of an area which is identified for heritage significance or is valued by the community.



*Traditional streetscape - Victorian terraces*



*Traditional streetscape - Suburban Federation*



*Traditional streetscape - Victorian semis*



*Retain heritage trees and avenue planting*



*Contemporary development featuring Federation form*

#### Performance Criteria

1. The retention, preservation and recycling of existing buildings which make a positive contribution to the heritage character of the locality.
2. Good contextual design which reinforces the aesthetic qualities of the heritage streetscape. The dominant design features which contribute to the historic character of a streetscape shall be reflected in the proposed development.
3. Existing remnants of heritage tree or avenue planting shall be retained and strengthened by additional planting.

#### Provisions

There are no Provisions for this Section.

## 2.5 DESIGN ELEMENTS – LANDSCAPE, DESIGN, SECURITY, SERVICES & SITE FACILITIES

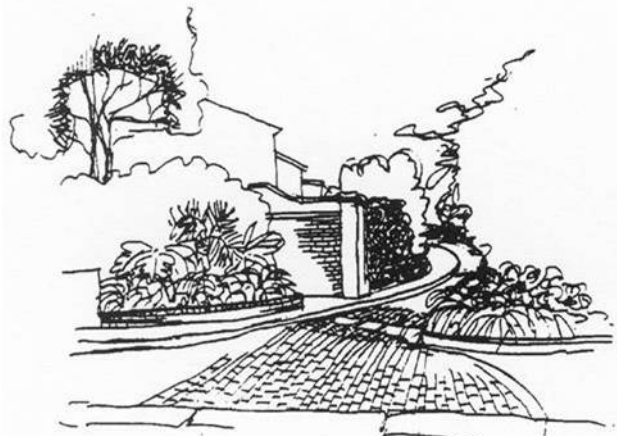
### 2.5.1 General

This section addresses a number of important elements that are frequently forgotten in the design process. They include: landscape design; site facilities; security; and servicing. Although not contained in section 2.4 'Building Design and Appearance', they form an integral part of the process.

### 2.5.2 Landscape Design

#### Objectives

1. To enhance the appearance, amenity and energy – efficiency of new development for the users and for the community in general.
2. To encourage the integration of building and landscape elements.
3. To enhance developments for acoustic and visual privacy and shade.
4. To blend new development into an established streetscape and neighbourhood.
5. To encourage the use of water efficient landscape systems.



*Sensitive landscape design*

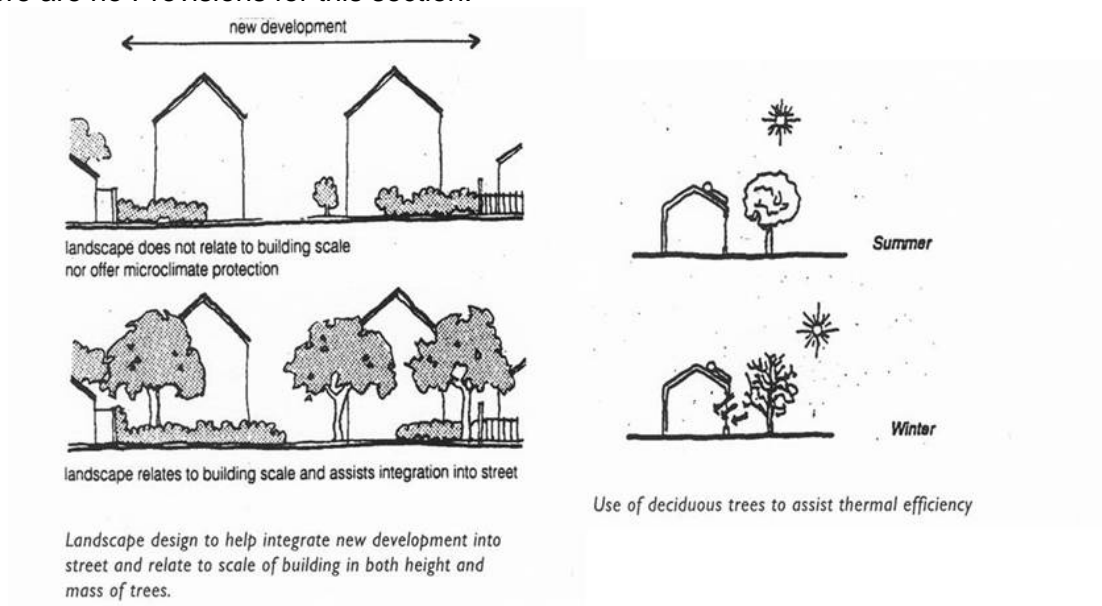
#### Performance Criteria

1. Site design minimises site disturbance and preserves existing landscape elements such as rock formations, trees, significant vegetation and water courses where possible.
2. In established areas, landscaping relates to the scale of other elements of the streetscape and the landscape of adjoining development.
3. Landscaping shall be geared towards user requirements, taking into account maintenance, exercise opportunities, shade provision and aesthetic quality.
4. To the fullest extent possible, appropriate vegetation shall be used to provide shade to the northerly and westerly elevations of buildings in summer, while allowing sunlight in winter.
5. The provision of landscaping to the street frontage of new development shall be substantial and shall attempt to enhance the appearance of the development and assist with streetscape integration.
6. The design of the landscape shall, as appropriate:
  - define a theme for new streets, or complement existing streetscapes;

- complement the functions of the street and reinforce desired traffic speed and behaviour;
- be of an appropriate scale relative to both the street reserve width and the building bulk;
- improve privacy and minimise overlooking between dwellings;
- appropriately account for streetscapes and landscapes of heritage significance;
- provide adequate lighting for pedestrian and vehicular safety;
- be tolerant of the site conditions and adequately mulched.

### Provision

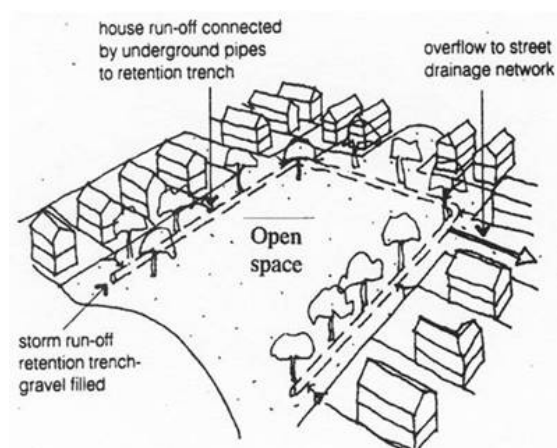
There are no Provisions for this section.



### 2.5.3 Stormwater Management

#### Objectives

1. To provide an effective stormwater management system which is sustainable and requires minimal maintenance.
2. To maintain existing site discharge rates.
3. To maintain existing or control flowpaths in excess of design requirements (i.e. spillways).



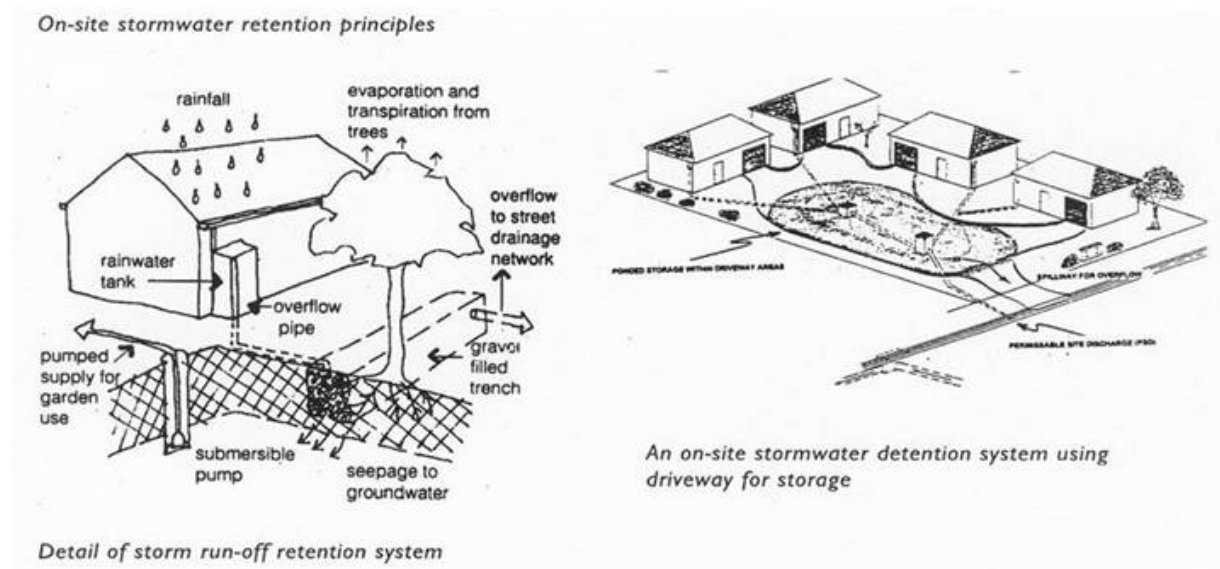


## Performance Criteria

1. The following criteria shall be considered in the design of on-site stormwater management systems:
  - the downstream capacity and need for on-site stormwater detention and re-use;
  - the scope for on-site infiltration of water;
  - the minimisation of detrimental impacts on existing water table and quality;
  - the sustainability and maintenance needs of the stormwater system;
  - the safety of pedestrians and vehicles;
  - emergency spillways and/or overland flowpaths; and
  - potential impact on adjacent properties.

## Provisions

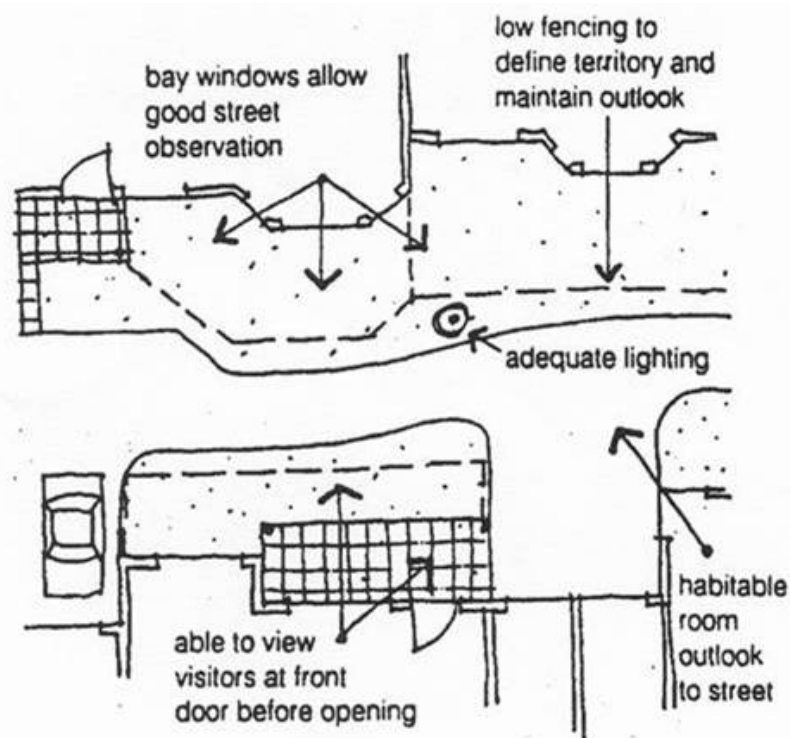
There are no Provisions for this Section.



### 2.5.4 Security, Site Facilities and Services

#### Objectives

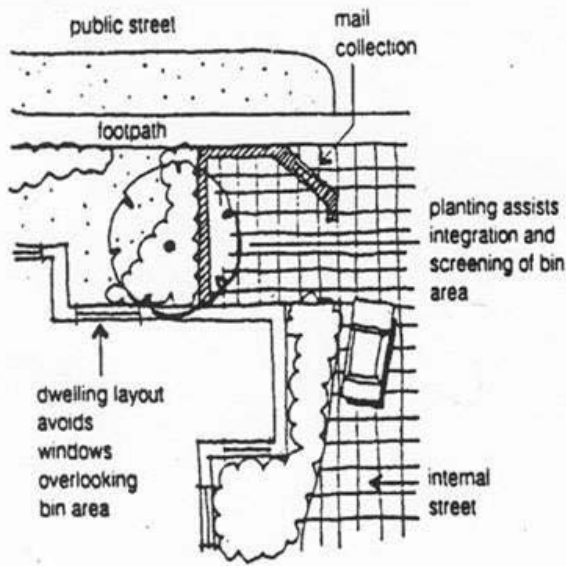
1. To provide adequate personal and property security for residents.
2. To ensure site facilities, such as garbage and recycling bin enclosures, recycling bins, mail boxes, clothes drying areas, external storage facilities, exterior lighting and signage are designed to be conveniently reached and require minimal maintenance.
3. To ensure facilities are visually attractive and blend in with the streetscape.
4. To ensure residential areas are adequately serviced with essential services in a timely, cost effective and efficient manner.



### *Security by design*

#### **Performance Criteria**

1. Buildings adjacent to streets or public space are designed to allow casual surveillance and shall have at least one habitable room's window facing that area.
2. Adequate light is provided to all pedestrian paths, shared areas, parking areas and building entries.
3. Open air clothes drying facilities that are provided for communal use, are easily accessible to all residents and are visually screened from the street.
4. Garbage or recycling bin areas, mail boxes and external storage facilities are sited and designed for attractive visual appearance and for efficient and convenient use.
5. Dwellings are provided with adequate storage areas and clothes drying facilities.
6. Adequate numbering system and signage is provided.
7. The design and provision of public utilities, including: sewerage; water; electricity; street lighting; telephone and gas services to conform to the cost-effective performance measures of the relevant servicing authority.
8. Compatible public utility services to be co-ordinated in common trenching in order to minimise construction costs for underground services.
9. Development to be within locations where reticulated water supply services, complying with the requirements for domestic and fire fighting purposes, is available.
10. Each dwelling to be provided with direct and convenient pedestrian access to a public road.



*Mail and garbage collection areas to be integrated with building and landscape design*



*Consider ease of use of facilities*

## Provisions

1. Shared entries shall serve a maximum of twelve dwellings.
2. If a bin storage area is provided within the site area, it shall be roofed and designed so as to conceal its contents from view of an adjacent public place and/or other properties. It shall be provided with a water-tap for wash down purposes and drained to connect to the sewer. The storage area shall be as close as practicable to the pick-up location.
3. Individual mail boxes shall be located close to each ground floor dwelling entry, or a mail box structure located close to the major pedestrian entry to the site and complying with the requirements of Australia Post.

## 2.6 ESTIMATING DEVELOPMENT POTENTIAL

### 2.6.1 Yield Table

The provisions set out in Table 2 are intended to be used to estimate the number of dwellings a site could accommodate. These standards are relatively conservative and particular sites may be able to accommodate more dwellings when consideration is given to the various performance based design elements contained in Sections 2.3, 2.4 and 2.5.

**Table 2: Yield Table**

Development Standard	Urban Housing Type		
	Dual Occupancy	Urban Housing Up to two storeys	Urban Housing with more than 2 storeys
Floor Space Ratio (FSR)	0.5:1	0.4:1	0.6:1
Minimum Site Area	450m <sup>2</sup>	NA	NA
Height	7.2 metres	7.2 metres	12 metres
Street Setbacks	6.0 metres to main frontage – if corner allotment 3.0 metres to secondary frontage	6.0 metres to main frontage – if corner allotment 3.0 metres to secondary frontage	9.0 metres
Side/Rear Setbacks	1.0 metres	3.0 metres	6.0 metres
Car Parking	1 bedroom: 1 space 2 bedroom: 1 space 3 bedroom+: 2 spaces	1 bedroom: 1 space 2 bedroom: 1 space 3 bedroom+: 2 spaces + 1 visitor space for first 3 dwellings and 1 space for every 5 thereafter or part thereof	1 bedroom: 1 space 2 bedroom: 1 space 3 bedroom: 2 spaces + 1 visitor space for first 3 dwellings & 1 space for every 5 thereafter or part thereof
Private Open Space	1 bedroom: 50m <sup>2</sup> 2 bedroom: 50m <sup>2</sup> 3 bedroom +: 70m <sup>2</sup>	1 bedroom: 50m <sup>2</sup> 2 bedroom: 50m <sup>2</sup> 3 bedroom+: 70m <sup>2</sup>	1 bedroom: 50m <sup>2</sup> 2 bedroom: 70m <sup>2</sup> 3 bedroom: 100m <sup>2</sup>
Minimum separation between habitable room windows of facing dwellings	Ground and 1 <sup>st</sup> floor level – 9.0 metres Above 1 <sup>st</sup> floor level 12.0 metres	Ground and 1 <sup>st</sup> floor level – 9.0 metres Above 1 <sup>st</sup> floor level – 12 metres	Ground and 1 <sup>st</sup> floor level – 9.0 metres Above 1 <sup>st</sup> floor level – 12 metres

## 2.7 CASE STUDY – DEMONSTRATING THE BENEFITS OF THE PERFORMANCE APPROACH

### 2.7.1 General

To illustrate the opportunities that are available to developers to design by pursuing the 'Performance Approach' an actual development has been taken and compared to the alternative that would have been possible under the 'Performance Approach' of this document.

Under the 'Performance Approach', significantly more thought and effort needs to be put into the design process and each development site needs to be analysed independently, as opposed to the traditional approach which encouraged 'off the shelf' designs. However, as the case study illustrates, the rewards to all parties are substantial and include:

- greater dwelling yield and/or larger dwellings;
- an improved living environment for occupiers;
- more energy efficient development;
- greater acceptance by the community of medium-density development;
- more attractive living environments and streetscapes.

Table 3 compares the two development proposals and Diagrams 2-3 show the site plans and street elevations.

### **2.7.2 Proposal One - Actual Development Not Complying with the Lower Hunter Urban Housing DCP**

This is an actual development of 4 x 2 bedroom townhouses which was taken from one of the Lower Hunter local government areas.

The design was determined by the setbacks required (11m, 3m, and 2m respectively for front, side and rear) with a central driveway and the dwellings occupying the leftover spaces.

All private open space is located in side and rear setbacks, having a maximum dimension of 3m and little regard to site orientation. Communal open space is located with visitor parking in the front setback.

The appearance of the development is dominated by the central driveway and bland front elevations which make little attempt to relate to surrounding development or create any architectural interest. Each townhouse is identical in appearance.

### **2.7.3 Proposal Two - Alternative Development Complying with the DCP**

This represents the type of development that would be possible if the Performance Approach was followed. A central feature of this approach is that dwelling yield is not pre-determined, but rather, is a function of site opportunities and constraints and the quality of design.

The yield achieved in this instance is 2 x 2br and 3 x 3br dwellings. In fact, three standard floorplans have been utilised, in each case having two bedrooms as loft accommodation. Dwellings 1 and 2 are two bedrooms and would have a floorspace of 80m<sup>2</sup>, dwellings 3 and 5 are each three bedrooms with a floorspace of 90m<sup>2</sup> each, while dwelling 4 is also three bedrooms, but has more generous living areas and a floorspace of 100m<sup>2</sup>. These floorspace figures do not include the generous verandah areas that have been provided.

The front setback is 3.0 metres and in this instance, the setback forms part of the usable open space for dwellings 1 and 2. Both of these dwellings are oriented towards the street and would appear as typical freestanding cottages. Their design integrates with the streetscape via articulated facades, front verandahs and picket fencing.

Side setbacks vary and in the case of dwellings 2 and 3 form part of the usable open space. Dwellings 4 and 5 enjoy particularly generous garden areas as illustrated on the accompanying plan. Dwelling 4, in particular, has a large courtyard and garden areas on its northern side. In all cases, the open space had been located near living areas.

Although each of the dwellings is single storey plus loft, the overall height is only 1.0 metre greater than the typical design and there would be little additional shadow cast. The privacy of adjoining sites would be maintained by the careful location of dormer windows.

Each dwelling would have a single garage with a stacked second parking space. The central driveway would be paved and interrupted by landscape features, providing space for on-site turning whilst ensuring the vehicular speed is minimised and pedestrians have priority.

**Table 3: Case Study Comparison**

<b>CONSIDERATIONS</b>	<b>- PROPOSAL ONE - ACTUAL DEVELOPMENT</b>	<b>- PROPOSAL TWO - ALTERNATIVE DEVELOPMENT</b>
Dwelling Yield	4 x 2br townhouses	2 x 2br 3 x 3br townhouses
Total Floorspace	274m <sup>2</sup>	440m <sup>2</sup>
Floorspace Ratio	0.31:1	0.49:1
Total Private Open Space	178m <sup>2</sup>	240m <sup>2</sup>
Total Communal Open Space	192m <sup>2</sup>	117m <sup>2</sup>
Parking Spaces	7	8
Setbacks:		
Front	11 metres	3.0 metres
Side	2.0 metres	2.0 metres
Rear	1.0 metres (in part)	Nil (in part)
Overall Height	4.5 metres	5.5 metres

CASE STUDY - DEMONSTRATING THE BENEFITS OF THE PERFORMANCE APPROACH

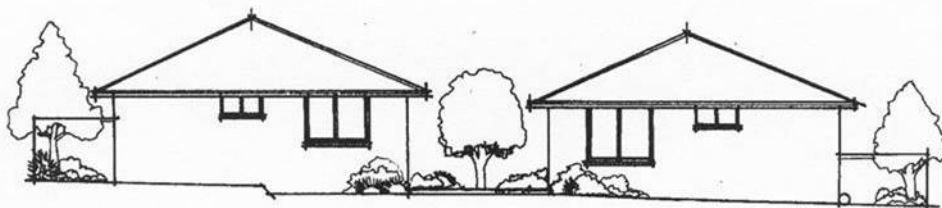
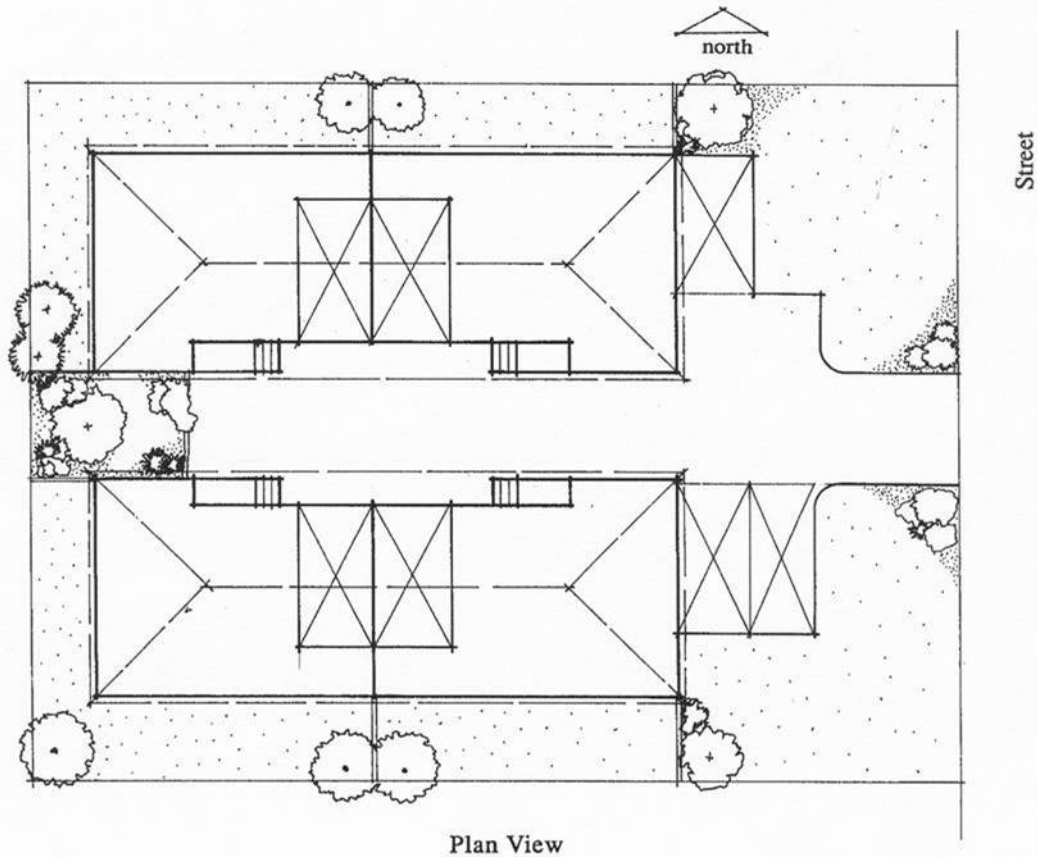


DIAGRAM 2 : CASE STUDY I  
ACTUAL DEVELOPMENT NUMERIC PROVISION METHOD