

# 4 Principal Development Controls

## Urban



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## 4 Principal development controls – urban

### 4.1 Residential development

This Section applies to residential development, residential development in business zones and miscellaneous development in residential zones.

#### 4.1.1 Site planning, bulk, scale and density

##### **Objective**

Achieve a coherent site layout that provides a pleasant, attractive, manageable, resource efficient and sustainable living environment.

Ensure bulk and scale does not have an unacceptable impact on the streetscape and the character of the locality.

Higher density developments are located close to public transport shopping and community facilities.

##### **Controls**

Ensure the site layout integrates with the surrounding environment through:

- adequate pedestrian, cycle and vehicle links to street and open space networks;
- buildings facing streets and public open spaces;
- building, streetscape and landscape design relating to the site topography and the surrounding neighbourhood character.

(i) Percentage of residential development allowed in Business zones:

- B1 Neighbourhood Centre and B3 Commercial Core – Nil (except for shop top housing);
- B2 Local Centre– 40% of gross floor area;
- B4 Mixed Business – 100% of gross floor area;

The minimum gross floor area for dwelling units all Business zones is 150m<sup>2</sup>.

**Figure 4-1: Example of the calculation of maximum number of dwellings allowed in the Business B2 Local Centre zone**

- Subject lot area – 1,000m<sup>2</sup>;
- Gross floor area (GFA) is calculated by multiplying FSR (1.2) by site area (1,000) which is 1,200m<sup>2</sup>;
- Minimum GFA for a single dwelling unit is 150m<sup>2</sup>;
- Allowable residential percentage is 40%;
- Number of dwellings is calculated by dividing 40% of the FSR (1,200) by minimum GFA for a single dwelling (150) which is 3.2.
- Maximum theoretical number of dwellings for this site is 3.

Developments with higher floor space ratios are to be located:

- within walking distance of good public transport; or
- within reasonable walking distance of shopping and community facilities; or
- where favourable physical conditions exist such as an outlook onto public open space, a wide road, corner position, a north-facing slope, rear lanes or multiple access opportunities; or on sites larger than normal infill sites (eg. greater than 1000m<sup>2</sup>).

(ii) Places of public worship in R2 Low Density Residential zones.

Gross floor area of places of public worship shall not exceed 150m<sup>2</sup>.

(iii) Multi dwelling housing density.

The minimum average amount of site area required for each dwelling in dual occupancy and multi dwelling housing development is:

- R1 General Residential and R2 Low Density Residential – 350m<sup>2</sup> per dwelling unit.
- R5 Large Lot Residential (sewered land) – 1000m<sup>2</sup> per dwelling unit.
- R5 Large Lot Residential (unsewered land) – 1 hectare per dwelling unit.

- RU5 Village – 750m<sup>2</sup> per dwelling unit.

Note: To ascertain minimum allowable lot sizes for individual sites reference should be made to the lot size maps (LEP 2009).

**Figure 4-2: Example of the calculation of maximum number of dwellings allowed in residential zones**

- Zone R1 General Residential;
- Subject lot area – 1,500m<sup>2</sup>;
- Average site area required for each proposed dwelling unit – 350m<sup>2</sup>;
- Number of dwellings is calculated by dividing lot area (1,500) by dwelling site area required (350);
- Maximum number of dwellings allowed (rounded) is 4.
- Note: this theoretical calculation is based on full reticulated services being available to the site.

#### 4.1.2 Number of storeys

**Objective**

Minimise the impact of building heights on neighbours of proposed residential development.

**Controls**

Dwellings and multi dwellings are recommended to have a maximum of 2 storeys outside the statutory height mapped areas

(Refer also to height of buildings maps in the LEP 2009).

#### 4.1.3 Solar access

**Objective**

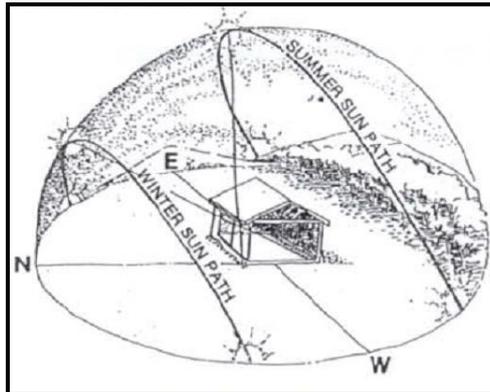
Achieve energy efficient urban housing, using passive solar design that provides residents with year round comfort and reduces energy consumption.

**Controls**

Residential buildings shall be designed to ensure that the proposed dwelling, adjoining residential buildings, and the major part of their landscaped open space, have at least four hours of sunlight between 9.00am and 3.00pm on 21 June (winter solstice).

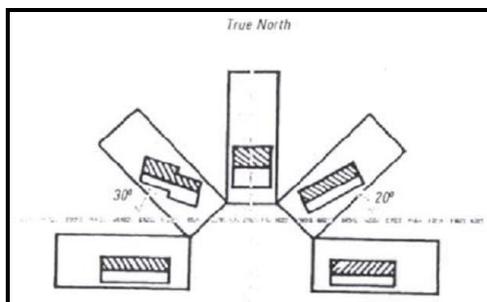
**Figure 4-1** identifies the variation of the sun's path in winter and summer.

**Figure 4-1: Variation of the sun's path**



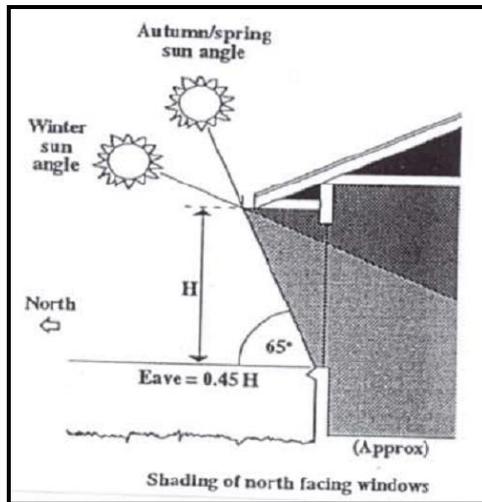
The dwelling should be designed and positioned so that the greatest potential for adequate shade in summer and exposure to sunlight in winter occurs (where windows to living areas of dwellings have an orientation within an angle of 20 degrees east and 30 degrees west from the north).

**Figure 4-2: Best orientation of buildings**



Shaded areas in **Figure 4-2** identify the preferred location of habitable rooms relative to True North to maximise energy efficiency. Where possible, buildings are orientated on a north-south or east-west access to maximise solar access.

**Figure 4-3: Shading of north facing windows**



**Figure 4-3** demonstrates the shading of north facing windows in buildings with optimum orientations. Eaves on north facing walls should be designed to completely shade windows in summer but allow the sun to shine through in winter. To calculate the distance the eaves should overhang, from the base of the window on an elevated plan, draw a line at 65°. Methods for shading the glass with awnings or vegetation should be considered.

#### 4.1.4 Privacy

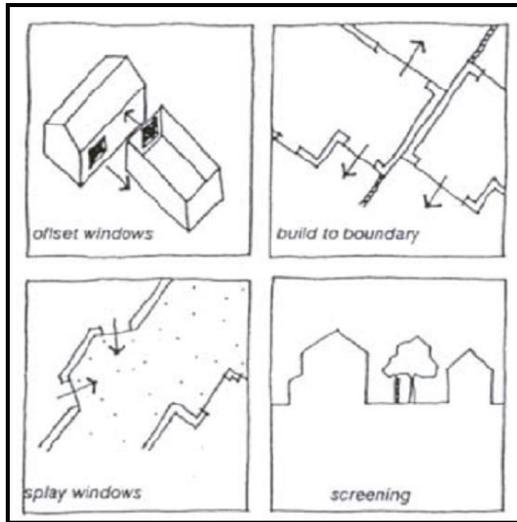
##### **Objectives**

Ensure privacy between dwellings.

Avoid overlooking of living spaces in buildings and private open spaces.

##### **Controls**

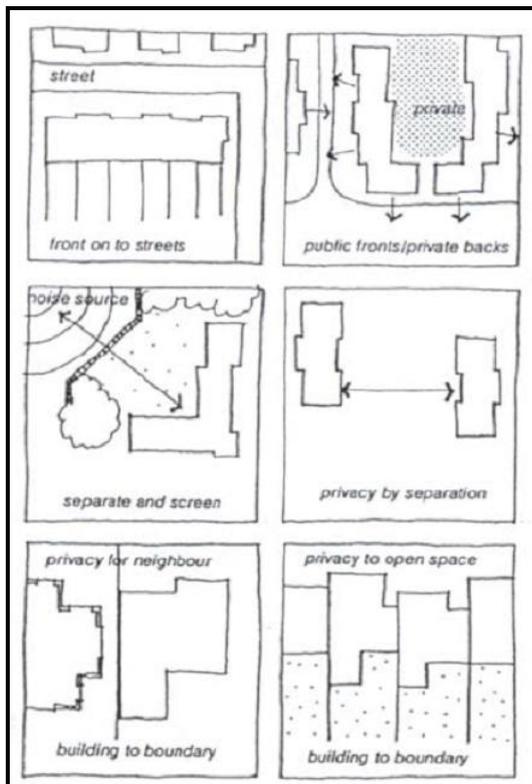
**Figure 4-4: Locating windows to reduce overlooking**



Visual privacy for adjoining properties and within development projects can be achieved by:

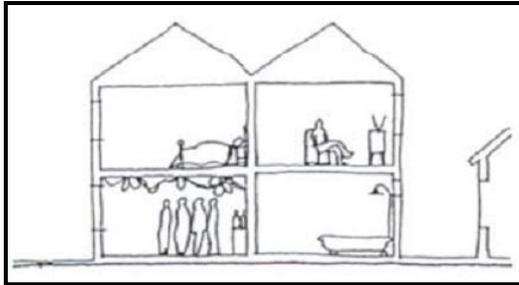
- using windows which are narrow, translucent, or obscured
- ensuring that windows do not face directly onto the windows, balconies, or courtyards of adjoining dwellings (refer to **Figure 4-4**)

**Figure 4-5: Designing for privacy**



- screening devices and landscaping opposing windows, balconies and courtyards
- windows and balconies of dwellings to be separated or screened from commercial areas so as to avoid overlooking of private open space (refer to **Figure 4-5**)

**Figure 4-6: Designing for acoustic privacy**



Noise generating areas of a development (e.g. driveway entrances to car parks, air conditioning plant and swimming pool areas) should be adequately screened or located away from the bedroom areas to minimise their impact on neighbouring areas (refer to **Figure 4-6**).

Bedrooms of one dwelling must not share walls with living rooms or garages of adjacent dwellings; and

Bedroom windows are to be at least 3 metres from shared streets, driveways and parking areas of other dwellings.

#### 4.1.5 Private open space

##### **Objective**

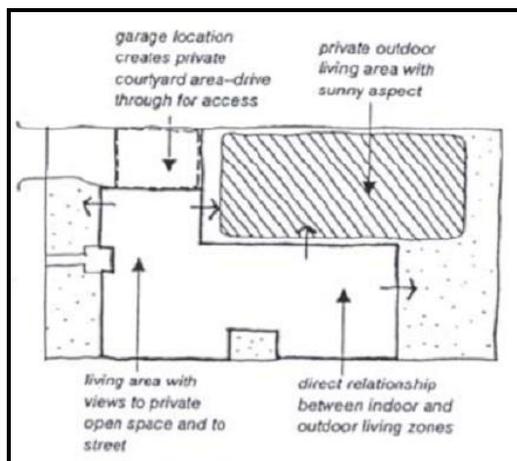
Provide open space for recreation within the site.

Maintain and enhance the existing streetscape and landscape character.

Provide for privacy and shade.

##### **Controls**

**Figure 4-7: Optimising private open space**



Whenever possible, open space is to be orientated to have a north easterly aspect and living areas are to open out thereon, whenever possible (refer to **Figure 4-7**).

Areas used for driveways, car parking, drying yards and service yards shall not be included as landscaped open space.

Recommended amount of private open space per dwelling is 75 m<sup>2</sup>.

## 4.1.6 Setbacks

### **Objective**

Setbacks should relate to the traffic function of the street and to setbacks of adjacent development. The objective of a setback is to:

- maintain, as a minimum, the following setbacks for both privacy and amenity
- set back buildings from roads so as to enable landscaping to provide for attractive streetscapes
- permit flexibility in the siting of buildings
- minimise adverse impact on adjacent and adjoining properties

In established areas, the objective is to blend new development into the public streetscape. The setback of buildings contributes to existing or proposed streetscape character, assists the integration of new development into the public streetscape, makes efficient use of the site and provides amenity for residents.

### **Controls**

#### 4.1.6.1 Side and rear setback

Council will generally consider setback applications on their merits provided that dwelling structures are adequately separated for privacy and overshadowing does not result (including private open space and dwelling structures on adjoining land not in the same ownership). In addition, the wall proposed to be constructed adjacent to the allotment boundary must comply with the Building Code of Australia fire rating requirements and where the site can be viewed from a public place side and rear set backs shall be a minimum of 3 metres.

#### 4.1.6.2 Front setback (building line)

Generally, Council will consider flexibility in front setbacks, however the following development standards are recommended.

In areas being newly-developed areas, setbacks (inclusive of verandah, porch etc) from the street boundary should be a minimum of 6 metres, however Council will consider setbacks in accordance with **Table 4-1** where it can be demonstrated that the setback is appropriate.

#### **Table 4-1: Minimum front setbacks in new areas**

Street Type	Minimum frontage setback (m)	Minimum side setback to corner street (m)
Local access street	3	3
Classified road	6	3

The setback may be averaged, providing no part of the building is setback less than 2 metres.

In established areas where the setback of an adjacent building is greater than 3m, infill development is to be setback:

- the same distance as one of the other adjoining buildings, provided the difference between the setbacks of the two adjoining buildings is less than or equal to 2 metres
- the average of the setbacks of the adjoining dwellings if the difference between the setbacks of the adjoining building is greater than 2 metres

The setback of buildings in the Heritage Conservation Area or near heritage items shall match that of adjacent development.

In establishing areas where the setbacks of adjacent buildings are 0-3 metres, infill development is to be set back the same distance as one or the other of the adjoining dwellings.

Garages are to be setback a minimum of 5.5 metres from the front property boundary to allow vehicles to stand on site.

#### 4.1.7 Views

##### **Objectives**

To minimise, where possible, the obstruction of views from adjoining buildings or public places.

To maximise views from living areas within the allotment.

##### **Controls**

Step buildings to follow the slope of the land.

Minimise the height of buildings and planting on the highest part of the site.

Council may require an applicant to provide a survey showing the position of the proposal on its site, the location of adjoining buildings and the degree of view lost.

Retain and protect existing vegetation where possible.

#### **4.1.8 Traffic safety and management**

##### ***Objectives***

Reduce the visual impact of garages, carports and parking areas on the streetscape and improve dwelling presentation.

Provide sufficient and convenient parking for residents, visitors and service vehicles.

Ensure vehicular and pedestrian safety.

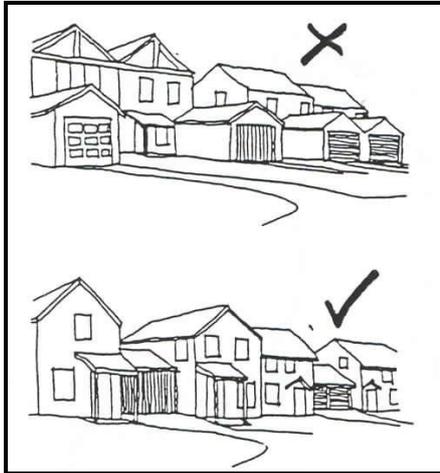
Encourage access design to form part of the overall landscape design.

Provide acceptable levels of access, safety and convenience for all road users.

##### ***Controls***

### 4.1.8.1 Car parking and driveways

**Figure 4-8: Preferred garage treatment**



The visual impact of garages is to be minimised, as illustrated on **Figure 4-8**.

All garage and carport entries are to be set back from the front facade of the dwelling by a minimum of 1 metre, and a minimum of 5.5 metres from the front property boundary.

For residential development, the minimum standard of provision is detailed at **clause 3.4** of this plan.

Parking areas and driveways shall be designed in accordance with the current version of Council's Standards for Engineering Works. All driveways, paths, car parking areas are to be paved in brick pavers, bitumen, concrete or another approved manner. Use of decorative paving is encouraged.

Long, straight driveways are to be avoided, eliminated or appropriately screened to Council's satisfaction.

Paved area is to be minimised.

Access for one dwelling via right of carriageways is to be a minimum of 3.5 metres in width (excludes traffic control devices), except when it is more than 40 metres long where the minimum width increases to 5 metres.

### 4.1.9 Site facilities

#### **Objectives**

Design to integrate adequate and convenient site facilities such as storage, recycling and collection areas into the overall development.

Ensure site facilities are practical and easily maintained.

### **Controls**

Garbage bins, waste recycling areas, mailboxes and external storage facilities should be adequate in size, durable, waterproof, blend in with the development, avoid visual clutter and be accessible to the users of the building and service vehicles.

Ensure garbage storage and waste recycling areas are not located adjacent to any residential habitable rooms.

Provide adequate internal storage and design internal layouts to allow the building to be re-used for other purposes in the future.

## **4.1.10 Energy efficient siting and layout**

### **Objective**

Achieve improved energy efficiency through the siting and design of all buildings.

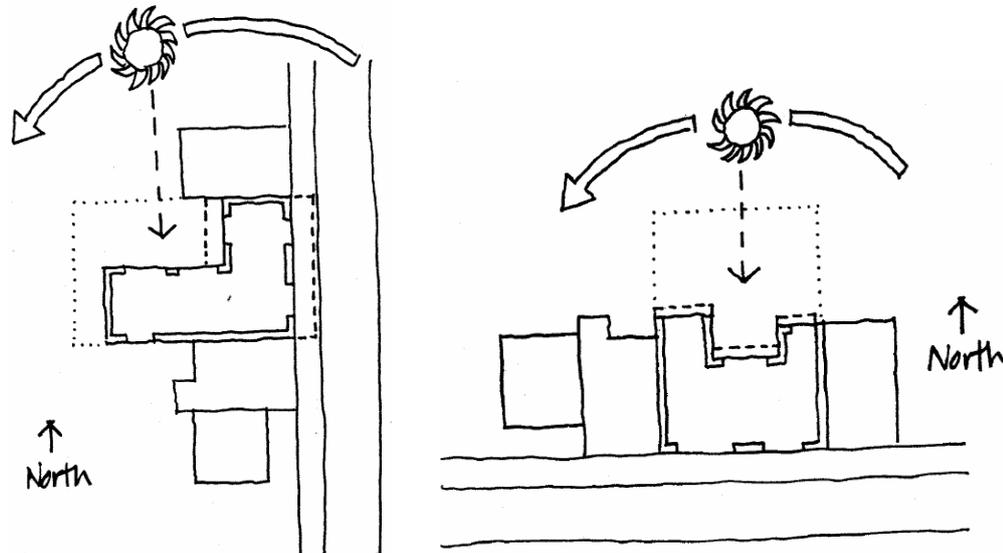
Building shape and orientation have a high impact on the energy performance of a building. A well designed building has the potential to reduce energy costs by up to 50%. The improved performance does not have to add to the project cost or change the appearance of a building.

### **Controls**

Building shape and orientation are major influences that affect energy consumption. The most critical element of a building's form is the size and orientation of its windows. The shape of a building influences the amount of floor area that can benefit from daylight through windows. Daylight is generally useful to a depth of 4-6 metres from a window.

Buildings should be designed to ensure that much of the floor area is within a 4-6 metre distance of an external window. An elongated plan shape produces this characteristic, as will the use of an atrium or courtyard. Maximise north and south facades, whilst minimising east and west facades (refer to **Figure 4-2 & 4-9**).

**Figure 4-9: Examples of building orientations to maximise energy efficiency**



#### 4.1.11 External window shading and internal and external lighting

##### **Objectives**

Integrate external window shading into the design of buildings to improve energy efficiency and comfort.

Maximise natural light to buildings and reduce the use of non-renewable energy resources.

##### **Controls**

Ideally, shading devices should be external.

North facing windows can provide valuable heat gain and light in winter but should be shaded from direct sunlight in summer.

East and west facing windows are difficult to shade in summer and should be minimised. South facing windows require no shading but can cause substantial heat loss in winter.

Maximise north and south windows and minimise those facing east and west.

For north facing walls provide horizontal shading devices such as awnings, upper floor balconies, pergolas, verandas, eaves and overhangs.

Where windows face east or west, vertical shading devices such as blinds, shutters, adjustable awnings and landscaping should be used.

Consider the location, shape, type and height of fully grown trees when using landscaping as a shading device.

Shading materials are to comply with C1.10 of the Building Code of Australia.

The choice of glass depends upon whether you want to maximise the sunlight or heat loss, or minimise heat gain into the building.

The use of skylights, light wells, and atriums can let additional daylight into a building although provision of shading in summer and possible heat loss in winter will need to be considered.

The need for artificial lighting can be reduced by the correct orientation and design of the building and the size and placement of windows and service areas which require high lighting levels (e.g. desks or workstations, by individual task lights).

Lighting costs can be reduced by selecting low energy lamps, ballasts and fittings which provide the desired level of illumination but consume 75% less energy. Lighting controls can be fitted to ensure that lights are not left on when not required. For instance, switches should be provided for separate zones within a large room and for task lights. Time switches or movement sensors should be employed for areas with sporadic use.

Lighting systems should be designed to supplement daylight in order to provide appropriate lighting levels for specific tasks.

#### **4.1.12 Insulation**

##### ***Objectives***

Improve the energy efficiency and comfort of buildings by designing to make the best use of natural ventilation.

##### ***Controls***

Windows should be oriented to take advantage of the cooling summer breezes. The position of internal walls and partitions should allow the passage of air through the building although, in some cases, ceiling fans may be required.

In cases where mechanical ventilation is necessary (e.g. kitchens, some computer rooms or areas where external noise levels are high), ensure that the system installed has appropriate controls which can cater for the particular use of the building whilst maximising the conservation of non-renewable energy.

Significant factors affecting natural air movement are:

- building form and the location of windows
- site and landscaping features
- internal planning and design

Ventilation can be achieved in the following ways:

- cross ventilation, where air enters a building from one side passing out on the other, replacing warm inside air with cooler outside air
- stack effect, where warm air rises through the height of the building, and is replaced by cool air at the base of the building
- artificial ventilation, where fans are used to extract warm air allowing it to be replaced by cool air

For effective ventilation:

- locate openings on opposite sides of rooms
- locate windows and openings in line with each other, and where possible, in line with prevailing breezes - a low level inlet and high level outlet is preferable
- use water features such as fountains in strategic positions to cool breezes
- consider strategic positioning of vegetation to modify wind direction
- use ceiling fans to provide a high level comfort on most hot days, at low running costs

Use window types that provide security while allowing for good ventilation.

Design buildings with a maximum internal dimension between openings of 14m to maximise natural ventilation without compromising other design elements.

Ensure ventilation can be achieved by permanent openings, windows, doors or other devices, which have an aggregate opening or openable size of not less than 5% of the floor area of the room.

In restaurants or buildings with kitchens where mechanical ventilation is needed, use those which operate directly above cookers, rather than designing high ventilation rates through the whole kitchen.

#### **4.1.13 Space heating and cooling**

##### ***Objectives***

Where thermal comfort cannot be achieved through building design elements choose energy-efficient and environmentally-friendly space heating and cooling systems.

##### ***Controls***

If air conditioning is necessary, install a unit with sufficient controls to ensure that it is used only when required. Consider partial air-conditioning directed to areas, rooms where it is needed, whilst the rest of the building remains naturally ventilated.

When choosing heating, consider which type is most suited to your particular needs, i.e usage patterns, location of staff etc. As with other equipment select heating devices that have appropriate controls to cater for the particular use of the building whilst maximising the conservation of non-renewable energy.

Use passive methods of minimising heat gain.

Design buildings with window shading, appropriate insulation, and sealed against hot air infiltration during the day, incorporating ventilation and natural cooling.

#### **4.1.14 Working hours – residential and business**

##### ***Objectives***

Ensure the operations of the proposed development will not cause nuisance to residents by way of working hours.

##### ***Controls***

Council seeks to ensure that the hours of operation of businesses, commercial premises and places of work are compatible with the type of activities carried out on the premises and the relationship with neighbouring residential occupiers.

Where residential buildings are physically attached to non-residential buildings, hours of operation should not normally fall outside the hours of 7.30am and 6.00pm Monday to Friday and 7.30am and 1pm on Saturday.

Hours of operation will depend on the type of use proposed, its location in relation to residential properties and the impact of extended hours on the occupiers of those properties.

Where development sites are within a residential area, hours of work during site preparation and construction should not normally fall outside the hours of 7.30am and 6.00pm Monday to Friday and either 8.00am to 2.00pm on Saturday or 8.00am to 2.00pm on Sunday.

#### **4.1.15 Subdivision**

**Note:** Reference chapter 7 of this Plan. – All roads etc, are to be designed and constructed in accordance with the current version of Council's Standards for Engineering.

##### **Objectives**

- Control the density of development in order to manage population growth and maintain the character of urban areas.
- Promote lot sizes of appropriate size to accommodate residential dwellings and related private open space.

To encourage subdivision layouts that:

- allow integration of neighbourhoods between "natural" boundaries or barriers and connections between the neighbourhoods
- minimise environmental impact by ensuring subdivision into residential lots only occurs on land free of development constraints
- are based on a hierarchy of roads for the efficient movement of vehicle traffic
- focus open space on the drainage constraints and network
- incorporate water sensitive urban design principles into subdivision design
- encourage northern orientation of future dwellings for energy efficiency benefits and passive solar access
- ensure residential lots have a sufficient area to allow for the siting of a dwelling and ancillary buildings (including private open space, vehicle access and parking)
- ensure residential lots face public areas (including open space areas) for passive surveillance
- provide for protection/enhancement of visually prominent sites/locations
- protect riparian areas and native vegetation areas

### **Qualifications for servicing**

- (i) Minimum lot sizes quoted by the LEP for zones R1, R2 and R5 (equal to or less than 2,000m<sup>2</sup>) are for serviced land where each lot created will be connected to reticulated water and sewerage services.
- (ii) The minimum lot size quoted for zones R5 (with lot areas greater than 2,000<sup>2</sup>) and RU5 are for unserviced land.
- (iii) For unserviced land the lot size quoted depends on a satisfactory detailed investigation on:
  - Accumulative water quality issues associated with wastewater management of effluent disposal and stormwater disposal for the subdivision proposal and
  - The provision of an adequate water supply to each lot for drinking (potable supply), ablutions and fire fighting purposes. (Chapter 5.3 discusses development standards for individual rural dwellings and should be noted for the purpose of these investigations).

### **Controls**

#### **Site area**

Battle-axe lots are generally not supported. In calculating the area of a battle-axe allotment, the access ways, which includes any rights-of-carriageway/access, are to be excluded.

#### **Building envelopes**

Allotments should be able to accommodate a building envelope of 150m<sup>2</sup> with the minimum dimensions of 10m by 15m, within a 6m front building setback and a 1m side and rear setback and clear of any easements.

#### **Lot orientation**

The following design techniques are to be adopted to maximise opportunities for solar access to allotments and to allow for the consequent design and siting of energy efficient houses:

- align streets east-west and north-south. Aim for north-south streets within 20° west and 30° east of true north and east-west streets within 30° south and 20° north.
- allotments on east-west orientated streets need to have greater depth and width to make best use of solar access.
- allotments on south side of street should be sufficient depth so buildings can be set well back to allow north facing rooms to look onto larger front yards.
- allotments on north-south streets to be of sufficient width to allow for private open space on the north side and for houses to be built on the south boundary.
- taking into account views and topography, lot orientation and layout should enable the majority of dwellings to be designed so that the main living area receives not less than 4 hours of sunlight per day between 9am and 3pm.
- regular rectangular shaped allotments maximises siting opportunities and increases potential lot yield.
- on sloping sites, north-facing sites improve opportunities for solar access.

Lots shall face toward public open space areas, vegetation conservation areas and public roads to encourage passive surveillance from dwellings over these public spaces to assist with safety and security.

### **Bicycle and pedestrian movements**

Provision for bicycle and pedestrian movements are to be provided throughout the subdivided area.

Cyclists can be integrated into the road network through a combination of on and off road measures together with bike parking at clusters of community and commercial facilities (refer Council's Bicycle Strategy 2007).

To encourage cycling as an easy transport alternative, on-road and off-road cycle networks will be clearly highlighted with signposting and pavement logos. Engineering works, including signposting and line marking must comply with the appropriate engineering standards.

Paved footpaths are to be provided in accordance with the current version of Council's Standards for Engineering, and the hierarchy of roads (e.g. both sides for higher order roads, single side only on lower order roads).

### **Retention of significant environmental features**

Where significant environmental features such as natural landforms, remnant native vegetation, wetlands or natural drainage lines or water courses occur on a development site, they shall be conserved and or enhanced. Subdivision design shall incorporate these elements as much as can practicably be achieved. This may necessitate larger lot sizes in order to maintain these features.

### **Road reserves**

Should remnant vegetation be located in either existing or proposed road reserves it shall be conserved in the design and construction process. Access to new lots should be located in an alternate position or to take advantage of existing road reservations where they exist. Council will require that access to lots (driveways) be nominated in Section 88B instruments in order to protect existing vegetation and to reduce their visual impact.

Service infrastructure is also to be located in such a way as to ensure minimal environmental disturbance.

### **Landscape embellishment**

A condition of Council's subdivision approval will be to carry out landscape treatment of lots and public road reserves with the objective of enhancing vegetation and specifically native vegetation in the locality. The landscape treatment shall be designed to mitigate the:

- environmental impact of the development;
- visual obtrusiveness of new development and enhance the visual connection of the newly created landscape with any remnant native vegetation in the locality.

### **Street trees**

Street tree planting is required where new or existing lots are developed in order to create a consistent theme. Street trees add to the areas character and reduce the visual impact of new development. They have environmental benefits of reducing the impacts of sun in the summer months; reducing global warming and when natives are used providing possible habitat for native fauna.

Important Street Tree principles are:

- Preserve vistas to and from significant heritage buildings and to rural areas;

- Reinforce traditional exotic planting themes and prominent gardens where they exist;
- Retain and enhance significant existing trees and remnant native areas;
- Reinforce the planting themes of the central town or village area.

## 4.2 Non-residential development – retail, commercial and industrial

Note: **Clause 4.2** of this plan applies to new business, industrial and other non specified residential development irrespective of the zoning of the land.

Floor Space Ratio (FSR) controls on bulk and scale are found in the LEP 2009 clauses 4.4 and 4.5 for zones B2, B3, B4 and B6.

Heritage controls are found in **chapter 3.1** of this plan.

Separate controls for the business zones of Goulburn’s CBD are found in **Appendix I**, “Good Design Statement” 2005.

### 4.2.1 Retail and commercial (general)

Chapter 8 contains site specific provisions for:

- The Marulan Local Business Centre – George Street Marulan, Chapter 8.4 and
- The Goulburn City Business District – Chapter 8.6.

These chapters relate to Council’s main retail and commercial areas.

Retail and commercial development outside of these areas should refer to the general principles outlined in these sub-chapters.

Heritage principles are also found in Chapter 3.1. Previous design principles which are still worth referencing are contained in “Goulburn Mulwaree Good Design Statement”, September 2005 – Appendix I.

## 4.2.2 Design principles – industrial

### **Objectives**

Encourage a high standard of architectural design which contributes to a visually cohesive character.

Encourage building design which allows energy efficient development and good solar access.

### **Controls:**

Large blank wall surfaces visible from a public place (eg road) shall be articulated by structural variations and/or blend of external finishes.

Prominent elevations and 'areas of visual importance' are to have a building form of significant architectural and design merit, with special attention to scale, form, external finishes, setbacks, height limits and landscaping.

Areas of visual importance include:

- gateway entries to the City, township or village
- developments that can be viewed from residential and public areas
- Heritage Conservation Area and heritage items

Prominent elevations include:

- arterial road frontage
- public reserve exposure.
- Visual

## 4.2.3 Visual quality – industrial

### **Objectives**

Identify areas of visual importance.

Limit external storage of goods.

### **Controls**

External storage areas shall not be visible from a public place.

External storage areas are to be:

- located behind a building, or
- suitably screened (with dense landscaping and/or solid fencing);

In assessing development applications involving external storage of goods, Council shall take into consideration:

- height and arrangement of stored goods
- safety issues
- access arrangements
- aesthetics and ease of maintenance

#### 4.2.4 Building setbacks – industrial

##### **Objective**

Provide an open streetscape which will enhance visual quality of development and the urban landscape.

##### **Controls**

All setback areas are to be landscaped (refer to **Figure 4-11**).

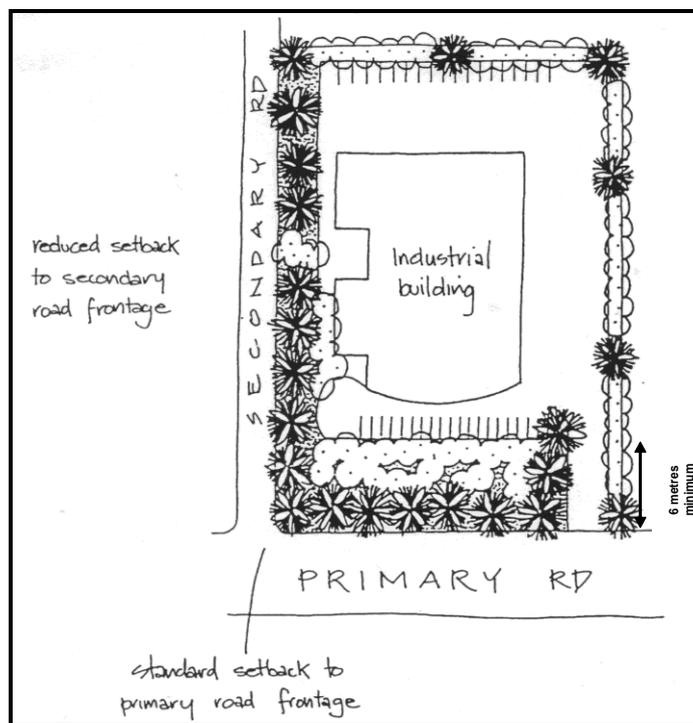
No parking will be permitted within setback areas.

Minimum requirements:

- frontage – 6 metres;
- side and rear – setbacks required for corner allotments (secondary road frontage) and in areas of visual importance.

**Note:** Setback distances are proportionally related to required building materials so as to satisfy wall fire ratings – refer to Building Code of Australia for details.

Figure 4-11: Preferred industrial setbacks



#### 4.2.5 Height – industrial

##### **Objectives**

Encourage building forms to respond to topography and the site's relative position to other allotments and the streetscape.

Maintain the visual quality of the locality.

##### **Controls**

On land within a residential Zone, a maximum 8 metre height limit is recommended (distance measured vertically from any point on the roof of the building to the ground level immediately below that point).

Variations on land within such zones will only be considered where it can be demonstrated that:

- the proposed height is in keeping with the character of the locality
- it is not visually obtrusive
- the additional height is required due to the nature of the proposal

- the overall design, including landscaping and building materials, reduces the impact of height and bulk

On land not affected by the height of building maps, no height limit is specified, however the height (as defined above), shall take into account and address the following matters in the development application's, statement of environmental effects:

- the proposed height is in keeping with the character of the locality
- it is not visually obtrusive
- the height is required due to the nature of the proposal
- the overall design, including landscaping and building materials, reduces the impact of height and bulk

#### **4.2.6 External materials and finishes - industrial**

##### ***Objectives***

Promote the use of appropriate external finishes and innovative use of materials.

Ensure that industrial development contributes to the streetscape and visual aesthetics of the area.

##### ***Controls***

The external walls of industrial buildings shall be profiled colour treated cladding or masonry materials, or a combination of both and incorporate visual relief elements.

Particular consideration shall be given to the design and use of materials for the street elevation of industrial buildings.

Where the side or rear elevation of an industrial building is visible from residential or public areas, colours and wall profiles should be selected to minimise their visual impact.

#### **4.2.7 Noise and vibration – general requirements**

##### ***Objectives***

Minimise the impact of noise and vibration by proposed operations and on proposed developments of existing and projected future sources of noise and vibration.

## **Controls**

Council is the appropriate regulatory authority for noise related activities, such as heavy industries, mining, extractive industry, motor racing tracks and the like under the *Protection of the Environment Operations Act 1997*. If development sensitive to noise were to be approved on adjacent properties to the noise source, Council will be responsible for regulating any resulting noise impacts.

Council recommends applicants utilise the following documents to assist them in making decisions relating to acceptable noise levels for noise generating and noise sensitive developments:

- NSW Industrial Noise Policy
- Environmental Criteria for Road Traffic Noise
- Noise Guide for Local Government

The above documents are available from the NSW Environment Protection Authority website: [www.environment.nsw.gov.au/noise](http://www.environment.nsw.gov.au/noise)

The impact of noise generated by a proposal can be minimised to comply with the statutory requirements in different ways. The following guidelines address means of achieving the standards.

Incorporate sound proofing for machinery or activities considered likely to create a noise nuisance during design development.

Locate noisy operational equipment within a noise insulated building away from residential areas.

Design logistically efficient business practices to minimise the use of equipment, movements per site, and number of vehicle movements per site per day.

Where sites adjoin a residential area, limit the number of hours and times at which mechanical plant and equipment is used in conjunction with the measures described above.

Ameliorate the noise and vibration impact of transport operations by using appropriate paving or track mounting and installing acoustic barriers as required to meet standards on neighbouring uses.

Incorporate appropriate noise and vibration mitigation measures into the site layout, building materials, design, orientation and location of sleeping recreation/work areas of all developments proposed in areas adversely impacted upon by road or rail related noise and vibration.

#### **4.2.8 Air pollution - industrial**

##### ***Objectives***

Minimise air pollution caused by new development.

##### ***Controls***

The operation of any new premises and any machinery or plant to be installed or any process to be used must not cause emissions contrary to the *Protection of the Environment Operations Act 1997* and Regulations. Applicants will need to demonstrate that these standards are met. Approvals may also be required from the NSW Environment Protection Authority for some types of development.

Machinery and operations should be designed to minimise the emission of air impurities. This includes minimising vehicular movements to and from the site.

Restricting the hours of operation may reduce any emissions to an acceptable level.

#### **4.2.9 Mixed use development – industrial and residential**

##### ***Objectives***

Ensure that industrial development does not have an unacceptable impact on existing residential development within the same zone or at the interface between industrial and residential development.

##### ***Controls***

Building set backs between residential (existing) and proposed industrial development shall be 9m.

Height of industrial buildings in a mixed use situation are to be consistent with nearby housing development.

Traffic management and calming measures are to be recommended on roads shared by both industrial and residential traffic.

Change of use in mixed use situations are to detail and include amenity protection measures for existing residential development.

These measures may include (but not limited to):

- additional landscaping provisions (reference chapter 3.3);
- additional amenity considerations and actions;
- additional privacy provisions built into the proposal (reference chapter 4.1.4);
- traffic safety and management provisions (reference chapter 4.1.8);
- industrial design to 'fit' with residential streetscape and character (reference chapter 4.1.9);
- noise and vibration generation mitigation measures (reference chapter 4.2.15);
- reduce hours of operation (reference chapter 4.2.18);
- use of hard (solid barriers) and soft (vegetation) buffers at the interface between residential and industrial developments (principles of the use of buffers are contained in chapter 5.8).