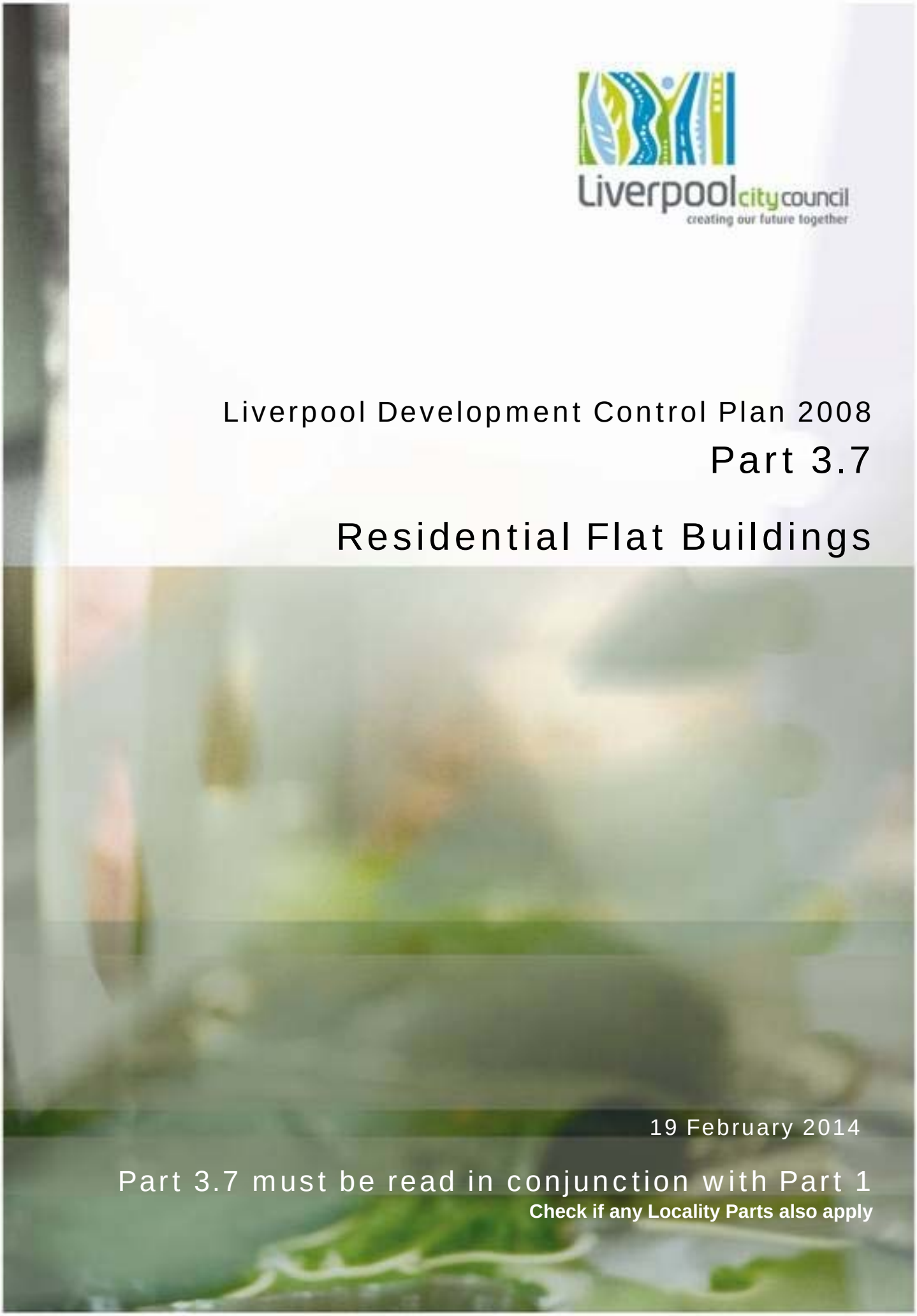

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Liverpool Development Control Plan 2008

Part 3.7

Residential Flat Buildings

19 February 2014

Part 3.7 must be read in conjunction with Part 1

Check if any Locality Parts also apply

Liverpool Development Control Plan 2008

Part 3.7 Residential Flat Buildings in the R4 Zone (Outside Liverpool City Centre)

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1. Preliminary

Applies to

1. Part 3.7 applies to residential flat building development on land in the Residential, R4 – High Density Residential zone under *Liverpool LEP 2008* except as described in 3.
2. Part 1 of the DCP also applies to the land.
3. Part 3.7 does not apply to residential development on land in the following locations. All controls in relation to the Private and Public Domain are covered by the respective parts.
   - Middleton Grange. (Refer to Part 2.5 for all controls on residential development).
   - Liverpool City Centre (Refer to Part 4 or all controls on residential development).

Background

Residential Flat Buildings are permitted in the R4 zone under *Liverpool LEP 2008.*

Good quality buildings help improve the quality of life. The quality involves the location, size and scale, appearance and amenity of the buildings in which many people live. The design of new residential flat buildings is important to neighbourhoods - to provide good quality and amenity to growing populations with changing needs. Quality design contributes to enjoyable places: buildings, streets, squares and parks.

Residential Flat Buildings are also subject to State Environmental Planning Policy No 65—Design Quality of Residential Flat Development.

Link to Liverpool LEP 2008

Liverpool LEP 2008 provides overall requirements and objectives for development in the residential areas of Liverpool. It does not just cover residential development but also non-residential development in residential areas.

Each zone provides objectives, which provide direction for the controls in the DCP. There are also general provisions for development in the residential zones as well as provisions for specific forms of development in the residential areas or for development on specific sites.

Objectives

a) To provide controls for residential development to ensure that it achieves a high standard of urban design, that is compatible with the amenity and character of the area.

b) To provide for a variety of housing choice within residential areas with Liverpool.

c) Additional objectives are listed in the detailed controls for the various land uses.

2 Frontage and Site Area

Site Area and Frontage

Objective

To permit residential flat buildings on land that can adequately accommodate landscaping, open space, parking, and solar access requirements.

Control

The minimum lot width 24m.

Note: The amalgamation of land parcels into larger development sites is encouraged as this will result in better forms of housing development and design.

Refer to the Liverpool LEP 2008 written statement and maps for the minimum site area and width in the R4 zone.

3. Site Planning

Site Planning

Objectives

a) To ensure that the residential flat building is sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.

b) To ensure privacy for residents and neighbours.

c) To ensure that residential flat builings that do not result in the loss of amenity to adjacent dwellings and open space.

d) To ensure that the development reflects the character of the locality and environment.

Controls

1. The building should relate to the site's topography with minimal earthworks, except for basement car parking.
2. Siting of buildings should provide usable and efficient spaces, with consideration given to energy efficiency in the building design.
3. Site layout should provide safe pedestrian, cycle and vehicle access to and from the street.
4. Siting of buildings should be sympathetic to surrounding development, taking specific account of the streetscape in terms of scale, bulk, setbacks, materials and visual amenity.
5. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.
6. The development will need to satisfy the requirements of State Environmental Planning Policy No 65—Design Quality of Residential Flat Development.

Note*: A Site Analysis Plan is required for each development application.*

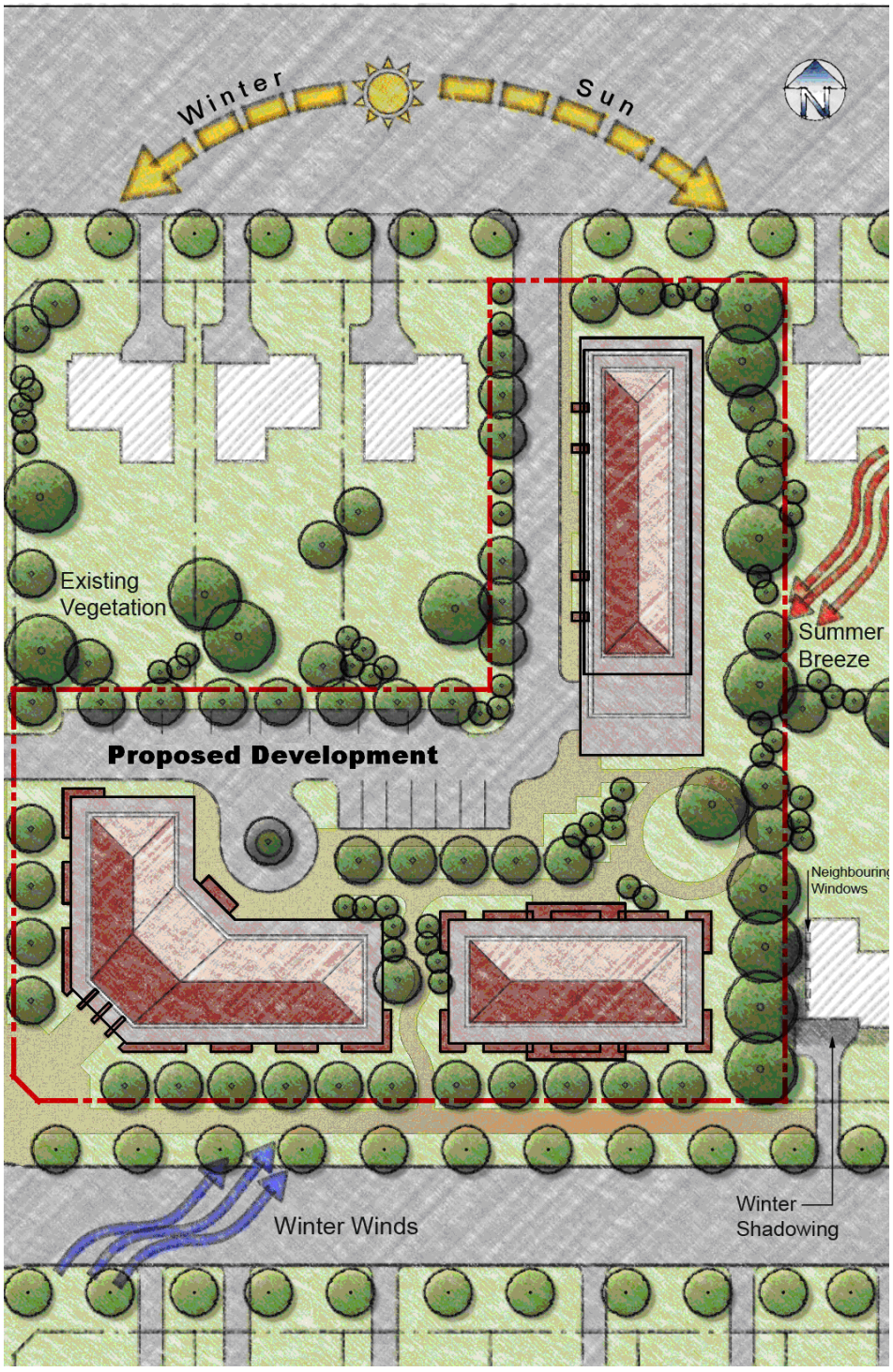


Figure 1 Site analysis plan for a Residential Flat Building

Figure 2 Residential Flat Building in context with its surroundings

4. Setbacks

Objectives

a) To set buildings back from the street and adjacent properties to provide reasonable space for landscaping, open space and solar access.

b) To set buildings back from each other to provide visual and acoustic privacy.

c) To establish a streetscape of a scale and sense of enclosure appropriate to the locality.

d) To provide convenient and unobtrusive vehicle access and car parking without the use of long driveways.

Controls

Front and Secondary Setbacks

1. Buildings shall be setback in accordance with the following table.

Table 1

Road	Front Setback	Secondary Setback
Classified Roads	7.0m	7.0m
Other Streets	5.5m	5.5m

2. Verandahs, eaves and other sun control devices may encroach on the front and secondary setback by up to 1m.

3. The secondary setback is along the longest length boundary.

Side and Rear Setbacks

1. Buildings shall be setback from the side and rear boundaries in accordance with the following table.

Table 2

Item	Side Setback	Rear Setback
Boundary to land in R2 & R3 zones	10m	10m
Boundary to land in R2 & R3 zones (no windows to habitable rooms)	10m	10m
Boundary to land in R4 zone (First 10m in height, excluding roof/attic)	3m	8m
Boundary to land in R4 zone (Greater than 10m in height)	8m	8m
Boundary to public open space	6m	6m

2. Consideration will need to be given to existing and approved setbacks of residential flat buildings on adjoining buildings.

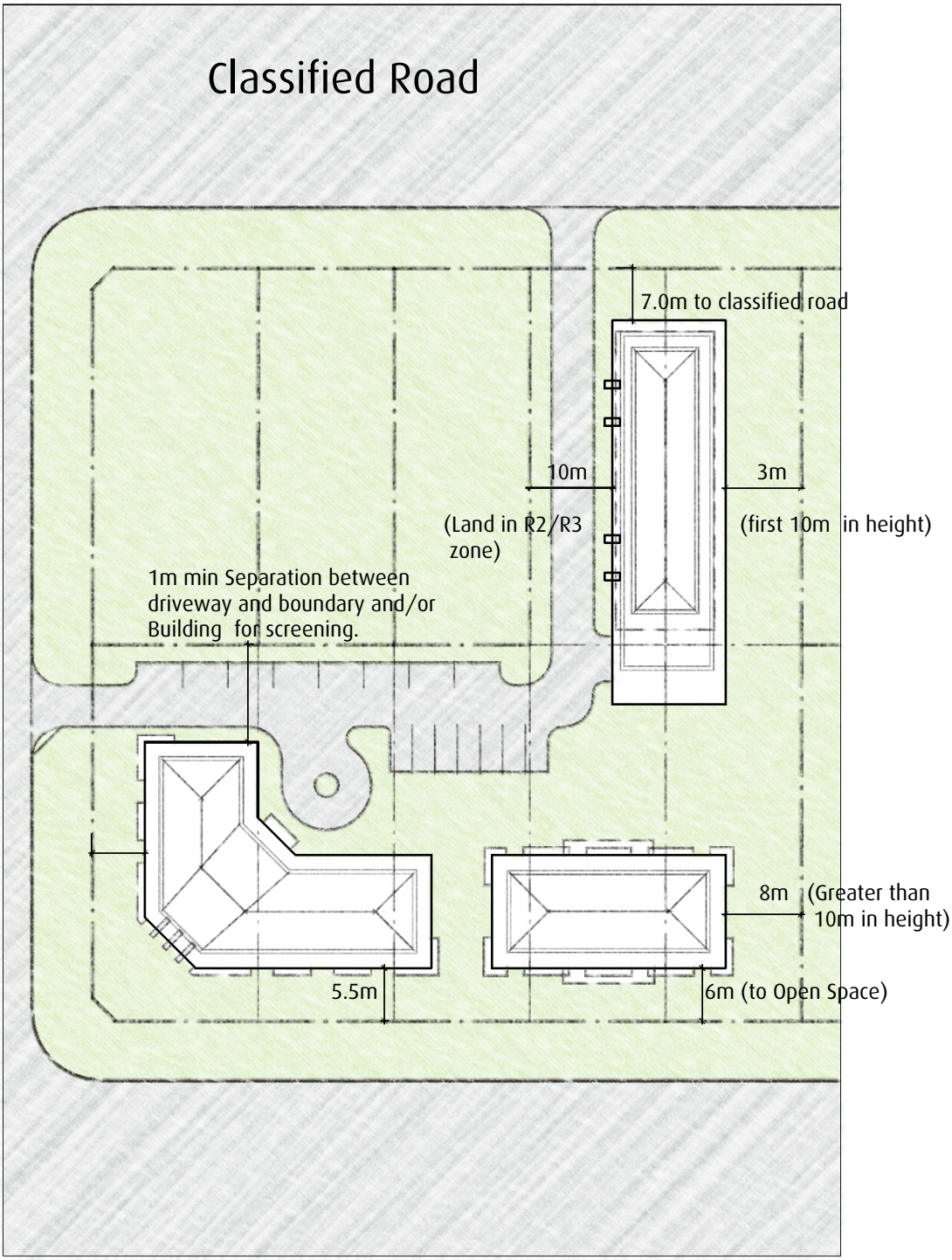


Figure 3 Residential Flat Building showing setbacks

5. Landscaped Area and Private Open Space

Landscaped area is defined in Liverpool LEP 2008.

Landscaped Area (deep soil area)

Objectives

a) To provide an area to allow vegetation to mature.

b) To assist with management of the water table.

c) To assist with management of water quality.

d) To enhance the existing streetscape and soften the visual appearance of the buildings.

Controls

1. A minimum of 25% of the site area shall be landscaped area.
2. A minimum of 50% of the front setback area shall be landscaped area.
3. Optimise the provision of consolidated landscaped area within a site by:
   - The design of basement and sub-basement car parking, so as not to fully cover the site.
   - The use of front and side setbacks.
   - Optimise the extent of landscaped area beyond the site boundaries by locating them contiguous with the landscaped area of adjacent properties.
4. Promote landscape health by supporting for a rich variety of vegetation type and size.
5. Increase the permeability of paved areas by limiting the area of paving and/or using pervious paving materials.

Open Space

Open space includes Landscaped Areas and hard paved areas such as footpaths and barbeque areas. It does not include driveways, drying areas or waste storage areas.

Objectives

a) To provide residents with passive and active recreational opportunities.

b) To provide an area on site that enables soft landscaping and deep soil planting.

c) To ensure that communal open space is consolidated, configured and designed to be useable and attractive.

d) To provide a pleasant outlook.

Controls

1. Provide communal open space, which is appropriate and relevant to the context and the building's setting.
2. Where communal open space is provided, facilitate its use for the desired range of activities by:
   - Locating it in relation to buildings to optimise solar access to dwellings.
   - Consolidating open space on the site into recognisable areas with reasonable space, facilities and landscape.
   - Designing its size and dimensions to allow for the range of uses it will contain.

- Minimising overshadowing.
- Carefully locating ventilation duct outlets from basement car parking.

3. Locate open space to increase the potential for residential amenity.

Private Open Space

Objective

a) To ensure that private open space is clearly defined, usable and meets user requirements for privacy, solar access, outdoor activities, accessibility and landscaping.

b) To provide all dwellings with private open space.

Controls

1. Private open space shall be provided for each dwelling in accordance with the following table.

Table 3

Dwelling Size	Private Open Space Area	Minimum Width
Small < 65 sqm	10sqm	2m
Medium 65 – 100	12sqm	2m
Large > 100 sqm	12sqm	2m

2. Private open space may be provided as a courtyard for ground floor dwellings or as balconies for dwellings above the ground floor.
3. Private open space areas should be an extension of indoor living areas and be functional in size to accommodate seating and the like.
4. Private open space should be clearly defined for private use.

For balconies refer to Building Design, Streetscape and Layout for controls on their design.

Drying areas

Objective

To provide adequate area clothes drying area for residents.

Controls

Clothes drying facilities must be provided at a rate of 5 lineal m of line per unit. Clothes drying areas should not be visible from a public place and should have solar access.

6. Building Design, Streetscape and Layout

Building Height

Objective

To ensure that the new development is compatible with the character of residential flat buildings and the adjoining neighbourhood.

Controls

Refer to the Liverpool LEP 2008 written statement and maps for the maximum Building Height in the R4 zone. Note that this varies depending on the location.

Figure 4 Streetscape Presentation

Building Appearance and Streetscape

Objectives

a) To ensure an attractive streetscape that is consistent with the environment of residential flat buildings.

b) To promote high architectural quality in residential flat buildings.

c) To ensure that new developments have facades which define and enhance the public domain and desired street character.

d) To ensure that building elements are integrated into the overall building form and facade design.

Controls

1. Residential Flat Buildings shall comply with State Environmental Planning Policy No 65 – Design Quality of Residential Flat Development, and should consider the Residential Flat Design Code.

2. Building facades shall be articulated and roof form is to be varied to provide visual variety.

3. The pedestrian entrance to the building shall be emphasised.
4. A sidewall must be articulated if the wall has a continuous length of over 14 m.
5. Where possible vehicular entrances to the basement car parking shall be from the side of the building. As an alternative a curved driveway to an entrance at the front of the building may be considered if the entrance is not readily visible from the street.
6. Driveway walls adjacent to the entrance of a basement car park are to be treated so that their appearance is consistent with the basement or podium walls.
7. Sensitive design of basement car parking areas can assist in ensuring that podiums and vehicle entry areas do not dominate the overall design of the building or the streetscape and optimise areas for deep soil planting.
8. The integration of podium design should be an integral part of the design of the development, and as far as possible should not visibly encroach beyond the building footprint.
9. A master antenna shall be provided for any development of more than three dwellings and be located so that it is not visible from the street or any public open space.
10. Consider the relationship between the whole building form and the facade and / or building elements. The number and distribution of elements across a façade determine simplicity or complexity. Columns, beams, floor slabs, balconies, window openings and fenestrations, doors, balustrades, roof forms and parapets are elements, which can be revealed or concealed and organised into simple or complex patterns.
11. Compose facades with an appropriate scale, rhythm and proportion, which respond to the building's use and the desired contextual character. This may include but are not limited to:
    - Defining a base, middle and top related to the overall proportion of the building.
    - Expressing key datum lines in the context using cornices, a change in materials or building set back.
    - Expressing the internal layout of the building, for example, vertical bays or its structure, such as party wall-divisions.
    - Expressing the variation in floor-to-floor height, particularly at the lower levels.
    - Articulating building entries with awnings, porticos, recesses, blade walls and projecting bays.
    - Selecting balcony types which respond to the street context, building orientation and residential amenity.
    - Cantilevered, partially recessed, wholly recessed, or Juliet balconies will all create different facade profiles.
    - Detailing balustrades to reflect the type and location of the balcony and its relationship to the façade detail and materials.
12. Design facades to reflect the orientation of the site using elements such as sun shading, light shelves and bay windows as environmental controls, depending on the facade orientation.
13. Express important corners by giving visual prominence to parts of the facade, for example, a change in building articulation, material or colour, roof expression or increased height.

14. Co-ordinate and integrate building services, such as drainage pipes, with overall facade and balcony design.

15. Co-ordinate security grills/screens, ventilation louvres and car park entry doors with the overall facade design

Figure 5 Building appearance and streetscape

Roof Design

Objectives

a) To provide quality roof designs, which contribute to the overall design and performance of residential flat buildings;

b) To integrate the design of the roof into the overall facade, building composition and desired contextual response;

c) To increase the longevity of the building through weather protection.

Controls

1. Relate roof design to the desired built form. This may include:
   - Articulating the roof, or breaking down its massing on large buildings, to minimise the apparent bulk or to relate to a context of smaller building forms.
   - Using a similar roof pitch or material to adjacent buildings, particularly in existing special character areas or heritage conservation areas.
   - Minimising the expression of roof forms gives prominence to a strong horizontal datum in the adjacent context, such as an existing parapet line.
   - Using special roof features, which relate to the desired character of an area, to express important corners.
2. Design the roof to relate to the size and scale of the building, the building elevations and three-dimensional building form. This includes the design of any parapet or terminating elements and the selection of roof materials.
3. Design roofs to respond to the orientation of the site, for example, by using eaves and skillion roofs to respond to sun access.

4. Minimise the visual intrusiveness of service elements by integrating them into the design of the roof. These elements include lift over-runs, service plants, chimneys, vent stacks, telecommunication infrastructures, gutters, downpipes and signage.
5. Where habitable space is provided within the roof optimise residential amenity in the form of attics or penthouse dwellings.

Figure 6 Roof design keeping in with the surrounds

Building Entry

Objectives

a) To create entrances which provide a desirable residential identity for the development.

b) To orient the visitor.

c) To contribute positively to the streetscape and building facade design.

Controls

1. Improve the presentation of the development to the street by:
   - Locating entries so that they relate to the existing street and subdivision pattern, street tree planting and pedestrian access network.
   - Designing the entry as a clearly identifiable element of the building in the street.
   - Utilising multiple entries-main entry plus private ground floor dwelling entries-where it is desirable to activate the street edge or reinforce a rhythm of entries along a street.
2. Provide as direct a physical and visual connection as possible between the street and the entry.
3. Achieve clear lines of transition between the public street, the shared private, circulation spaces and the dwelling unit.
4. Ensure equal access for all

5. Provide safe and secure access by:
    - Avoiding ambiguous and publicly accessible small spaces in entry areas.
    - Providing a clear line of sight between one circulation space and the next.
    - Providing sheltered well-lit and highly visible spaces to enter the building, meet and collect mail.
6. Generally provide separate entries from the street for:
    - Pedestrians and cars.
    - Different uses, for example, for residential and commercial users in a mixed-use development.
    - Ground floor dwellings, where applicable.
7. Design entries and associated circulation space of an adequate size to allow movement of furniture between public and private spaces.
8. Provide and design letterboxes to be convenient for residents and not to clutter the appearance of the development from the street by:
    - Locating them adjacent to the major entrance and integrated into a wall, where possible.
    - Setting them at 90 degrees to the street, rather than along the front boundary.

Figure 7 Entry to the Residential Flat Building

Balconies

Objectives

a) To ensure that balconies contribute positively to the façade of a building.

b) To ensure balconies are functional and responsive to the environment thereby promoting the enjoyment of outdoor living for dwelling residents.

c) To ensure that balconies are integrated into the overall architectural form and detail of residential flat buildings.

d) To contribute to the safety and liveliness of the street by allowing for casual overlooking and address.

Controls

1. Balconies may project up to 1m from the façade of a building.
2. Balustrades must be compatible with the façade of the building.
3. Ensure balconies are not so deep that they prevent sunlight entering the dwelling below.
4. Design balustrades to allow views and casual surveillance of the street.
5. Balustrades on balconies at lower levels shall be of solid construction.
6. Balconies should where possible should be located above ground level to maximise privacy for occupants, particularly from the street.
7. Solid or semi solid louvres are permitted.
8. Noise attenuation measures on balconies facing a Classified Road should be considered.
9. Balconies should be located on the street frontage, boundaries with views and onto a substantial communal open space.
10. Primary balconies should be:
    - Located adjacent to the main living areas, such as living room, dining room or kitchen to extend the dwelling living space;
    - Sufficiently large and well proportioned to be functional and promote indoor/outdoor living. A dining table and two chairs (smaller dwelling) and four chairs (larger dwelling) should fit on the majority of balconies in any development.
11. Consider secondary balconies, including Juliet balconies or operable walls with balustrades, for additional amenity and choice in larger dwellings, adjacent to bedrooms or for clothes drying, site balconies off laundries or bathrooms.
12. Design and detail balconies in response to the local climate and context thereby increasing the usefulness of balconies. This may be achieved by:
    - Locating balconies facing predominantly north, east or west to provide solar access.
    - Utilising sunscreens, pergolas, shutters and operable walls to control sunlight and wind.
    - Providing balconies with operable screens, Juliet balconies or operable walls/sliding doors with a balustrade in special locations where noise or high winds prohibit other solutions - along rail corridors, on busy roads or in tower buildings - choose cantilevered balconies, partially cantilevered balconies and/or recessed balconies in response to daylight, wind, acoustic privacy and visual privacy.
13. Provide primary balconies for all dwellings with a minimum depth of 2m.
14. Ensuring balconies are not so deep that they prevent sunlight entering the dwelling below.
15. Design balustrades to allow views and casual surveillance of the street while providing for safety and visual privacy. Design considerations may include:
    - Detailing balustrades using a proportion of solid to transparent materials to address site lines from the street, public domain or adjacent development. Full glass balustrades do not provide privacy for the balcony or the dwelling's interior, especially at night.

- Detailing balustrades and providing screening from the public, for example, for a person seated looking at a view, clothes drying areas, bicycle storage or air conditioning units.

16. Operable screens increase the usefulness of balconies by providing weather protection, daylight control and privacy screening.

Figure 8 Balcony design

Daylight Access

Objectives

a) To ensure that daylight access is provided to all habitable rooms and encouraged in all other areas of residential flat development.

b) To provide adequate ambient lighting and minimise the need for artificial lighting during daylight hours.

c) To provide residents with the ability to adjust the quantity of daylight to suit their needs.

Controls

1. Plan the site so that new residential flat development is oriented to optimise northern aspect.
2. Ensure direct daylight access to communal open space between March and September and provide appropriate shading in summer.
3. Optimise the number of dwellings receiving daylight access to habitable rooms and principal windows:
4. Ensure daylight access to habitable rooms and private open space, particularly in winter - use skylights, clerestory windows and fanlights to supplement daylight access.
5. Promote two-storey and mezzanine, ground floor dwellings or locations where daylight is limited to facilitate daylight access to living rooms and private open spaces.

6. Ensure single aspect, single-storey dwellings have a northerly or easterly aspect - locate living areas to the north and service areas to the south and west of the development.
7. Avoid south facing dwellings.
8. Design for shading and glare control, particularly in summer:
    - Using shading devices, such as eaves, awnings, colonnades, balconies, pergolas, external louvres and planting.
    - Optimising the number of north-facing living spaces.
    - Providing external horizontal shading to north-facing windows.
    - Providing vertical shading to east or west windows.
9. Consider higher ceilings and higher window heads to allow deeper sunlight penetration.
10. On west facing windows, vertical louvre panels or sliding screens protect from glare and low afternoon sun.
11. On north facing windows, projecting horizontal louvres admit winter sun while shading summer sun.
    - Using high performance glass but minimising external glare off windows.
    - Avoid reflective films.
    - Use a glass reflectance below 20%.
    - Consider reduced tint glass.
    - Limit the use of lightwells as a source of daylight by prohibiting their use as the primary source of daylight in habitable rooms. Where they are used:
    - Relate lightwell dimensions to building separation, for example, if non-habitable rooms face into a light well less than 12m high, the lightwell should measure 6 x 6 m.
    - Conceal building services and provide appropriate detail and materials to visible walls.
    - Ensure light wells are fully open to the sky.
    - A combination of louvres provides shading for different times of the day.

Internal design

Objective

To ensure that the internal design of buildings provide a pleasant environment for the occupants and residents of adjoining properties.

Controls

1. All staircases should be internal.
2. Minimise the length of common walls between dwellings.
3. Basement car parking shall be located beneath the building footprint.
4. Where possible natural ventilation shall be provided to basement car parking.
5. Design building layouts to minimise direct overlooking of rooms and private open spaces adjacent to dwellings
6. Minimise the location of noise sensitive rooms such as bedrooms adjoining noisier rooms such as bathrooms or kitchens or common corridors and stairwells.
7. Where a site has frontage to a Classified Road, locate bedrooms away from the front of the site.

8. Where common walls are provided they must be carried to the underside of the roof and be constructed in accordance with *Part F5 of the Building Code of Australia*.

9. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).

Ground Floor Dwellings

Objectives

a) To contribute to the desired streetscape of an area and to create active safe streets.

b) To increase the housing and lifestyle choices available in dwelling buildings.

Controls

1. Design front gardens or terraces, which contribute to the spatial and visual structure of the street while maintaining adequate privacy for dwelling occupants. This can be achieved by animating the street edge, for example, by promoting individual entries for ground floor dwellings.

2. Create more pedestrian activity along the street and articulate the street edge by:

   - Balancing privacy requirements and pedestrian accessibility.
   - Providing appropriate fencing, lighting and/ or landscaping to meet privacy and safety requirements of occupants while contributing to a pleasant streetscape.
   - Utilising a change in level from the street to the private garden or terrace to minimise site lines from the streets into the dwelling for some dwellings.
   - Increasing street surveillance with doors and windows facing onto the street.

3. Planting along the terrace edge contributes to a quality streetscape.

4. Ground floor dwellings are special because they offer the potential for direct access from the street and on-grade private landscape areas. They also provide opportunities for the dwelling building and its landscape to respond to the streetscape and the public domain at the pedestrian scale. Ground floor dwellings also support housing choice by providing accessibility to the elderly and/or disabled and support families with small children.

5. Optimise the number of ground floor dwellings with separate entries and consider requiring an appropriate percentage of accessible units. This relates to the desired streetscape and topography of the site.

6. Provide ground floor dwellings with access to private open space, preferably as a courtyard.

Security

Objectives

a) To ensure that buildings are orientated to allow surveillance from the street and adjoining buildings.

b) To ensure that entrances to buildings are clearly visible and easy to locate in order to minimise the opportunities for intruders.

c) To ensure buildings are safe and secure for residents and visitors.

d) To contribute to the safety of the public domain.

Controls

1. Entrances to buildings should be orientated towards the front of the site and facing the street.

2. The main entrance to dwellings or other premises should not be from rear lanes and should be designed with clear directions and signage.
3. Blank walls in general that address street frontages or public open space are discouraged. Where they are unavoidable building elements or landscaping must be used to break up large expanses of walls. In some cases an anti-graffiti coating will need to applied to the wall to a height of 2 metres.
4. Minimise the number of entry points to buildings.
5. Reinforce the development boundary to strengthen the distinction between public and private space by:
    - Employing a level change at the site and/or building threshold (subject to accessibility requirements).
    - Signage.
    - Entry awnings.
    - Fences, walls and gates.
    - Change of material in paving between the street and the development.
6. Optimise the visibility, functionality and safety of building entrances by:
    - Orienting entrances towards the public street.
    - Providing clear lines of sight between entrances, foyers and the street.
    - Providing direct entry to ground level dwellings from the street rather than through a common foyer.
    - Direct and well-lit access between car parks and dwellings, between car parks and lift lobbies and to all unit entrances.
7. Improve the opportunities for casual surveillance by:
    - Orienting living areas with views over public or communal open spaces, where possible.
    - Using bay windows and balconies, which protrude beyond the main facade and enable a wider angle of vision to the street.
    - Using corner windows, which provide oblique views of the street.
    - Providing casual views of common internal areas, such as lobbies and foyers, hallways, recreation areas and car parks.
8. Minimise opportunities for concealment by:
    - Avoiding blind or dark alcoves near lifts and stairwells, at the entrance and within indoor car parks, along corridors and walkways.
    - Providing well-lit routes throughout the development.
    - Providing appropriate levels of illumination for all common areas.
    - Providing graded illumination to car parks and illuminating entrances higher than the minimum acceptable standard.
9. Control access to the development by:
    - Making dwellings inaccessible from the balconies, roofs and windows of neighbouring buildings.
    - Separating the residential component of a development's car parking from any other building use and controlling car park access from public and common areas.
    - Providing direct access from car parks to dwelling lobbies for residents.

Natural Ventilation

Objectives

a) To ensure that dwellings are designed to provide all habitable rooms with direct access to fresh air and to assist in promoting thermal comfort for occupants.

b) To provide natural ventilation in non-habitable rooms, where possible.

c) To reduce energy consumption by minimising the use of mechanical ventilation, particularly air conditioning.

Controls

1. Utilise the building layout and section to increase the potential for natural ventilation. Design solutions may include:
   - Facilitating cross ventilation by designing narrow building depths and providing dual aspect dwellings, for example, cross through dwellings and corner dwellings.
   - Facilitating convective currents by designing units, which draw cool air in at lower levels and allow warm air to escape at higher levels, for example, maisonette dwellings and two-storey dwellings.
2. Select doors and windows (that open) to maximise natural ventilation opportunities established by the dwelling layout.
3. Provide narrow building depths to support cross ventilation.
4. Avoid single-aspect dwellings with a southerly aspect.
5. Design the internal dwelling layout to promote natural ventilation by:
   - Minimising interruptions in air flow through a dwelling.
   - Grouping rooms with similar usage together, for example, keeping living spaces together and sleeping spaces together. This allows the dwelling to be compartmentalised for efficient summer cooling or winter heating.
   - Select doors and operable windows to maximise natural ventilation opportunities established by the dwelling layout.

Building Layout

Objectives

(a) To provide variety in appearance.

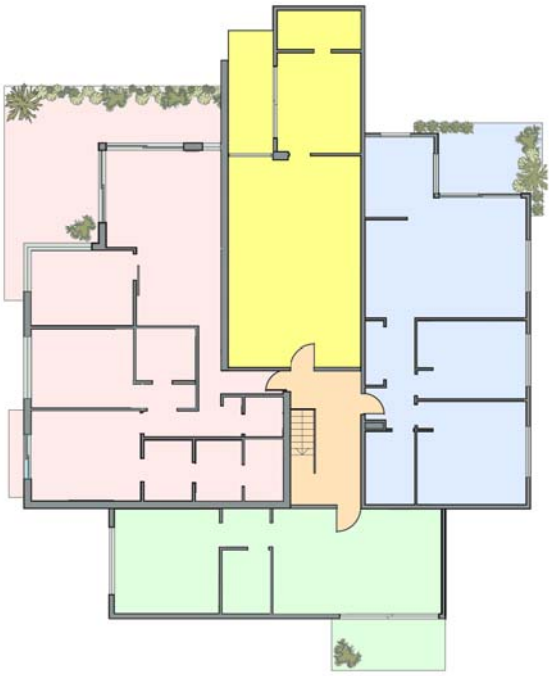
(b) To provide increasing privacy between dwellings within the building.

(c) To assist with flow through ventilation.

(d) To improve solar access.

Controls

The layout of dwellings within a residential flat building should minimise the extent of common walls. Figure 9 shows layouts that are not preferred and options that are considered acceptable.



Poor example of a Residential flat building – high level of common wall and lower cross ventilation.

Better example of a Residential Flat Building – little to no common wall and high levels of cross ventilation.

Figure 9 Layout of dwellings

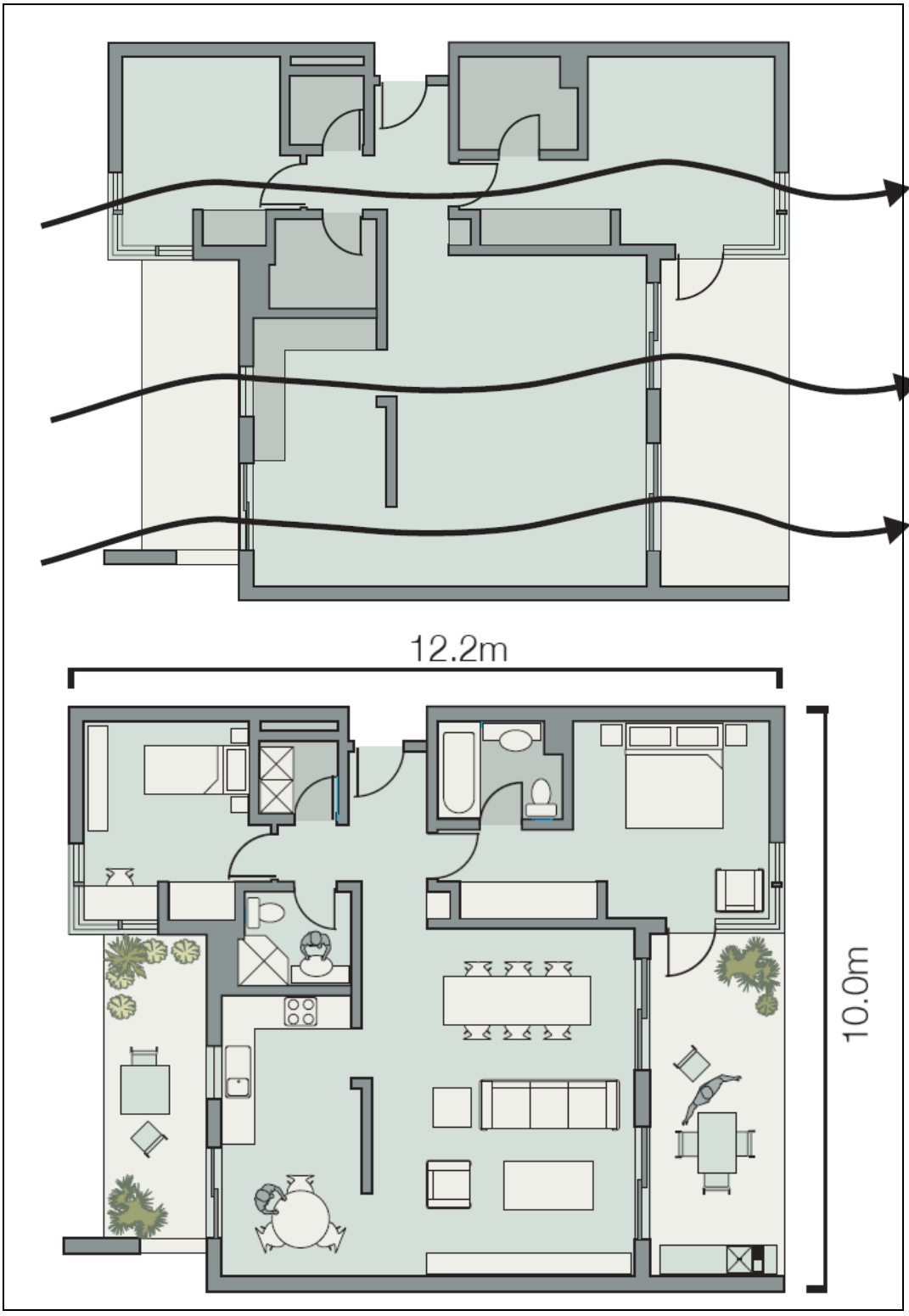


Figure 10 Cross Ventilation

Storage Areas

Objective

To provide for the need of residents to be able to store personal items adjacent to the car parking area.

Controls

1. A secure storage space is to be provided for each dwelling with a minimum volume 8 m3 (minimum dimension $1m^2$). This must be set aside exclusively for storage as part of the basement or garage.
2. Storage areas must be adequately lit and secure. Particular attention must be given to security of basement and garage storage areas.

7. Landscaping and Fencing

Landscaping

Objectives

a) To ensure that the development uses 'soft landscaping' treatments to soften the appearance of the buildings and complement the streetscape.

b) To ensure that the relation of landscape design is appropirate to the desired proportions and character of the streetscape.

c) To ensure that the use of planting and landscape elements are appropriate to the scale of the development.

a) To retain existing mature trees within the site in a way which ensures their ongoing health and vitality.

b) To provide privacy, summer shade and allow winter sun.

c) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.

d) To add value to residents' quality of life within the development in the forms of privacy, outlook and views.

Controls

1. The setback areas are to be utilised for canopy tree planting. The landscape design for all development must include canopy trees that will achieve a minimum 8 m height at maturity within front and rear setback areas.
2. Landscape planting should be principally comprised of native species to maintain the character of Liverpool and provide an integrated streetscape appearance. Species selected in environmentally sensitive areas should be indigenous to the locality. However, Council will consider the use of deciduous trees.
3. The landscaping shall contain an appropriate mix of canopy trees, shrubs and groundcovers. Avoid medium height shrubs (600 – 1800mm) especially along paths and close to windows and doors.
4. Landscaping in the vicinity of a driveway entrance should not obstruct visibility for the safe ingress and egress of vehicles and pedestrians.
5. Tree and shrub planting alongside and rear boundaries should assist in providing effective screening to adjoining properties.
6. Landscaping on any podium level or planter box shall be appropriately designed and irrigated. Landscaping on podium levels and planter boxes should be accessible from habitable areas of dwellings or elsewhere as appropriate for gardener access in other forms of development.
7. The development must be designed around significant vegetation on the site.
8. It is important to retain significant vegetation to maintain an existing streetscape and enhance the visual appearance of new dwellings.
9. Trees adjacent to private open space areas and living rooms should provide summer shade and allow winter sun entry.
10. Where landscaping is used to control overlooking, species selected are to be a kind able to achieve privacy within 3 years.
11. All species of trees and shrubs should be drought resistant.
12. Advanced tree species are to be used for key elements with the landscape design concept.

13. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.
14. Contribute to streetscape character and the amenity of the public domain by:
    - Relating landscape design to the desired proportions and character of the streetscape.
    - Using planting and landscape elements appropriate to the scale of the development.
    - Mediating between and visually softening the bulk of large development for the person on the street.
15. Improve the energy efficiency and solar efficiency of dwellings and the microclimate of private open spaces.
16. Planting design solutions include:
    - Trees for shading low-angle sun on the eastern and western sides of a dwelling.
    - Trees that do not cast a shadow over solar collectors at any time of the year.
    - Deciduous trees for shading of windows and open space areas in summer.
17. Design landscape which contributes to the site's particular and positive characteristics, for example by:
    - Enhancing habitat and ecology.
    - Retaining and incorporating trees, shrubs and ground covers endemic to the area, where appropriate.
    - Retaining and incorporating changes of level, visual markers, views and any significant site elements.

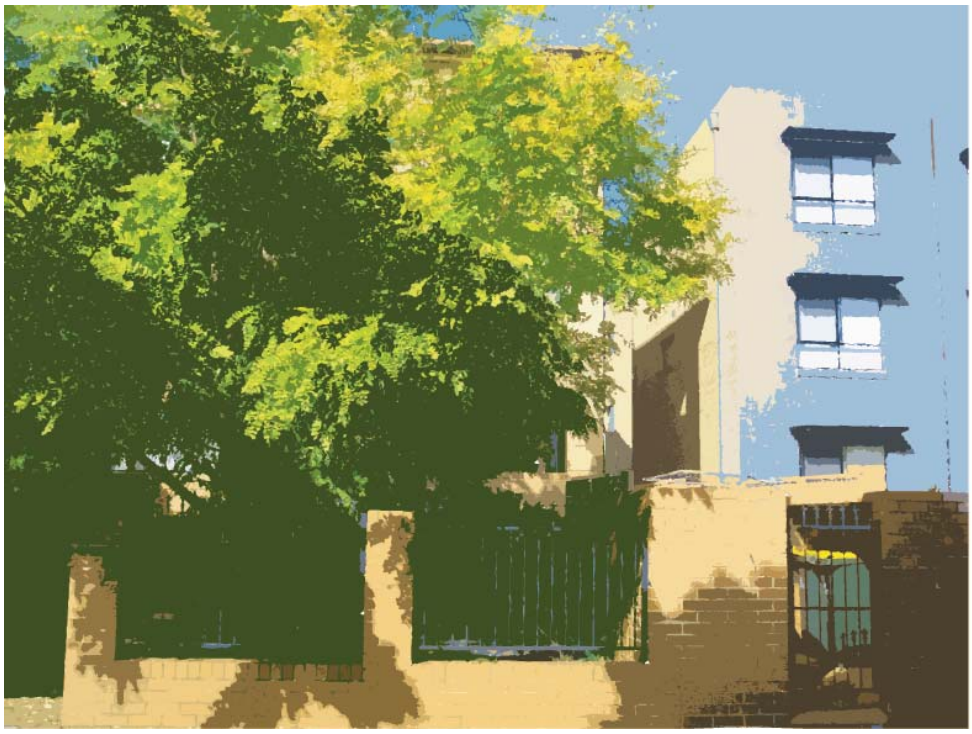


Figure 11 Vegetation and fencing

Planting on Structures

Objectives

a) To contribute to the quality and amenity of communal open space on podiums and internal courtyards.

b) To encourage the establishment and healthy growth of trees in urban areas.

Controls

1. Design for optimum conditions for plant growth by:
   - Providing soil depth, soil volume and soil area appropriate to the size of the plants to be established.
   - Providing appropriate soil conditions and irrigation methods.
   - Providing appropriate drainage.
   - Design planters to support the appropriate soil depth and plant selection by:
   - Ensuring planter proportions accommodate the largest volume of soil possible. Minimum soil depths will vary depending on the size of the plant. However, soil depths greater than 1.5 m are unlikely to have any benefits for tree growth.
   - Providing square or rectangular planting areas rather than long narrow linear areas.
2. The following are recommended as minimum standards for a range of plant sizes:

   Large trees such as figs (canopy diameter of up to 16 m at maturity)

   - Minimum soil volume 150m3.
   - Minimum soil depth 1.3m.
   - Minimum soil area of 10 x 10m or equivalent.

Medium trees (8m canopy diameter at maturity).

- Minimum soil volume 35m3.
- Minimum soil depth 1m.
- Approximate soil area of 6 x 6m or equivalent.

Small trees (4 m canopy diameter at maturity).

- Minimum soil volume 9m3.
- Minimum soil depth 0.8m.
- Approximate soil area of 3.5 x 3.5m or equivalent.

Shrubs: Minimum soil depths 500 – 600mm.

- Ground cover: Minimum soil depths 300 – 450mm.

Turf: Minimum soil depths 100 – 300mm.

Any subsurface drainage requirements are in addition to the minimum soil depths quoted above.

Fencing

Objectives

a) To provide a clear transition between public and private open space.

b) To provide variety in the streetscape.

c) To provide fencing that enhances the streetscape.

Controls

Primary Frontage

1. The maximum height of a front fence is 1.2m.
2. The front fence may be built to a maximum height of 1.5m *if* the fence is setback 1m from the front boundary with suitable landscaping in front of the proposed fence.
3. Fences should not prevent surveillance by the dwelling's occupants of the street or communal areas.
4. The front fence must be 30% transparent.
5. Front fences shall be constructed in masonry, timber, metal pickets and/or vegetation and must be compatible with the proposed design of the dwelling.
6. The front fence may be built to a maximum of 1.8m *only if:*
   - The primary frontage is situated on a Classified Road.
   - The fence is articulated by 1m for 50% of its length and have landscaping in front of the articulated portion.
   - The fence does not impede safe sight lines from the street and from vehicles entering and exiting the site.

Secondary Frontage

7. Fences and walls must be a maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped.
8. For side walls or fences along the secondary frontage, a maximum height of 1.2m is required for the first 9m measured from the front boundary, the remaining fence / wall may then be raised to a maximum of 1.8m. The secondary setback is the longest length boundary.

Boundary Fences

9. The maximum height of side boundary fencing within the setback to the street is 1.2m.
10. Boundary fences shall be lapped and capped timber or metal sheeting.

8. Car Parking and Access

Car Parking

Objectives

a) To provide convenient, accessible and safe on site car parking for residents and visitors.

b) To minimise driveway crossings to maximise on street parking and landscaped nature strips.

c) To integrate the location and design of car parking with the design of the site and building without compromising street character, landscape or pedestrian amenity and safety.

d) To integrate the location and design of car parking with the design of the site and the building.

Controls

1. Visitor car parking shall be clearly identified and may not be stacked car parking.
2. Visitor car parking shall be located between any roller shutter door and the front boundary.
3. Pedestrian and driveways shall be separated.
4. Driveways shall be designed to accommodate removalist vehicles.
5. Where possible vehicular entrances to the basement car parking shall be from the side of the building. As an alternative a curved driveway to an entrance at the front of the building may be considered if the entrance is not readily visible from the street.
6. Give preference to underground parking, whenever possible by:
   - Retaining and optimising the consolidated areas of deep soil zones.
   - Facilitating natural ventilation to basement and sub-basement car parking areas, where possible.
   - Integrating ventilation grills or screening devices of car park openings into the facade design and landscape design.
   - Providing safe and secure access for building users, including direct access to residential dwellings, where possible.
   - Providing a logical and efficient structural grid. There may be a larger floor area for basement car parking than for upper floors above ground. Upper floors, particularly in slender residential buildings, do not have to replicate basement car parking widths.
7. Where above ground enclosed parking cannot be avoided, ensure the design of the development mitigates any negative impact on streetscape and street amenity by:
   - Avoid exposed parking on the street frontage.
   - Hiding car parking behind the building facade. Where wall openings (windows, fenestrations) occur, ensure they are integrated into the overall facade scale, proportions and detail.

Figure 12 Car parking at ground level

Pedestrian Access

Objectives

a) To promote residential flat development that is well connected to the street and contributes to the accessibility of the public domain.

b) To ensure that residents, including users of strollers and wheelchairs and people with bicycles, are able to reach and enter their dwelling and use communal areas via minimum grade ramps, paths, access ways or lifts.

Controls

1. Utilise the site and it's planning to optimise accessibility to the development.
2. Provide high quality accessible routes to public and semi-public areas of the building and the site, including major entries, lobbies, communal open space, site facilities, parking areas, public streets and internal roads.
3. Promote equity by:
   - Ensuring the main building entrance is accessible for all from the street and from car parking areas.
   - Integrating ramps into the overall building and landscape design.
   - Design ground floor dwellings to be accessible from the street, where applicable, and to their associated private open space.
4. Maximise the number of accessible and adaptable dwellings in a building by:
   - Providing more than one accessible entrance where a development contains clusters of buildings.
   - Separating and clearly distinguish between pedestrian accessways and vehicle accessways.
   - Locating vehicle entries away from main pedestrian entries and on secondary frontages.

9. Amenity and Environmental Impact

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

1. Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least:
   - One living, rumpus room or the like; and
   - 50% of the private open space.

Privacy

Objectives

a) To locate and design buildings to meet projected user requirements for visual and acoustic privacy and to protect privacy of nearby residents.

b) To avoid any external impacts of a development, such as overlooking of adjoining sites.

c) To provide reasonable levels of visual privacy externally and internally, during the day and at night.

d) To maximise outlook and views from principal rooms and private open space.

Controls

1. Building siting, window location, balconies and fencing should take account of the importance of the privacy of onsite and adjoining buildings and outdoor spaces.
2. Windows to habitable rooms should be located so they do not overlook such windows in adjoining properties, other dwellings within the development or areas of private open space.
3. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.
4. Where possible the ground floor dwellings should be located above ground level to ensure privacy for occupants of the dwellings.
5. Design building layouts to minimise direct overlooking of rooms and private open spaces adjacent to dwellings by:
   - Balconies to screen other balconies and any ground level private open space.
   - Separating communal open space, common areas and access routes through the development from the windows of rooms, particularly habitable rooms.
   - Changing the level between ground floor dwellings with their associated private open space, and the public domain or communal open space.
6. Use detailed site and building design elements to increase privacy without compromising access to light and air by:
   - Offsetting windows of dwellings in new development and adjacent development windows.
   - Recessed balconies and/or vertical fins between adjacent balconies.

- Solid or semi-solid balustrades to balconies - louvres or screen panels to windows and/or balconies.
- Fencing.
- Vegetation as a screen between spaces.
- Incorporating planter boxes into walls or balustrades to increase the visual separation between areas.
- Utilising pergolas or shading devises to limit overlooking of lower dwellings or private open space.

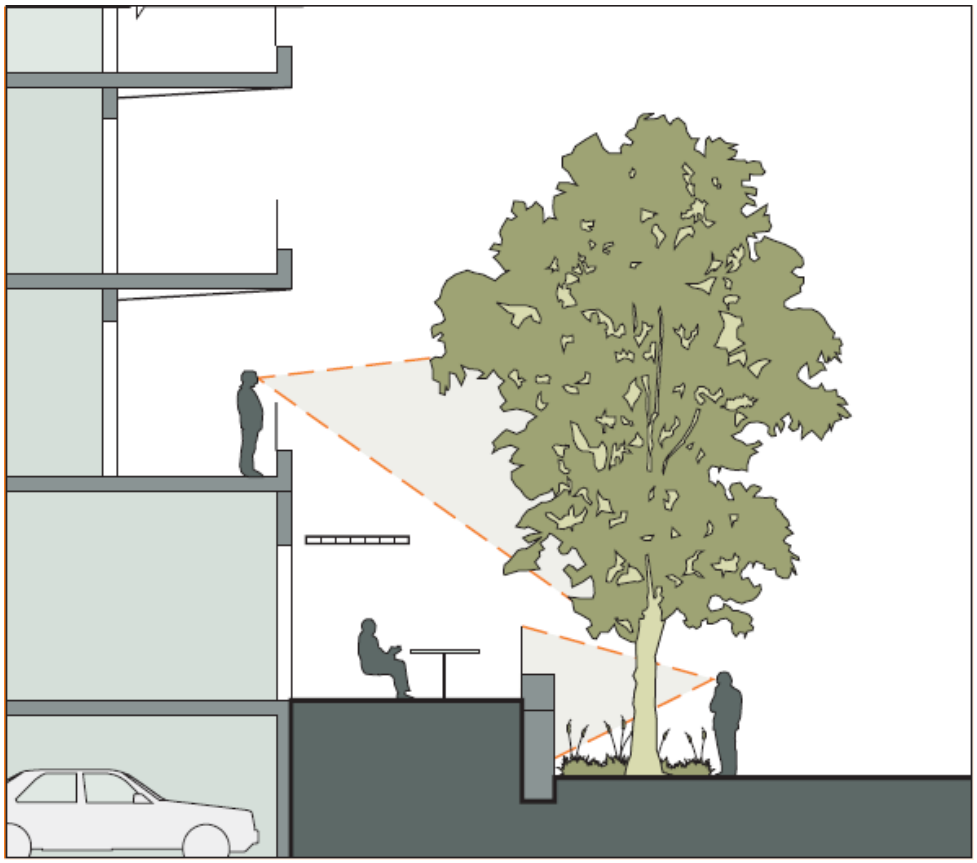


Figure 13 Screening and lower level balconies

Acoustic Impact

Objective

To ensure a high level of amenity by protecting the privacy of residents within residential flat buildings.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Buildings having frontage to a Classified Road or a railway and impacted upon by rail or traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.
3. The proposed buildings must comply with the Environment Protection Authority criteria and the current relevant Australian Standards for noise and vibration and quality assurance.

4. Arrange dwellings within a development to minimise noise transition between dwellings by:

   - Locating busy, noisy areas next to each other and quieter areas next to other quiet areas, for example, living rooms with living rooms, bedrooms with bedrooms
   - Using storage or circulation zones within an dwelling to buffer noise from adjacent dwellings, mechanical services or corridors and lobby areas
   - Minimising the amount of common walls with other dwellings.
   - Design the internal dwelling layout to separate noisier spaces from quieter spaces by:
   - Grouping uses within a dwelling - bedrooms with bedrooms and service areas like kitchen, bathroom, and laundry together.

10. Site Services

Objectives

a) To ensure that the required services are provided.

b) To ensure that the services provided are easily protected or maintained.

Controls

Letterboxes

1. Letterboxes shall to be provided for each dwelling on site, easily accessible from the street, able to be securely locked and provided in accordance with Australia Post's requirements.
2. Freestanding letterbox structures should be designed and constructed of materials that relate to the main building.
3. Residential numbering should be attached to the letterbox so that it is clearly visible from the street frontage. Numbers should be 75mm in height, reflective and in contrast to the backing material.

Waste management

1. Waste disposal facilities shall be provided for development. These shall be located adjacent to the driveway entrance to the site.
2. Any structure involving waste disposal facilities shall be located as follows:
3. Setback 1 m from the front boundary to the street.
4. Landscaped between the structure and the front boundary and adjoining areas to minimise the impact on the streetscape.
5. Not be located adjacent to an adjoining residential property.
6. Details of the design of waste disposal facilities are shown in Part 1 of the DCP.

Frontage works and damage to Council infrastructure

1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
3. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.

Electricity Sub Station

In some cases it may be necessary to provide an electricity substation at the front of the development adjacent to the street frontage. This will involve dedication of the area as a public road to allow access by the electricity provider. The front boundary treatment used elsewhere on the street frontage

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