

APPENDIX 10

THE RESIDENTIAL DESIGN GUIDE FOR DEVELOPMENTS IN RESIDENTIAL ZONES IN SPECIFIED GROWTH AREAS



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ACKNOWLEDGEMENT

Auckland City acknowledges the Victorian Code for Residential Development, Multi-Dwellings, Department of Planning and Development November 1993 as a source, for both the specific reproduction of graphics and the extensive use of code provisions for the Residential Design Guide.

The Guide has been prepared by officers of City Planning with assistance from Ecologically Sustainable Design Pty Ltd and with reference to current research locally and overseas. Original drawings were produced by Chow Hill Architects.



1.0 INTRODUCTION

1.1 GROWTH MANAGEMENT STRATEGY

This Residential Design Guide is an integral part of the Growth Management Strategy developed by the Auckland City Council to guide growth to the year 2050. The Strategy advocates residential intensification within defined Growth Areas within the Isthmus. These areas are places where the existing development pattern and infrastructure are conducive to supporting denser, mixed-use, pedestrian-friendly environments and where there is easy access to public transport facilities. This Residential Design Guide is concerned with the design and integration of residential development within all zones in the specified growth area.

The Residential Design Guide is the Council's response to concerns expressed by the community that future growth, through intensification, will lead to a loss of neighbourhood amenity. Design quality, rather than density, is the predominant factor in maintaining amenity for both residents of a development and neighbours. This Guide applies performance criteria and rules to residential developments in order to achieve design quality.

1.2 PURPOSE OF THE RESIDENTIAL DESIGN GUIDE

Good urban design maximises the quality of the urban environment, particularly residential and commercial centres that are of major importance to those who live and work in the City of Auckland. This Residential Design Guide is a statement of what is considered to be good urban design practice. The Residential Design Guide has been introduced to promote and encourage well designed residential developments in residential zones within specified growth areas. The Guide is intended to provide guidance:

- in the assessment of residential land use consent applications within specified growth areas;
- for developers and designers formulating residential development proposals.

1.3 PRINCIPAL AIMS OF SPECIFIED GROWTH AREAS

- To provide an urban structure of walkable neighbourhoods clustering around centres of compatible mixed uses in order to reduce vehicle dependence for access to employment, retail and community facilities.
- To ensure that walkable neighbourhoods and access to services and facilities are designed for all users, including users with disabilities.
- To foster a sense of community and strong local identity in neighbourhoods.
- To provide access generally by way of an interconnected network of roads which facilitate safe, efficient and pleasant walking, cycling and driving.
- To facilitate new development which supports the efficiency of public transport systems, where available, and provides safe, direct access to the systems for residents.
- To provide a variety of housing types to cater for the diverse housing needs of the community at a density that can ultimately support provision of local services.
- To ensure the avoidance of key environmental areas and the incorporation of significant cultural and environmental features of a site into the design.
- To ensure cost-effective and resource-efficient development to promote affordable housing.

1.4 WHAT THE GUIDE APPLIES TO

The Guide applies to the development of residential dwellings within existing buildings or new buildings in residential zones within specified growth areas.



1.5 RELATIONSHIP BETWEEN THE RESIDENTIAL DESIGN GUIDE AND THE DISTRICT PLAN

The criteria and development control rules of this Guide have, where appropriate, been incorporated into the Operative Auckland City District Plan (Isthmus Section) for use in the assessment of new residential development in residential zones within specified growth areas.

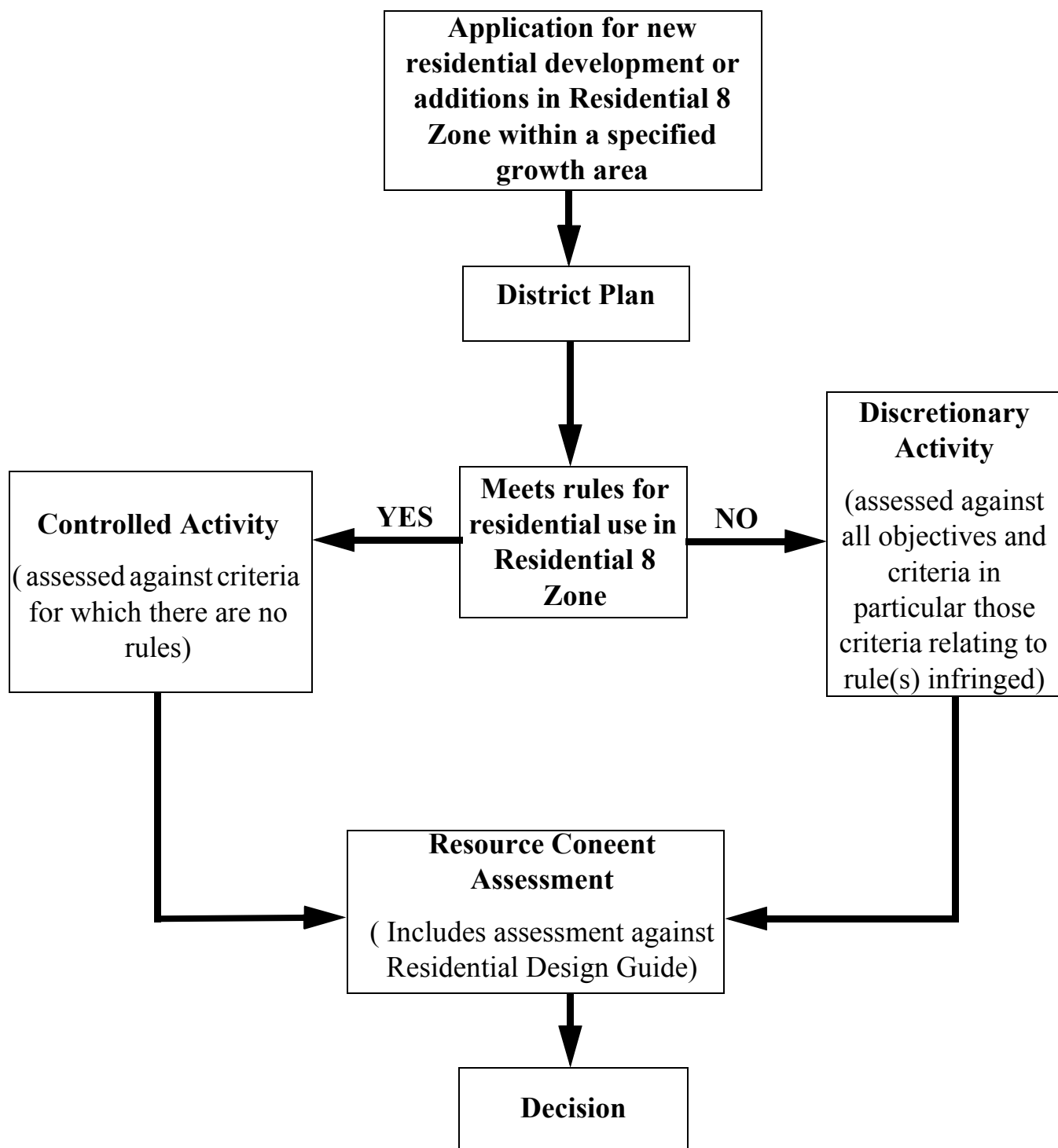
This Guide provides explanations for the criteria and development control rules as well as good design suggestions which provide ideas on how the criteria might work. The development control rules in this document are the same as those for residential development within the Residential 8 Zone of the District Plan.

NOTE

In addition to this Guide, there are other controls contained within the Operative Auckland City District Plan (Isthmus Section) which need to be complied with.



Relationship between the Residential Design Guide and the District Plan



1.6 THE STRUCTURE OF THE GUIDE

The Guide groups design aspects of new residential development or additions within the specified growth areas into 11 elements linked to an initial site and context analysis. The elements provide a comprehensive agenda for good site-responsive design which builds on information gathered through the site analysis.

The design elements are:

- E 1 Neighbourhood Character
- E 2 Site Layout
- E 3 Density
- E 4 Energy Efficiency
- E 5 Building Envelope
- E 6 Visual Privacy
- E 7 Acoustic Privacy
- E 8 Landscaping
- E 9 Driveways and Car Parking
- E 10 Private Open Space
- E 11 Site Facilities

All the elements contain an explanation, objectives and criteria, and will contain either development control rules or good design suggestions, or both.

Explanation

This is a statement which clearly explains the design element.

Objectives

These are statements which define the intention of each element and indicate the desired outcomes to be achieved in completed developments.

Criteria

These provide a basis for both designing the development and for judging whether the objectives have been met.

Development Control Rules

Some of the design criteria can be met by compliance with the stated rule. However not all the design criteria can be translated directly into measurable rules, if flexibility in design response is to be maintained. All new residential development in residential zones within the specified growth areas will be considered as a controlled activity where the development meets the development control rules (set out in the District Plan and repeated in this Guide) and where it satisfies the qualitative criteria in the District Plan which relates to design elements in this Guide. However, in particular cases anyone proposing a development may use an alternative method to the development control rules if it can be demonstrated, to the satisfaction of the Council, that the alternative will satisfy the design element objectives and criteria as well, or better than, the prescribed development control rules. In such circumstances the application would require a discretionary activity resource consent.

Development control rules may not be strictly applicable where existing buildings are being recycled, but regard must still be had for the design element objectives and criteria.

Good Design Suggestions

Most of the criteria are supplemented by good design suggestions which provide ideas on how the criteria, or certain aspects of them, might be addressed.



While the Guide encourages the use of these design suggestions in relevant circumstances, it is recognised that there will be other design solutions than those suggested that achieve good outcomes.

1.7 HOW TO USE THIS GUIDE

The Guide is to be used as a whole. All parts of it should be considered.

The preparation of a site and context analysis plan, which is described in the next section, is a prerequisite for any development proposal drawn up under the Guide.

Following the initial site and context analysis, all eleven design elements should be considered when preparing and assessing a development proposal.



2.0 SITE AND CONTEXT ANALYSIS AND DESIGN RESPONSE

A site and context analysis must be prepared in advance of the design. The purpose of the site and context analysis is to record and evaluate information on the site and its surroundings, and to identify what this evaluation means for the design response.

All development proposals must begin the process with a site and context analysis, which should be completed before a development is designed. Its purpose is to identify and explain graphically the existing situation on both the site and its surrounds, and to identify the key influences on the design.

A site and context analysis should identify development opportunities and constraints. It should influence the design to minimise negative impacts on the amenity of adjoining developments and to complement neighbourhood character. A site and context analysis is the starting point for the design process.

A site and context analysis and a design response must accompany an application.

2.1 SITE AND CONTEXT ANALYSIS

A site and context analysis must be shown on a plan drawn to scale (either 1:50, 1:100 or 1:200) and accurately show:

In relation to the site

- existing buildings, indicating whether they are to be retained or removed
- access points
- drainage and services
- orientation and slope, including contours
- trees and other significant vegetation
- fences, retaining walls, boundaries and easements
- any other notable features or characteristics of the site
- any scheduled trees and buildings as listed in the Appendices of the Operative Auckland City District Plan (Isthmus section).

In relation to the surrounding area

- the location and use of surrounding buildings including any significant noise generators affecting the site
- the difference in ground levels (contours) between the site and surrounding properties
- secluded private open spaces and habitable room windows on nearby residential properties which have or could have an outlook to or from the site, particularly those within 9m of the site
- significant views from and to the site
- solar access enjoyed by adjoining residents to main living room windows or main private open spaces
- protected trees and other significant vegetation on surrounding properties
- location and height of walls built to the boundary of the site
- characteristics of any abutting public open space
- road-frontage features such as poles, street trees, and vehicle crossings
- road pavement width and on-street parking conditions, and estimated traffic volume
- the built form, scale and character of surrounding and nearby development
- direction and distances to local shops, schools and public transport stops and open space
- the zoning of any adjoining or facing properties
- scheduled trees and buildings as listed in the Appendices of the Operative Auckland City District Plan (Isthmus section) at



least within 9 metres of the site boundaries.

An example of a site and context analysis is shown on page 11 (Figure 1) of the Guide.

2.2 APPLICATION REQUIREMENTS

The site and context analysis and design response are best presented through a combination of plans, photographs and text.

Both a site and context analysis and a design response must be included with an application and be drawn to scale.

The site and context analysis is more than an existing conditions survey. The key point is to remember to use the site and context analysis to identify, evaluate and communicate the important issues, on and off the site and in the neighbourhood, which will drive the design response.

Council may waiver or reduce the requirements of the site and context analysis where the application relates to minor alterations or, if in the opinion of Council, the requirement is not relevant to the evaluation of the application.

2.3 CONSULTATION

Before preparing a site and context analysis, talk to the Council planner about relevant council policies including any preferred approach to residential development.

Collecting site information provides a good opportunity to contact site neighbours and gain an appreciation of what matters they might like considered in the design process. Making the effort to inform and involve site neighbours of the proposal at the pre-planning stage may well assist the progress of the application (N.B. the requirements of Sections 93 & 94 of the Resource Management Act will still need to be met).

2.4 DESIGN RESPONSE

A design response to the site analysis must accompany the application. The design response must explain how the development's design:

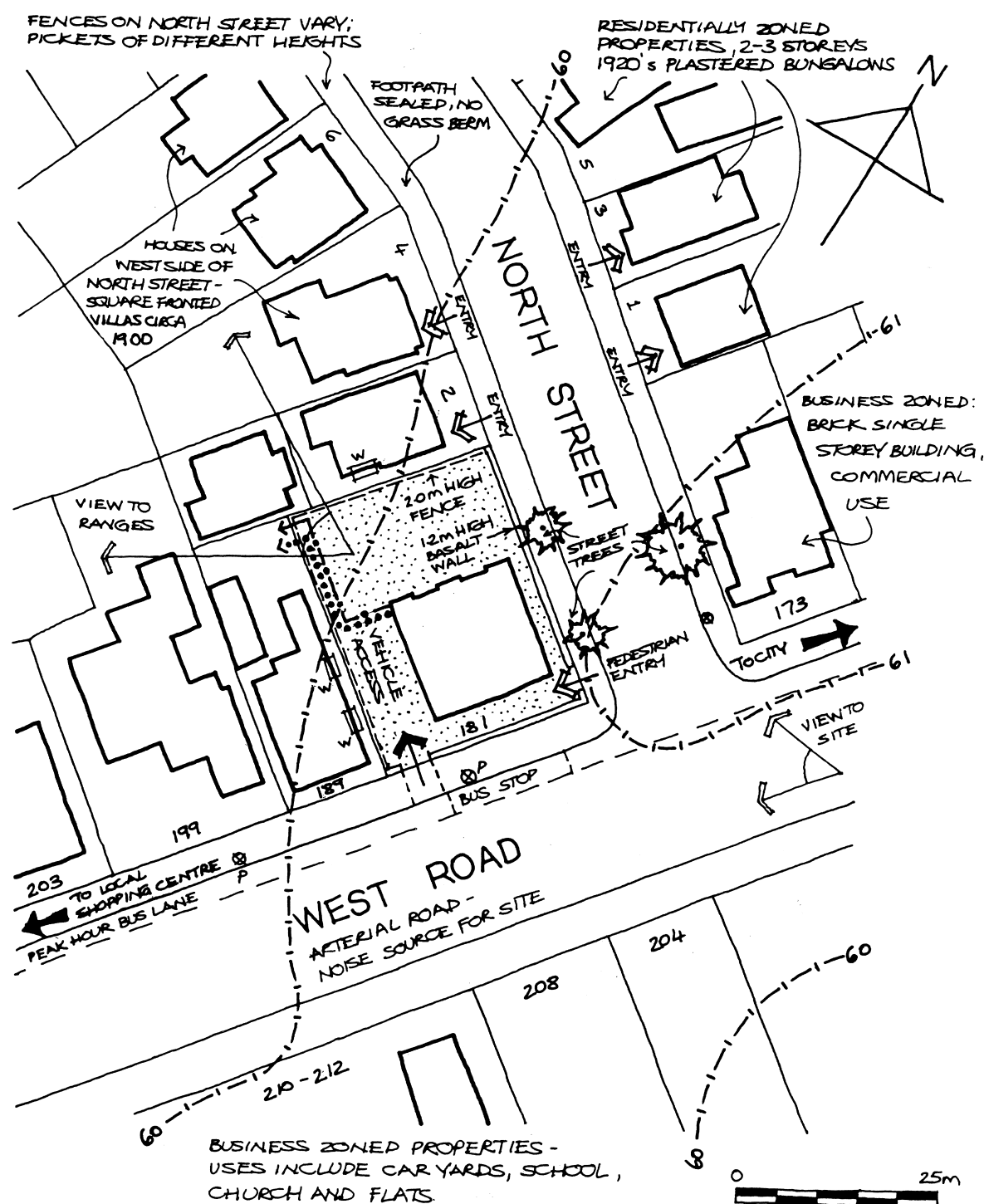
- derives from the site and context analysis
- relates to any other building on the site and to surrounding land and development. This must include correctly proportioned street elevations showing the development in the context of adjacent buildings
- respects, acknowledges and improves the existing neighbourhood character
- limits detrimental impacts on the amenity of neighbourhood residences or open space, and on the operation of neighbouring businesses.

2.5 MAPPING SERVICE FOR SITE AND CONTEXT ANALYSIS PLANS

A mapping service is provided by Auckland City. For a fee, applicants can request an A2 or A3 base plan at a scale of 1:200, for an area including the site and 50m from all boundaries, and showing cadastral, footpaths, existing buildings, contours, sewer and water services, protected trees and zone boundaries. Aerial photos are also available for a fee. Auckland City Mapping contact details: ACE Property Information Centre, 35 Graham Street, Auckland, ph 379-2020. These maps can provide a very valuable starting point for a site and context analysis. The additional information listed on p 9&10 will need to be added.



Figure 1 Site and context analysis (example only)



KEY TO SYMBOLS



SUBJECT SITE (FLAT SITE SLOPING DOWN AT NORTH WEST CORNER)



STORMWATER AND FOUL WATER CONNECTION



WATERMAIN CONNECTION



HABITABLE ROOM WINDOW



POLE



CONTOUR LINE (1m INTERVALS)



3.0 DESIGN ELEMENTS

ELEMENT 1 - NEIGHBOURHOOD CHARACTER

EXPLANATION

If developments are adjoining or across the road from existing character areas where the present character is valued and is to remain dominant, new residential development should respect or enhance the character of these areas. The important aspects to consider are:

- the character of the road and adjacent development
- the main elements of buildings and landscape that establish the existing character
- how new development can use building form, detailing and landscaping to contribute to or enhance the existing character.

In areas that are located close to activity centres and public transport, where there is no identified character, and which will intensify to multi-storey medium and higher density housing, the desired future streetscape character is expected to be an attractive and diverse range of dwelling frontages, all addressing the road and providing surveillance and interest over the road. Expanses of high walls, blank frontage and garage doors will be minimised, while planting or retention of large trees will add shade, attractiveness and interest to the road.

Identifying character

Urban character studies have been carried out within Auckland City. Some historic character areas have been formally recognised in the District Plan as Conservation Areas.

Other areas have been formally recognised in the District Plan through zoning as Special Character Residential Zones based on the type of built environment, the composite built and natural environment and the natural landscape.

Maintaining the character of an area through sympathetic new development and additions is important in protecting a community's sense of identity. In satisfying urban growth objectives, it is inappropriate to restrict heights and setbacks to match those of many detached house areas. With attention to design detail, larger and denser developments can be well integrated into lower density areas, even those identified as a conservation or special character area. The District Plan requirements will guide the extent of change in these areas, together with this Guide.

Front setbacks

The front setback provides a transition space between the public road and the private interior spaces of a dwelling. The Guide promotes positioning of the main entry, and windows to at least one main habitable room, to front the road. This provides opportunities for surveillance of this space.

Matching the front setback of new development to that of existing dwellings has often been rigidly regulated in the past. However this is not always necessary to maintain streetscape character. The Guide allows for a variety of setbacks which provide developments with better scope for private open space at the rear. This also avoids having large front setbacks as the principal private open space. Front setbacks are covered in Element 5 Building Envelope.

Dwelling style

This Guide encourages contemporary design that is harmonious with its surroundings. It does not encourage reproduction heritage design which may detract from the existing character.

All dwellings need not look the same in multi-storey medium and higher density housing. Varying colours or detailing within a complex can help break down the scale of the development to fit better with surrounding dwellings as well as providing individuality for owners. Alternatively, on some sites consistency of appearance can have appeal and a landmark quality.

Road detail

In multi-storey medium and higher density housing, garages and high solid fences should not dominate road frontages. Only in very limited cases may they be justified to deal with topography, noise or privacy problems of a dwelling that cannot be solved by design alternatives. Continuation of the existing character, alignment, height and variety of front fences contributes significantly to integrating development into a streetscape. Retaining trees and using similar landscape themes in gardens can also help.



In larger developments, where new roads are created, streetscape character will also relate to the detailing of the road - its pavement, kerbs, planting and footpath detailing. Those valued features of surrounding roads which contribute to a neighbourhood's character should continue.

OBJECTIVES

- 01 To achieve new residential development which is respectful of any valued and identified character in its neighbourhood.
- 02 To encourage innovative contemporary designs which make a positive contribution to the desired future character of the neighbourhood.
- 03 To ensure that new developments front and overlook the road.
- 04 To incorporate trees/landscaping into developments.

CRITERIA

Built form

- C1 New residential development adjoining or across the road from special character zoned areas should be in sympathy with the prevailing character of the buildings in that special character zoned area.
- C2 New residential development located next to a scheduled building as listed in the Appendices of the Operative Auckland City District Plan (Isthmus section) should be designed to be respectful of the building and its construction.

Character

- C3 New residential development among established housing not identified as a conservation or special character area should be designed to complement and enhance the desired future character of the neighbourhood.
- C4 Road frontage setbacks are in accordance with Element 5 Building Envelope.
- C5 Large scale developments that address significant lengths of road frontage should be broken into smaller sections of different character.

Road frontage and fences

- C6 Frontages of new development should be oriented towards the road with the front door and one or more main habitable room windows overlooking the road.
- C7 Where development sites are adjoining or across the road from conservation or special character zoned areas, fences should complement those in the streetscape.
- C8 Front fences should enable outlook from dwellings to the road for safety and surveillance.
- C9 Where high solid front fences are essential, limit them to a short section of the frontage in order to maintain views between the dwelling and the road from at least part of the dwelling.
- C10 Garages and parking structures and areas should be sited and detailed to ensure they do not dominate the road frontage.

Facilities

- C11 Facilities on or near the road frontage such as gates and letterboxes should be compatible in design with the fences and character of the development.

DEVELOPMENT CONTROL RULE

- R1 (Compliance with this rule satisfies criteria C8)

The maximum height of a front fence or wall shall not exceed 1.2 metres in height if solid or up to 2.0 metres in height if more than 50% transparent.

GOOD DESIGN SUGGESTIONS

Built form

Design elements to consider include:

- massing and proportion
- ground floor height above ground level



- floor-to-ceiling height
- roof form and pitch
- facade articulation and detailing
- window and door proportions
- verandahs, towers, eaves and parapets
- building materials, patterns, textures and colours
- decorative elements
- fence styles and alignments.

Character

- Ensure front facades are well articulated.
- Incorporate balconies into upper level development frontages.
- Locate lower height developments in areas abutting residential back gardens.

Road frontage and fences

- Consider incorporating rooms suited to home based businesses into selected ground floor frontages.
- Minimise garage doors, ground level car parks and blank walls fronting the road.
- Limit percentage of frontage used for parking or vehicle access to 30% or less.

ELEMENT 2 - SITE LAYOUT

EXPLANATION

The site layout of a development should be based on a thorough analysis of the site and its surrounding urban area.

To ensure new residential projects within specified growth areas enable reduced dependence on the car for access to daily activities, and to promote community integration, new developments should form part of a normal public road and open space network rather than forming semi-private enclaves.

Issues to be considered in site layout include:

- overall design character and landscaping of the development in relation to its surroundings
- orientation of dwellings to roads and open spaces
- site access and the role of roads, driveways and paths within and connecting to the development
- location, function and management of public or shared open spaces
- energy efficiency, solar orientation and predominating winds
- site topography and views
- relationship between dwellings within the development and with buildings on adjoining sites
- effects of adjoining structures and vegetation
- personal safety, security and surveillance
- ground conditions and drainage
- heritage buildings or vegetation conservation opportunities.

Dwelling, road and open space relationships

Development proposals are often characterised by confusion between fronts and backs in relation to roads and open space. Likewise, confusion often arises between the delineation of private, communal and public space. In each case these matters need to be clarified.



Energy efficiency

Energy efficiency at the site layout level comes predominantly from increased development density and provision of a well connected public road network that promotes walking and cycling to daily activities. Additional energy savings can be made by design for passive solar access and cross-ventilation. Refer to Element 4 Energy Efficiency.

Abutting public open space

Some developments are built on sites that abut public open space. The height, bulk and detailing of the new development should complement the open space. For example, development abutting some urban parks may be prominent and frame the space, while bush-clad parks may require development to be much more subservient. Use of subtle colours, well articulated built forms, setbacks and tall vegetation can minimise the impact of developments.

The intrusion of developments needs to be balanced with the issue of security and surveillance. These are effectively resolved when an existing or new road separates the development from a park, or when development fronts the park across a footpath.

OBJECTIVES

O1 To integrate the site layout of developments with the neighbourhood and abutting uses and development.

O2 To achieve energy-efficient and environmentally-sensitive layouts.

O3 To achieve a coherent layout that respects areas of valued and definable neighbourhood character.

O4 To provide for the efficient management and maintenance of developments.

O5 To ensure development fronts roads and parks.

CRITERIA

Neighbourhood integration

C1 Developments should be well connected into the neighbourhood road network with adequate vehicle, cycle and pedestrian links which maintain or enhance local road networks and accessibility to shops, facilities and public transport stops.

C2 Developments should integrate well with the neighbourhood, enhance existing roads, maintain amenity for adjacent residents, and provide a sense of address and privacy.

C3 In larger scale new developments, varied dwelling types and forms should be used along both sides of the roads, to help retain the more traditional Auckland urban residential variety.

Site features and constraints

C4 The development should incorporate existing significant vegetation and capitalise on other site features, and overcome site constraints such as steep slope, unstable soils and poor drainage.

C5 The development should retain buildings of identified conservation significance and shall consider the reuse of existing buildings.

C6 In areas with significant off-site noise, the development should be designed to minimise entry of noise and to limit the number of dwellings exposed to high noise levels.

Community safety

C7 The layout should contribute to community and property safety, and to the security of the neighbourhood.

Energy efficiency

C8 The layout should contribute to energy efficiency of the development (Also refer to Element 4 Energy Efficiency).

Car parking layout

C9 The layout should provide for car parking and garages that do not dominate the development or road frontage (Also refer to Element 9 Driveways and Car Parking).

Public open space

C10 Where the development is next to existing public open space, it should be designed to:

- complement the character and use of the adjacent open space.



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- front the space by provision of a road along the boundary wherever practical. If no road, then dwellings front the space and a public footpath should be provided along that frontage wherever practical.
- enhance surveillance of urban open space.
- avoid claiming or privatisation of open space by residents' gardens or overflow uses from abutting dwellings.

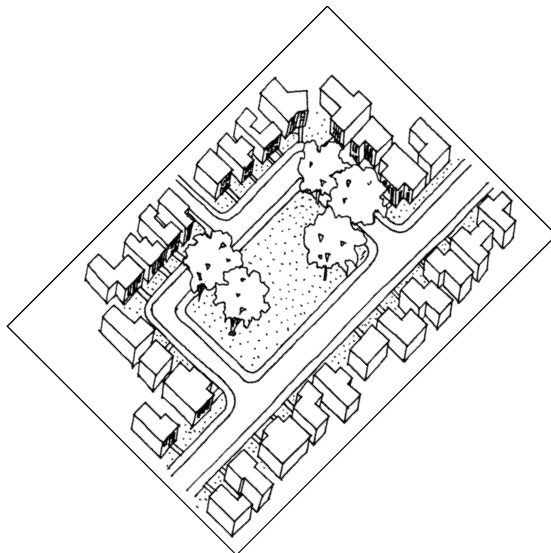


Figure 2 Public open space

Public open space can generally be bordered by roads which are fronted by dwellings and which are part of the public road network.

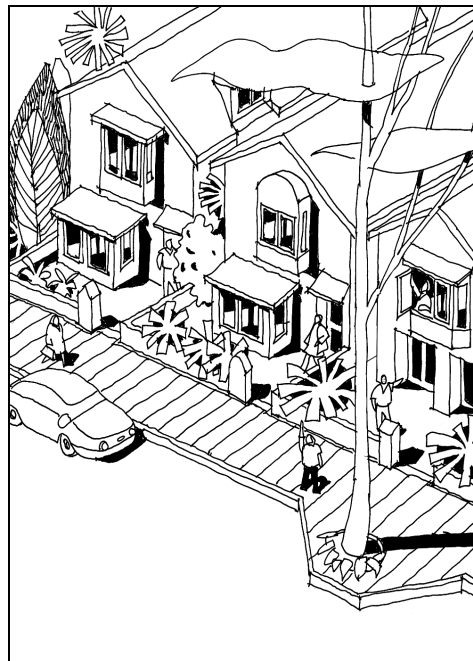


Figure 3 Site Layout

Site layout considerations in this example include:



1. Car parking and trees integrated into roading design.



2. Windows of principal rooms overlook the road providing good supervision and security.



3. Consideration of design and massing of corner buildings.



4. Different roof forms articulate the mass of the buildings.





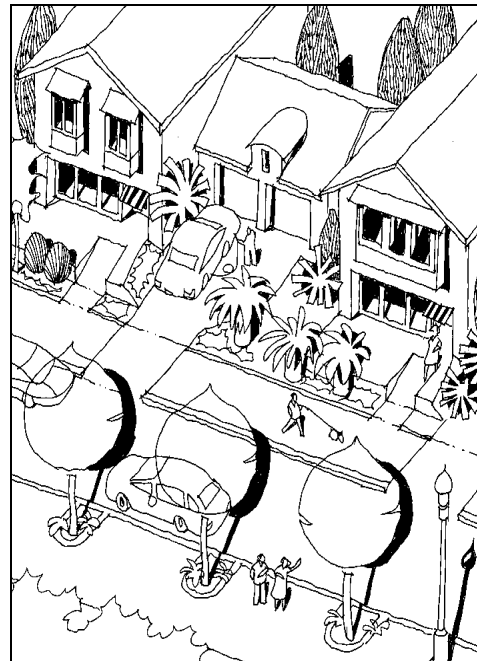
5. Apartments address the public open space.



6. Car parking should not dominate the road. An alternative may be to provide access to the rear of properties.



7. New development faces the road and respects the form of existing dwellings opposite.



8. Where car parking is accessed directly from the road, garages are set back from the principal elevations of the dwellings.

GOOD DESIGN SUGGESTIONS

Neighbourhood integration

- Avoid cul-de-sacs especially if greater than 40-50m long with no pedestrian through-link.
- Create new through roads on larger sites.



- Provide through-site links for pedestrians and cyclists on larger sites where through roads are not practical.
- Design dwellings to front existing and proposed roads.
- Avoid high fencing in front of dwellings.
- Design site layouts to respond to neighbouring uses and buildings (Also refer to Element 6 Visual Privacy).
- Locate the multi-storey component of a development towards the road with single storey or car parking at the rear where this will limit impact on the amenity of adjacent residents' secluded private open spaces.
- Arrange dwellings widthways across blocks to maximise the cumulative open space of adjoining dwellings and greater buffers for adjoining properties.
- Locate car parking areas and garages so that they do not dominate the development or road frontage.
- Locate parking well within the development.
- Break up large parking areas with trees, buildings or different surface treatments.
- Provide car parking underground or in semi-basement where practical.
- Provide or widen rear or side access lanes to provide garage access away from the road front, and possibly to help open up redevelopment opportunities on nearby properties.
- Avoid introducing large scale mass with consistent detailing into areas dominated by small scale, diverse buildings.
- Provide similar type or mix of buildings on both sides of the road to generate a consistent streetscape.
- Locate dwelling fronts to face other dwelling fronts, not backs, across the road.
- Do not locate large scale contrasting dwelling types across the road from each other. Major changes in dwelling types should occur across the rear site boundaries.

Community safety

- Surveillance of an area is increased where dwellings with windows abut roads and public open spaces.
- Minimise high fences and walls along roads.
- Provide lighting, good visibility and surveillance of lanes.
- Protect private spaces from inappropriate use as public thoroughfares.
- Minimise obscured, overgrown shrubby areas along roads and paths.

Energy efficiency

- Establish a pleasant, safe and well connected road network, supporting walking and cycling to public transport and local facilities.
- Use attached dwellings of two or more storeys.
- Orient living rooms to north for good solar access, and limit overshadowing of north windows of existing and proposed dwellings.

Car parking layout

- Locate parking well within the development.
- Break up large parking areas with trees, buildings or different surface treatments.
- Provide car parking underground or in semi-basements where practical.
- Provide or widen rear or side access lanes.
- Provide visitor parking within existing or proposed public roads.



ELEMENT 3 - DENSITY

EXPLANATION

In order for urban consolidation to make a meaningful contribution to managing growth within Auckland City, there is a need for more smaller dwellings and a greater variety of housing. This is due to the trend towards smaller and more diverse households and the ageing population.

Density and design

Many medium and high density housing developments demonstrate that design quality, not density, is the predominant factor in maintaining amenity for both residents of a development and neighbours. Such developments need not result in a loss of amenity in existing areas of predominantly detached housing. Design quality can be achieved by applying the performance criteria for each element in this Guide.

The density of a particular development is derived from the application of the density control as well as the other elements of the Guide to a particular site, combined with the market focus. This element provides a specific development control rule in relation to appropriate densities for medium to high density housing developments in each zone.

The density control allows a range of densities to be achieved within the Residential 8 zone.

Residential 8 zone

Many situations provide opportunity for higher densities. In Auckland, higher densities provided for in the Residential 8 zone are supported and promoted in some key areas. These include:

- the inner areas and suburban centres, where residents have good access to services, facilities, employment and transport, and where use of cars can be minimised
- areas within 400-800 metres (5-10 minute walk) of a public transport station, to support public transport
- areas close to older shopping centres where new populations can help support and revitalise existing centres
- redundant industrial areas.

Areas with density limitations

There are limited areas where any increase in residential development may be inappropriate. Such areas will be recognised through controls in the District Plan to limit medium-high density development. These may include areas:

- zoned for business use
- where sufficient services are not provided, or
- of very high environmental amenity.

Some site specific considerations may apply within residential areas which will limit the number of dwellings. These may include:

- major physical site constraints
- local road networks unable to be upgraded to support a substantial increase in traffic
- infrastructure services that cannot be provided or satisfactorily upgraded
- local or regional stormwater drainage constraints that cannot be overcome.

The reason for limiting dwelling density in relation to any of these factors will need to be established against the relevant performance criteria in other elements in this Guide.

OBJECTIVES

- O1 To assist urban consolidation through the provision of medium and high density housing.
- O2 To optimise the yield of medium and high density housing while promoting high design standards, a variety of dwelling types, and minimising loss of amenity to adjacent dwellings.



- O3 To enable medium and high density housing to support and capitalise on available infrastructure.
- O4 To limit medium and high density housing where site specific constraints are unable to be satisfactorily overcome.

CRITERIA

- C1 Developments that increase dwelling densities and housing choice should be located throughout the specified growth areas.
- C2 Developments should provide a variety of sizes and types of dwellings to accommodate a range of household types and lifestyle choices. These could include studio, one bedroom units through to multi bedroom units and detached, semi attached, terraced and apartment residential units.
- C3 The density of some developments may exceed the maximums stated if infrastructure requirements are met and roading, traffic and amenity issues are satisfactorily overcome.

ACTIVITY RULE

R1 Density and average unit floor areas

(Compliance with this rule satisfies criteria C1 and C2)

Residential Zone	1 Residential Unit per
8a	150m ² gross site area
8b	100m ² gross site area
8c	Not limit

Minimum floor area per residential unit- 40m²

ELEMENT 4 - ENERGY EFFICIENCY

EXPLANATION

This element seeks to reduce energy consumption through dwelling design, orientation and layout, building techniques and the use of energy reducing technology. Dense developments close to shops, services and public transport, together with multi-storey construction where units have shared walls and floors make the most significant contribution to energy efficiency.

OBJECTIVES

- O1 To achieve density and energy efficiency through design and layout of multi-storey medium and high density developments.
- O2 To achieve energy efficient buildings and reduce energy costs.
- O3 To provide thermally comfortable environments.
- O4 To provide for a variety of uses and family structures.

CRITERIA

- C1 The design, orientation and layout of developments should encourage energy efficiency.
- C2 Development should take advantage of opportunities for natural ventilation, daylight admission and solar energy.
- C3 Developments should be designed and materials selected to reduce winter heat loss and make use of solar energy.
- C4 Developments should be designed to be flexible, to accommodate a variety of uses over time.
- C5 Developments should provide facilities for recycling of household waste as detailed in Element 11 Site Facilities.
- C6 Developments should be designed to contain materials that minimise resource use and consumption.



GOOD DESIGN SUGGESTIONS

Energy efficiency

- Use renewable energy sources such as solar energy where practical.
- Use building products which are recycled.
- Encourage the use of building products which are environmentally friendly.
- Encourage the use of appliances and systems which conserve water.
- Avoid or limit the consumption of energy from non-renewable resources.
- Decrease operational energy requirements by incorporating low energy appliances and lighting.
- Buildings that are between 10-14 metres deep can provide good natural lighting and ventilation.

Passive energy efficiency design strategies

- Locate habitable room windows and open space to allow winter sunlight admission and sun access.
- Seal wall, roof and floor openings to reduce heat loss.
- Sunlight access and natural ventilation may be increased by skylights, lightshafts and atriums.
- Locate glazed areas to optimise daylight and winter solar gain.
- Use light coloured surfaces to maximise the effect of daylight admission.
- Include in building design an area of roof suitable for mounting solar collectors.
- Incorporate into building design devices such as overhangs, vertical screens, heat absorbing materials and reflective glass. Curtains and blinds help to control solar gain in summer.

Daylight and natural ventilation

- Natural ventilation is preferred to mechanical ventilation where practical.
- Natural cross-ventilation can be achieved where windows and door configurations allow unimpeded air movement through the full width and depth of the dwelling.
- Ventilation is assisted by roof vents and airshafts.

Robustness

- Consider unit layouts that are flexible so as to cater for a range of living arrangements over time.
- Consider separate access to the ground floor to provide work from home opportunities.
- Provide regular room shapes with window location and dimensions that allow flexibility in use and furniture arrangement.
- Provide opportunities for adequate internal storage.

Built form

- Multi-storey construction with shared walls and floors between dwellings, minimise construction costs and contribute to energy efficiency and density.

ELEMENT 5 - BUILDING ENVELOPE

EXPLANATION

This element controls the building envelope to provide for the amenity of future residents and neighbours while achieving a reasonable density of new development. Daylight, overshadowing, visual bulk and impervious surface cover are addressed. Massing a development to locate upper storeys towards the front of the property will usually minimise problems to abutting neighbours of overshadowing, overlooking, daylight access and visual bulk.



Site coverage

Building site coverage limits encourage developments of more than one storey which enhance thermal efficiency, ground level open space and sunlight entry. Requirements for a minimum area of permeable surface are designed to limit stormwater loadings on the existing drainage system. There is provision for flexibility in the rules relating to minimum area of permeable surface to accommodate alternative solutions such as detention options (eg rainwater tanks). There will be situations, such as in the recycling of existing buildings where the limits will not be appropriate.

Building height and height in relation to boundary

The height in relation to boundary controls specified in the development control rules cater for a variety of situations. The height in relation to boundary is more limited where it adjoins existing residential character areas and becomes more flexible where it adjoins business zones where only a maximum height requirement applies. Additionally to make efficient use of the site, building to the boundary is encouraged.

Controls for maximum height have been set to provide flexibility of design solutions while taking into account local context and protection of amenity. Appropriate roof design may reduce the visual bulk of building, and contribute to facade character and articulation.

Road setbacks

The setback of developments from the road influences the streetscape character, residents' privacy and the size of the private open space at the rear. A site can be used more efficiently if minimum setbacks are less than those normally specified. These need not be detrimental to streetscape character provided that building design and landscaping of the frontage are appropriate.

A small setback is also required where a site boundary adjoins open spaced zoned land. The setback and related height in relation to boundary controls encourage buildings to front onto open space zoned land providing surveillance to these areas.

Daylight

The Building Code of New Zealand contains requirements for the admission of daylight to habitable rooms. The standard provides for basic health and safety needs. This Guide requires access to daylight to be provided within a property boundary so that it does not prejudice the ability of adjacent owners to build to the boundary.

Sunlight

Sunlight access to dwellings and private open spaces affects both amenity and energy conservation. This element is concerned with amenity; sunshine and energy considerations are covered in Element 4 Energy Efficiency. Provision for sun penetration should be designed into the development where practical. New buildings should not significantly reduce sunlight to private outdoor space or main habitable rooms of adjacent properties.

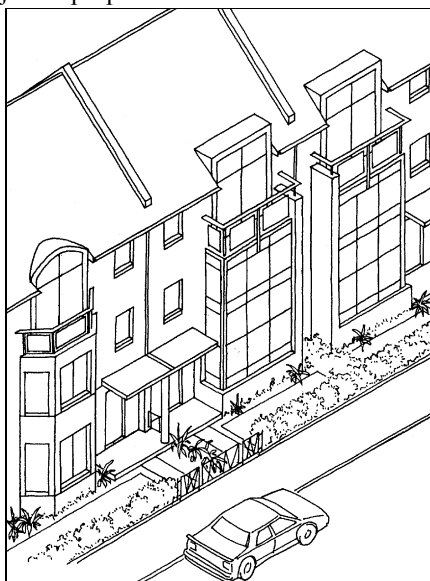


Figure 4 Road frontage setbacks

Some encroachments into the required front yards are permitted for features such as bay windows and entrances. These provisions encourage variety in buildings facades, prominence of entrances and opportunities for windows facing the road.



OBJECTIVES

- O1 To ensure that the setbacks of a building from its boundaries, the height and length of its walls relative to the side and rear boundaries and site coverage are of appropriate residential character and visual bulk.
- O2 To enable dwelling layout on the site to be efficient and optimise the useable outdoor area for outdoor living.
- O3 To allow adequate daylight into the habitable rooms of new and neighbouring dwellings.
- O4 To allow sunlight into the secluded private open spaces and onto the windows of main habitable rooms of new and neighbouring dwellings.
- O5 To ensure that the exterior of buildings can be accessed for maintenance.
- O6 To limit the impact of increased stormwater run-off on drainage systems.

CRITERIA

Built form

- C1 Road frontage setbacks should suit the efficient use of the site, the amenity of residents and the existing or proposed streetscape.
- C2 Dwelling and accessory walls are constructed in locations and of length and height to ensure that there is no significant loss of amenity to adjacent residents.
- C3 Buildings are sited where appropriate to enable efficient use of the site and to avoid wasted space in narrow setbacks.
- C4 Developments should provide adequate on site stormwater mitigation measures to ensure that the development does not negatively impact on the capacity of the local drainage system.
- C5 Roof form should contribute to the facade articulation and where appropriate act to decrease the visual bulk of a building.
- C6 New developments adjoining open space zoned land should front this space to provide surveillance while not dominating the space.

Daylight

- C7 Habitable rooms within developments should receive adequate daylight for carrying out daily tasks.
- C8 Daylight to a habitable room window should not be dependant on light from across another boundary.
- C9 Daylight to habitable rooms in adjacent dwellings should not be significantly reduced.

Sunlight

- C10 Buildings should not significantly overshadow neighbouring private open spaces or main living room windows.
- C11 At least during the warmer half of the year (September-March) sunlight should be available to the majority of private open spaces within a development.
- C12 The majority of dwellings should be oriented to obtain winter sunshine to main living rooms.

Maintenance

- C13 Buildings should be located to enable access for the external maintenance of buildings.

Height

- C14 Buildings shall be constructed to a height which does not overshadow and visually dominate other buildings, adjoining sites, public open space and the road.

DEVELOPMENT CONTROL RULES

R1 Front yards (Compliance with this rule satisfies in part criteria C1 and C3)

No building, or part of a building, shall be erected within 3 metres of the road frontage; except that encroachment into this front yard, to a maximum of 1.4 metres from the road frontage, shall be permitted for the following structures:

- Bay windows
- Entrance canopies



- Steps
- Open decks
- Balconies

Not less than 60% of the front yard area shall be landscaped to the satisfaction of Council.

R2 Where the boundary of a site abuts Open Space zoned land (Compliance with this rule satisfies in part criteria C6)

No building or part of a building shall be erected within 3 metres of the boundary.

R3 Height (Compliance with this rule satisfies criteria C14)

Residential 8a

- a) Maximum number of 3 storeys.
- b) Maximum height of 11 metres.

Residential 8b

- a) Maximum number of 4 storeys.
- b) Maximum height of 14 metres.

Residential 8c

- a) Maximum number of 5 storeys.
- b) Maximum height of 17 metres.

Note: These heights may differ in particular Liveable Community Plan areas in recognition of local character and form (Refer special Height Limits).

R4 Height in relation to boundary (Compliance with Rule R4 satisfies in part criteria C1, C2, C10 and C11)

- i) All boundaries of a Residential 8 zoned site adjoining other Residential 8 zoned land shall comply with:

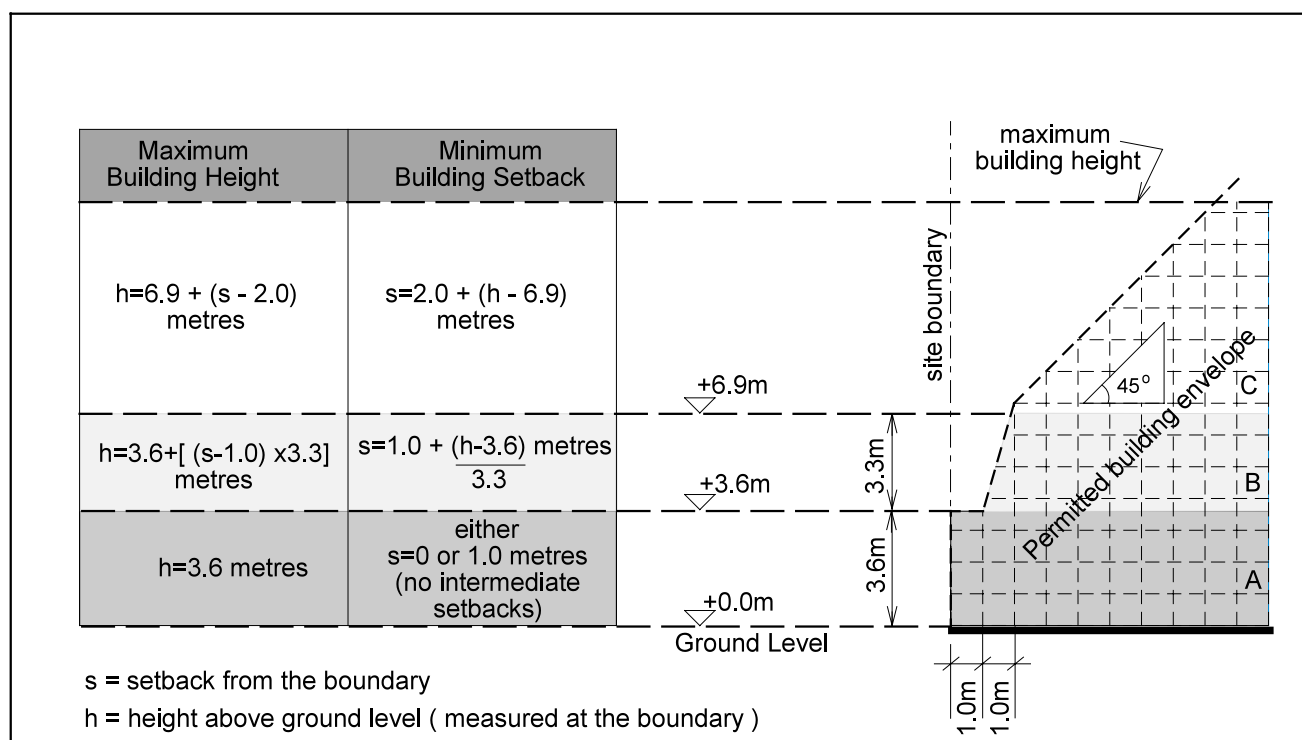
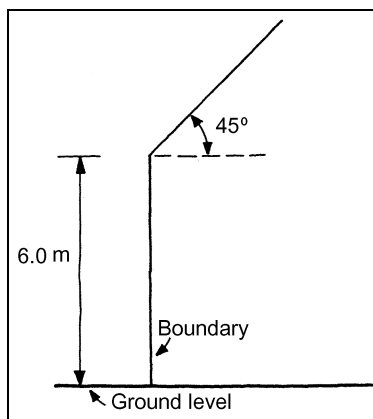


Figure 5 Height in relation to boundary R4i





This rule applies in the following cases:

- for a Residential 8c site, adjoining another Residential 8c site, the height in relation to boundary for the first 14m of the site, from the road frontage.
- a front boundary of a Residential 8 site adjoining a collector or local road and facing Residential zoned sites.

Figure 6 Height in relation to boundary

Except that in the Residential 8c zone, where a boundary adjoins other Residential 8c zoned land, within 14 metres of the road frontage of a site the following shall apply:

- the maximum height of a building shall not exceed 6 metres and a 45° recession plane, measured from the boundary (Also refer Figure 6).

ii) Where the boundary of the site abuts Residential 2, 3b, 4, 5, 6a or 6b zoned land

The maximum height of a building shall not exceed 2 metres and a 45° recession plane, measured from the boundary (Also refer Figure 7).

If a wall is not located on the boundary a 1 metre setback from the boundary is required.

iii) Where the boundary of the site abuts Residential 1, 3a or 7 zoned land

The maximum height of a building shall not exceed 3 metres and a 45° recession plane, measured from the boundary (Also refer Figure 8).

If a wall is not located on the boundary a 1 metre setback from the boundary is required.

iv) Where the boundary of the site abuts Open Space zoned land (Compliance with this rule satisfies in part criteria C6)

The maximum height of a building shall not exceed 3m and a 45° recession plane measured from the boundary (Also refer Figure 8).



vi) Where the front boundary of a Residential 8 zoned site adjoins a road and faces residentially zoned land, the height of any building on that part of a site which is directly opposite the residentially zoned land shall be as outlined in the table below:

	ROAD	TYPE		
	Local	Collector	Arterial	Strategic
Zone*				
1	6m+45°	6m+45°	9m+45°	9m+45°
2	6m+45°	6m+45°	9m+45°	9m+45°
3	6m+45°	6m+45°	9m+45°	9m+45°
4	6m+45°	6m+45°	9m+45°	9m+45°
5	6m+45°	6m+45°	No Control**	No Control**
6	6m+45°	6m+45°	No Control**	No Control**
7	9m+45°	9m+45°	No Control**	No Control**
8	9m+45°	9m+45°	No Control**	No Control**

* Residential zone across the road from the Residential 8 Zone

** No height in relation to boundary control applies to the front boundary of the residential 8 zoned site when adjoining these roads and facing these residential zones

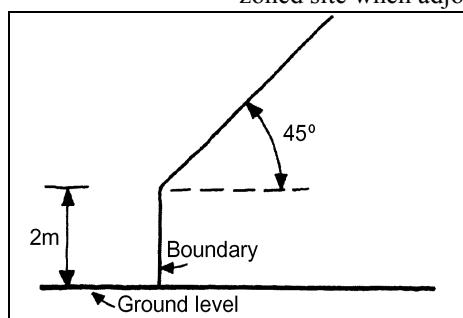


Figure 7 Height in relation to boundary

This rule applies, where the boundary of the site abuts Residential 2,3b,4,5,6a or 6b zoned land.

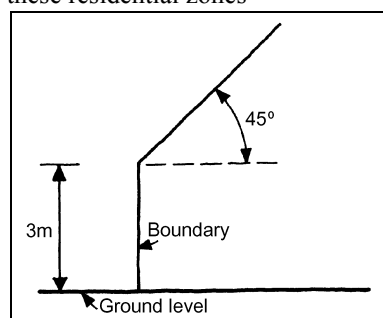


Figure 8 Height in relation to boundary

This rule applies, where the boundary of the site abuts Residential 1,3a,7 or Open Space zoned land.



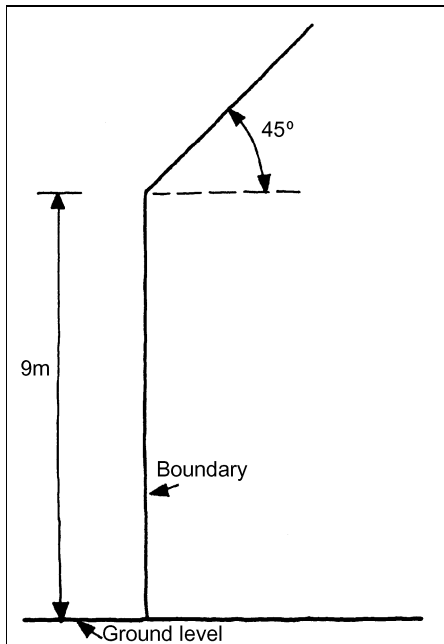


Figure 9 Height in relation to boundary

This rule applies, where the front boundary, of a Residential 8 zoned site, adjoins a road and faces residentially zoned land, (see rule vi)

Allowable encroachments and setbacks

- a) No account shall be taken of radio and television aerials, solar heating devices and chimneys (not exceeding 1.1m in any horizontal direction), provided such structures are located at least 1m from each site boundary.
- b) Where the land immediately beyond the site boundary forms part of an entrance strip, pedestrian access way or access lot, the far side of these may be deemed to be the site boundary for the purpose of defining the origin of this control.
- c) This provision shall not apply to the length of the common wall between abutting buildings.
- d) Unless the written consent of the owner of the abutting site has been obtained, no part of any retaining wall within 3m of any site boundary shall exceed;
 - a height above ground level equal to the shortest horizontal distance between that part of the retaining wall and any boundary of the site; or
 - a height above ground level of 1m; whichever is the greater.
- e) Height for the purpose of this control shall be measured from the ground level at the point on the site boundary to which the measurement is taken.
- f) No account shall be taken of gable and dormer roof elements provided that the portion of the gable or dormer which protrudes through the building in relation to boundary plane shall be limited to a dimension of no greater than 1.0m vertically, 1.0m parallel to the nearest adjacent boundary and 1.0m horizontally at 90° to the nearest boundary. No more than 2 such protrusions shall exist within any 6.0m length of the building in relation to boundary surface measured along the adjacent boundary.
- g) Where a site has a common boundary with land zoned business, the height in relation to boundary control shall not be applied to the common boundary.



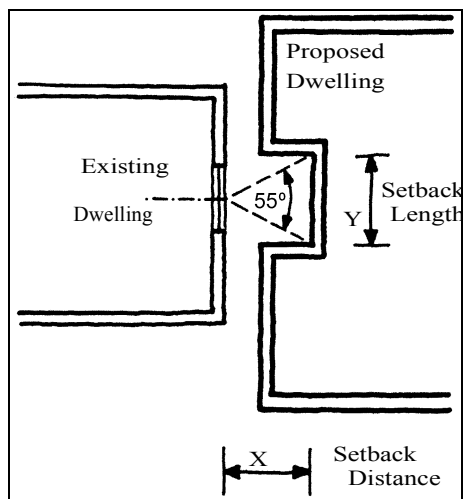


Figure 10 Daylight to existing windows

The daylight to windows in the existing building is protected by the setback of the proposed building; this is determined in relation to its height.

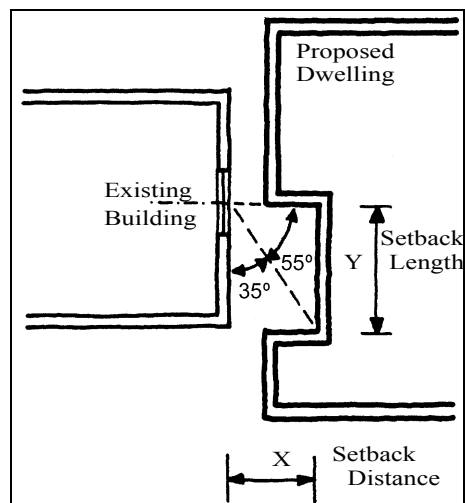


Figure 11 Daylight to existing windows

Flexibility is provided within the daylighting requirements by allowing the 55° arc to be swung to within 35° of the plane of the wall containing the existing window. Swinging the 55° arc does however increase the setback length (Y).

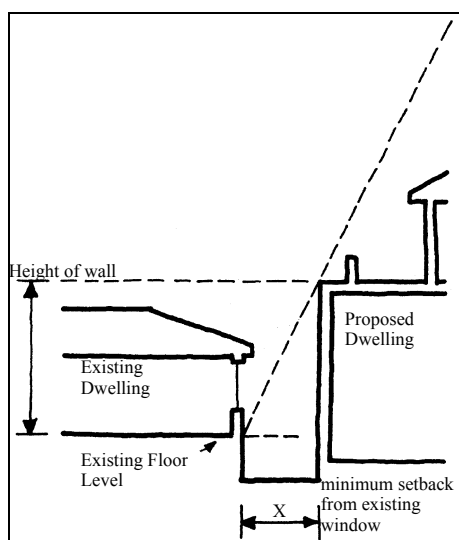


Figure 12 Daylight to existing windows

The vertical component of the daylight rule demonstrates how a building could be stepped back at upper levels to allow light to principal windows of habitable rooms in adjacent existing dwellings.

R5 Daylight (Compliance with this rule satisfies criteria C7, C8 and C9)

- Walls higher than 3 metres opposite existing walls containing the principal window of any habitable room are limited in height to twice the horizontal distance between the two walls for a distance defined by a 55° arc from the centre of the existing window. The arc may be swung to within 35° of the plane of the wall containing the window (Also refer to Figures 10-12).
- Where the existing window is above ground level, the height restriction is calculated from the floor level of the room containing the window.

Provide that:

- This rule shall not apply to development opposite residential units approved for resource consent or constructed after the council's final decision on plan change 58.
- This rule shall not apply to development opposite the first 5m of a residential unit which faces the street, measured from the front corner of the residential unit.



Distance of wall from existing windows (x)	Maximum height of wall	Length of wall restricted if 55 arc is perpendicular to window (y)
1.5 m	3.0 m	1.5 m
2.0 m	4.0 m	2.0 m
2.5 m	5.0 m	2.5 m
2.7 m	5.4 m	2.7 m
3.0 m	6.0 m	3.0 m
3.5 m	7.0 m	3.5 m
4.0 m	8.0 m	4.0 m
4.5 m	9.0 m	4.5 m
5.0 m	10.0 m	5.0 m
5.5 m	11.0 m	5.5 m
6.0 m	12.0 m	6.0 m

This table provides the restrictions to wall height where a new wall is built opposite an existing principal habitable room window. The wall height is restricted to a height related to the distance from the existing window, and for a length defined by a 55° arc from the centre of the window. The arc may be swung to within 35° of the window. However, as the arc is swung away from the centre line the length of wall which will be restricted will increase (Also refer Figures 10-12).

R6 Maximum building coverage and impermeable surface (Compliance with this rule satisfies criteria C2 & C4)

The percentage of net site area which can be covered in buildings and impermeable surfaces is 60%.

R7 Minimum stormwater permeable surface (Compliance with this rule satisfies criteria C4)

- a) Not less than 40 per cent of the net site shall be covered by landscaped permeable surface to the satisfaction of the Council.
- b) The exception to clauses R6 and R7 is that where a development can demonstrate that its stormwater management system will limit the peak discharge to less than that from the site with 60% impermeable area coverage, under the worst case from the following;
 - Limit the peak discharge in 10% AEP storm event (ie to match the design pipe capacity of the City's receiving system) OR
 - Limit the peak discharge in 2% AEP storm event (ie to match the extent and depth of the designated overland flow path),

then the maximum building coverage and impermeable surface rules can be exceeded up to the following maximum levels, as a controlled activity;

- In the Residential 8a and 8b zones 70% of net site area
- In the Residential 8c zone 80% of net site area

A development which complies with an approved solution from the Council's on-site stormwater management techniques manual (adopted by Council 2002) is deemed to meet this rule. A covenant capable of registration under the Land Transfer Act 1952, shall be registered against the title of every such site, to ensure the efficient future functioning and maintenance of the onsite stormwater management system.



ELEMENT 6 - VISUAL PRIVACY

EXPLANATION

This Guide seeks to provide a balance between allowing the windows of upper storeys of new developments to have reasonable daylight and outlook while limiting intrusive overlooking of certain parts of neighbouring properties. This can be achieved by screening and the placement of windows. Dwelling layout, design detail, distances and landscaping can minimise overlooking. Effective location of windows and balconies to avoid overlooking is preferred to the use of screening, high sills, or obscured glass. Where these are used, they should not significantly degrade the amenity for occupants of the screened room, and be integrated with the building design.

OBJECTIVE

O1 To limit views into neighbouring secluded private open space and habitable rooms.

CRITERIA

C1 Habitable rooms of adjacent existing dwellings should be reasonably protected from direct overlooking.

C2 Secluded private open spaces of existing dwellings should be reasonably protected from direct overlooking.

C3 Windows and balconies of an upper level dwelling are designed to limit direct overlooking of private open space of a lower level dwelling directly below and within the same development.

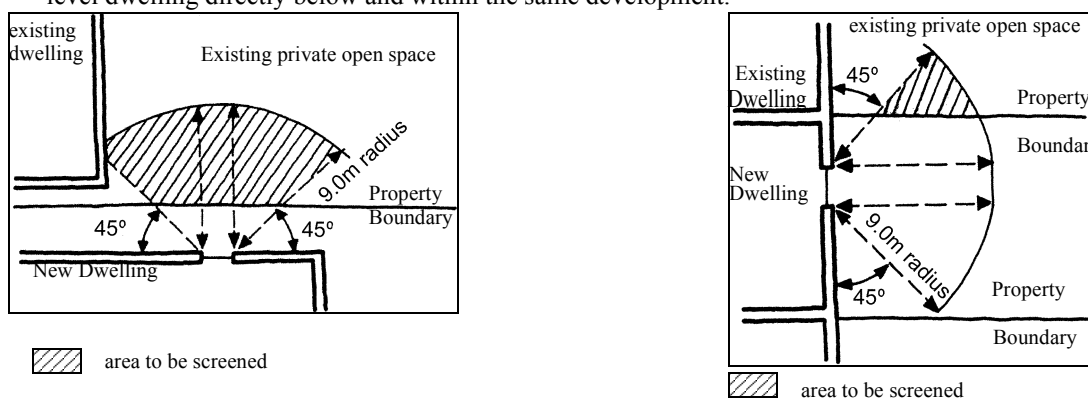


Figure 13 Screening views to adjacent private open space

DEVELOPMENT CONTROL RULES

R1 Protection to windows of existing dwellings (Compliance with this rule satisfies criteria C1)

Where the habitable room windows of a dwelling are less than 6 metres away from the habitable room window of an existing dwelling on an adjacent site or where there are habitable room windows with direct views of habitable rooms of other dwellings within the same development they shall:

- be offset a minimum of 1m (horizontally or vertically) from the edge of one window to the edge of the other; or
- have sill heights of 1.6m above floor level; or
- have fixed obscure glazing in any part of the window below 1.6m above floor level; or
- be on the ground floor level and separated by a fence of 1.6m minimum height.

R2 Protection of neighbours private open space (Compliance with this rule satisfies criteria C2)

Direct views from habitable rooms into the principal areas of existing adjacent private open space should be screened or obscured within a 9m radius and 45° of the wall containing the window (Also refer Figure 13).

GOOD DESIGN SUGGESTIONS

- Locate upper storey living room windows and balconies so that views are towards the road or to outdoor spaces within the development.



APPENDIX 10

- Locate the windows of one dwelling so that they do not provide direct and close views into the windows of another.
- Use upward sloping louvres as an external screen to avoid direct viewing.
- Direct views may be obscured by solid translucent screens, perforated panels or trellis with a maximum of 25% openings which are:
 - permanent and fixed
 - of durable materials
 - designed and painted or coloured to blend in with the development.

ELEMENT 7 - ACOUSTIC PRIVACY

EXPLANATION

Acoustic privacy can be a major problem in medium and high density residential developments - between dwellings in a new development, from plant and equipment within the building and from existing noise sources.

The Building Code does not directly provide protection to buildings and other habitable rooms from noise generated outside the site. This element seeks to provide a level of acoustic privacy to bedrooms and other habitable rooms.

Most problems can be minimised through appropriate layout, the use of sound insulating materials and construction techniques.

OBJECTIVES

- O1 To protect residents from external noise.
- O2 To contain noise sources in developments which may affect new and neighbouring dwellings.

CRITERIA

- C1 Noise sources from new developments likely to affect existing dwellings should be minimised.
- C2 The transmission of noise between dwellings in a development should be minimised.
- C3 Dwellings close to high noise sources such as busy roads, railway lines, airport flight paths or industry should be designed to locate noise sensitive rooms and secluded private open spaces away from noise sources, and be protected by appropriate noise shielding techniques.

DEVELOPMENT CONTROL RULES

R1 External residential noise levels (Compliance with this rule satisfies criteria C1)

The L10 noise level and maximum level (Lmax) arising from any activity measured at or within the boundary of any residential zoned property shall not exceed the following limits:

Monday to Saturday	7:00 am-10:00 pm	L10 50dBA*
Sunday & Public Holidays	9:00 am- 6:00 pm	
At all other times	L10 40 dBA*, Lmax 75 dBA	

*Noise levels may be exceeded by intermittent noise associated with normal household activity (eg lawn mowing) undertaken at reasonable times during the day.

The above noise levels shall be measured at the boundary with adjacent residentially zoned land. Measurement and assessment shall be in accordance with the requirements of the NZS 6801:1991 "Measurement of Sound" and NZS 6802:1991 "Assessment of Environmental Sound".

The noise shall be measured with a sound level meter complying at least with the International Standard IEC 651 (1979): Sound Level Meter, Type 1.

R2 Internal noise levels within residential developments

- (i) The following internal noise levels within residential units will be required:
 - In all bedrooms:



- 10.00 pm - 7.00 am, no more than 35dBA (L10)
- 7.00 am - 10.00 pm, no more than 45dBA (L10)
- In all other habitable rooms, no more than 45dBA (L10)

Note:

This is based on the noise level at the boundary of the site with any Strategic, Arterial or Collector Road or Business 2, 3, 4, Mixed Use or Special Purpose 3 (Transport Corridor) zoned site, being 65dBA (L10),

- (ii) At the same time and under the same physical conditions as the internal noise levels in (i) above, all bedrooms and other habitable rooms will be adequately ventilated in accordance with the Building Code; and

After completion of the construction of the building, the consent holder shall submit a report to the satisfaction of Council, which is signed by a suitably qualified engineer, and which certifies that the building has been built in compliance with the noise and ventilation rules in (i) and (ii) above.

- (iii) In assessing compliance with the ventilation requirements of the Building Code for the purposes of part (ii) of this rule above, no source or means of ventilation shall be taken into account unless:

- It is available at all times while achieving the internal noise levels required under part (i) of this rule. For example, adjustable doors, windows or louvres may not be relied upon to meet the ventilation requirements of the Building Code if they can be adjusted to allow internal noise levels to exceed those specified in part (i) of this rule, above.

- (iv) Any report signed by an engineer in accordance with part (ii) of this rule above, shall not be deemed to be a producer statement or building certificate under the Building Act 1991, or relied upon by the Council for the purposes of that Act.

- (v) The noise shall be measured with a sound level meter complying at least with the International Standard IEC 651 (1979): Sound Level Meter, Type 1

GOOD DESIGN SUGGESTIONS

- Use noise resistant wall, ceiling and floor construction.
- Locate living rooms and garages of dwellings away from bedrooms of adjacent dwellings.
- Separate or sound insulate plumbing for each dwelling.
- Locate active recreation areas such as swimming pools, spas, tennis courts and barbecue areas, and services such as garbage chutes, pumps, compressors and other noisy plant, away from bedrooms of adjacent dwellings.
- Locate access ways, garages and parking areas away from bedroom windows of adjacent dwellings unless acoustically screened by a solid fence or other means.
- Use double glazing or thick glass, sealing of gaps, solid core doors, and acoustic insulation and deflection surfaces in dwelling construction.
- Locate living rooms, bedrooms and secluded private open spaces away from noise sources.
- Install acoustic curtains to bedrooms affected by external noise.

ELEMENT 8 - LANDSCAPING**EXPLANATION**

The landscaping of medium and high density developments plays an important part in their integration into the surrounding streetscape and to their acceptability to neighbours and prospective neighbours and residents.

Attention should be paid to:

- the more public areas adjoining the road
- the communal areas such as entries, driveways, service and recreation areas
- to a lesser extent, the private open space.

The landscaping of a site should form part of a comprehensively designed concept which brings together:



APPENDIX 10

- the design of the buildings
- the uses to be made of private, communal or public land
- the existing landscape character of the streetscape/ neighbourhood.

Paving

Paved surfaces are extensively used in most medium and high density developments. The choice of material and the detailing of surfaces are critical to the success of a development. Careful attention to layout can help limit the area of paving required, while surface texture and choice of materials are critical to appearance and can ensure that problems such as slip, glare and excessive surface run-off are minimised.

External paths should provide easy access for the infirm or the disabled. Lighting should be provided to driveways, car parks and walkways for the safety of residents. Surface run-off is usually greater for medium and high density developments than for single, detached dwellings. Planted areas should be designed with good absorption capacity to help minimise stormwater run-off.

Planting

The location and choice of vegetation should take account of soil conditions and the possible structural effects of changing soil moisture content. Species should usually be chosen to minimise long term watering requirements.

Planting should be used to:

- maintain or establish a treed environment reasonably compatible with the neighbourhood or the specific planting character of a road
- visually reduce the bulk of new development and mellow the appearance of new buildings
- provide summer shade, windbreaks and access to winter sun
- provide or maintain visual privacy
- create an attractive environment without prejudicing personal safety.

Existing trees

Existing mature trees, especially those located near property boundaries, should be retained and incorporated in the development wherever practical.

There is considerable concern in local communities about the loss of established trees that occurs with many medium and high density developments. While the loss of some trees is inevitable, there is also often potential to retain trees as features in a new development. Buildings should be set back where practical to minimise root damage, and footings should be specified based on tree size and type, and soil characteristics.

Fences

The design of front fences is an important component of site landscaping. Requirements relating to fencing are included in Element 1 Neighbourhood Character.

Maintenance

The landscape design should be prepared with maintenance in mind. Easy, low cost maintenance of communal areas is usually required, but the design of private open spaces should allow for alterations by future residents. Private areas which incorporate small areas of lawn are often impractical, especially if lawn mower access is inconvenient.

OBJECTIVES

- O1 To create a pleasant, safe and attractive living environment.
- O2 To integrate new development into the streetscape and neighbourhood.
- O3 To limit the impact of increased stormwater run-off on drainage systems.

CRITERIA

- C1 Unpaved or unsealed landscaped areas are optimised and are designed to facilitate on-site infiltration of stormwater run-off.



- C2 Major existing trees are retained wherever practical, and buildings are located and designed to protect both buildings and trees from damage.
- C3 The landscape design specifies the location and species of trees, shrubs and ground cover in a way that:
- uses vegetation types and landscaping styles that integrates the development with the streetscape;
 - should not affect the structure of the proposed buildings;
 - considers personal safety by ensuring good visibility along roads, paths and driveways and avoiding shrubby landscaping near dwelling entries;
 - contributes to energy efficiency and amenity by providing substantial shade in summer especially to west facing windows and open space areas, and admitting winter sunlight to outdoor and indoor living areas;
 - improves privacy between dwellings;
 - minimises risk of damage to overhead and underground power lines and other services;
 - considers sightlines for vehicles and pedestrians, especially near road corners and intersections.
- C4 Paving is provided to driveways, walkways, entries, and in the vicinity of garbage bin enclosures, letter boxes and shared clothes lines. Such paving should be:
- semi-porous or graded to maximise on-site infiltration of stormwater;
 - in materials and colours which complement the development;
 - of adequate strength and in non-slip finishes;
 - suitable for use by the infirm or disabled.
- C5 Lighting is provided to pedestrian ways, dwelling entries, driveways and car parks to ensure a high level of safety and security for residents and visitors at night. Lights are designed to minimise light entering adjacent dwellings.
- C6 Requirements for maintenance are minimised where appropriate, and are practical, taking into account the ownership and proposed management of the landscaped area.
- C7 A landscape plan is provided, which will be required to be implemented in accordance with the approval given by the Council.

ELEMENT 9 - DRIVEWAYS & CAR PARKING

EXPLANATION

This element covers resident, visitor and service/delivery vehicle parking, garage and carport location and space allowances. Residential dwelling units close to public transport in specified growth areas are expected to generate less traffic than those in other areas. The Guide intends to provide adequate parking for residents, visitors and service vehicles. Within specified growth areas, the amount of parking required per dwelling is less than that in areas outside, recognising that most residents will live within reasonable walking distance of shops, services, and public transport.

OBJECTIVES

- O1 To ensure roads, driveways and carparks provide safe, manageable and convenient vehicle and pedestrian access.
- O2 To provide adequate and convenient parking for residents, visitor and service vehicles, recognising the potential for reduced provision because of the location close to facilities, or where residents are likely to have a lower than usual parking demand.
- O3 To ensure that the access and internal circulation within the development provides safe and efficient use of the site.
- O4 To provide parking which does not visually intrude on the character of the road.
- O5 To facilitate access to the site and also offer the potential for vehicle and/or pedestrians and cycle linkages to other roads, development sites, commercial and community facilities and various types of open space.
- O6 To minimise large impervious areas.



CRITERIA

- C1 Car parking facilities are designed and located:
- reasonably close and convenient to dwelling units;
 - to be lit at night;
 - to be well ventilated if enclosed;
 - to not obscure the view between the road and front windows of dwellings;
 - to clearly define service vehicle and any visitor parking;
 - to be separate from children's play areas.
- C2 Car parking facilities (including accessways) are designed and located to be:
- seen or allow surveillance from dwelling units;
 - separated from habitable room windows to minimise noise and fumes entering dwelling units.
- C3 On arterial roads the number of access points should be limited as much as possible in order to reduce potential vehicle and pedestrian conflict with vehicles utilising these access points and in order to retain streetscape amenity.
- C4 Car parking facilities should not dominate the development or road frontage.
- C5 Adequate off-street parking is provided to cater for the needs of residents of the development, and to avoid overflowing of parking from the development into adjoining roads.
- C6 Where possible, provide for potential pedestrian and/or vehicle links to other future or existing development, and improve links to centres, public transport and community facilities.
- C7 Where possible, semi-basement or underground car parking is encouraged to avoid car parking dominating the road.
- C8 Parking bay materials should contrast with traffic and access lanes.

DEVELOPMENT CONTROL RULES

R1 (Compliance with this rule satisfies criteria C5)

The parking standards for residential dwelling units shall be as follows:

Unit Size	Car Parks
Studio/One bedroom <75m ² gfa	1 park per residential unit
Two bedrooms or more, and/or >75m ² gfa (include 1 bed room with gfa of 75m ² or more)	Maximum 2 parks per residential unit, minimum of 1 park per residential unit.
Four bedrooms or more and/or >150m ² gfa	2 parks per residential unit >150m ² gfa
Visitor spaces	1 space for every 5 residential units (to the nearest whole number). If these visitor parking spaces are not located on the same site as the residential units that they serve, they shall: - be located within 100 metres of the residential units that they serve, and - be held together by way of a covenant registered against the title of every such site, capable of registration under the Land Transfer Act 1952, in such a way that they cannot be dealt with separately without prior consent of Council, - include signage, complying with the provision of the Signs Bylaw, which direct visitors to the residential units that they serve.
Service delivery spaces	1 space for every 10 or more residential units



R2 Car spaces and access dimensions (Compliance with this rule satisfies criteria C5)

The following minimum dimensions apply to parking spaces provided in a development:

	Length	Width
Uncovered spaces		
- end entry	4.9 m	2.6 m
- side access (parallel)	6.7 m	2.3 m
Carport (no walls)		
- single	5 m	3 m
- double	6 m	5.5 m
Within/or contained by walls		
- single	6 m	3m
- double	6m	5.5m

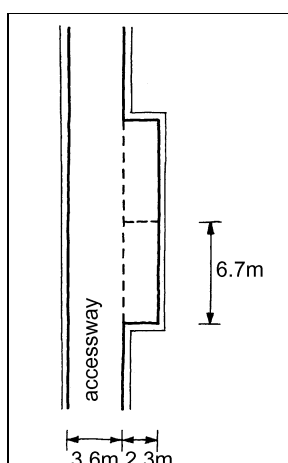


Figure 14 Parallel parking- minimum dimensions

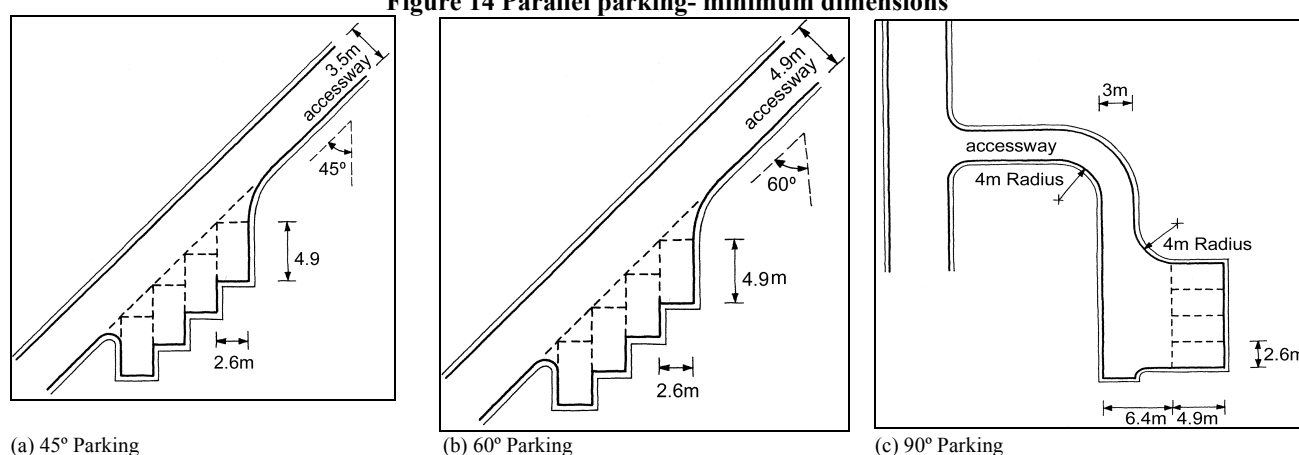


Figure 15 Angle parking-minimum dimensions

R3 Parking and access dimensions (Compliance with this rule satisfies criteria C5)

Accessways shall have a minimum width:

- of 3.6m where entry to a car space is from the side (Also refer Figure 14);



- where entry to a car space is from the end as follows:

Parking Angle	Accessway Width
45°	3.5m
60°	4.9m
90°	6.4m

(Also refer Figure 15)

Where an efficient 90° parking layout is constrained, the accessway width may be reduced, provided the width of car spaces is increased as follows:

Car Space Width	Accessway Width
2.8m	5.8m
3.0m	5.2m
3.2m	4.8m

R4 (Compliance with this rule satisfies criteria C3)

The amount of road frontage of a site taken up by accessways or car spaces shall be limited to a maximum of:

- 40% where the total frontage is 20m or less;
- 33% where the total frontage is more than 20m.

R5 (Compliance with this rule satisfies in part criteria C2)

Shared accessways, garages or car parks of other dwellings shall be located a minimum of 1.5m away from facing habitable room windows. This setback may be reduced if the accessway, garage or carpark is bounded by a fence of 1.5m height, or a comparable difference in slope.

R6 Provision of internal (private) roads (Compliance with this rule satisfies criteria C6)

Vehicle accessways longer than 60m shall have dimensions that enable them to be designated as public roads and provide on-street parking. Wherever practical these should link through to surrounding roads.

Where an internal road is between 60m and 100m in length and serves fewer than 40 dwelling units or 100 vehicles per day, it shall be designed to have:

- carriageway widths of 5m-5.5m or 3.6m with indented parking bays; and
- a footpath where the road provides a connection through the neighbourhood.

Where internal roads are 100m or more in length or serve 40 or more dwelling units, they are designed in accordance with the following table:

Vehicle Volume	Carriageway width Footpath (1.2m wide)		Reserve Width
Less than 1000 vehicles per day	5.5 m	Both sides	13m - 13.5m
1000-2000 vehicles per day	7m - 7.5m	Both sides	14m - 14.5m

¹ These carriageway widths assume on-street parallel parking. If angle or 90° parking is proposed, increased pavement and reserve width will be necessary.

R7 Access to sites (Compliance with this rule satisfies in part criteria C3)

Access shall be a minimum of 3m wide and, where there is a change of direction or at an intersection within the site, the internal radius of the accessway shall be at least 4m.



A turning space shall be provided so cars can enter and exit a road forwards where an accessway:

- serves 5 or more car spaces; or
- serves three or more dwellings; or
- connects to an arterial road.

When more than 10 car spaces are served and the accessway connects to an arterial road the accessway shall have an entrance at least 5m wide for a distance of 7m so vehicles may pass.

GOOD DESIGN SUGGESTIONS

- Ensure that vehicles can exit the development in a forward direction on busy roads or from larger developments.
- Make garages and carports visually compatible with the development.
- Set back garage doors or carports that front a road behind the front facades of dwellings.
- Locate parking well within the development.
- Break up large parking areas with trees, buildings, or different surface treatments.
- Provide residents' car parking underground or in semi-basements where practical.
- Locate parking so the view between the road and front windows of a dwelling is not obscured.
- Exposed semi-basement car parking or ventilation should be detailed with facade treatments.
- Semi-basement car parking should be designed so that it can be ventilated naturally.
- Service delivery spaces may be provided by a widened section of driveway which allows space for parking while still allowing vehicles to pass.
- Use gobi blocks or other semi-permeable materials for access lanes.

ELEMENT 10 - PRIVATE OPEN SPACE

EXPLANATION

The inclusion of private open space for residents greatly increases the liveability of dwellings. This Guide defines a minimum principal outdoor living area or an outlook area that is considered useable and affordable. In some instances well designed, and safe communal open space within a development can contribute to achieving this liveability.

Private open space

In some circumstances, it may not be possible to provide an outdoor living area, such as where dwellings are provided in the conversion of existing buildings. Where a dwelling in a new building is located above ground floor level and does not have access to areas of ground level private open space, a balcony will be required. In limited circumstances, functionally designed communal open space may replace private outdoor living. However, in general, communal open space should not be provided unless it is for a specific recreational facility.

When planning open space areas, consideration needs to be given to household types likely to be attracted to the development. Where families with children are likely, larger ground level private or communal areas should be provided.

Communal open space

Communal open space comprises land or facilities provided for the use and enjoyment of residents in a development.

Some developments include shared facilities to cater for specific needs. Swimming pools, tennis courts and children's play areas are examples. All communal space must be capable of effective maintenance, management and control of noise to residents within and beyond the development.

OBJECTIVES

- O1 To provide sufficient private open space for the reasonable recreation, service and storage needs of residents.
- O2 To ensure that private open space is designed and located to receive sunlight and is well integrated with a living area of a dwelling.



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- O3 To ensure that any communal open space or recreation facilities provided for the use of residents are well designed, safe and useable.

CRITERIA

Private open space

- C1 Dwellings are provided with private open space, except where conversion of an existing building precludes provision or where appropriate communal open space is provided.
- C2 Private open space areas should have:
- amenity, slope and dimensions suited to users;
 - adequate privacy for residents;
 - access to some direct sunlight, at least during the warmer months of the year;
 - convenient access from a main living room.
- C3 The location of the principal private open space area at ground level between dwelling fronts and the road is minimised. Where provided it is detailed to create a good physical and visual connection between the dwelling and the road.

Outlook areas

- C4 Where dwellings are created from the conversion of existing buildings, and these are not able to be provided with direct access to areas of private outdoor living, an outlook area shall be provided.

Communal open space

- C5 The site layout should maximise allocation of available outdoor areas to individual dwellings and limit communal open space to land for access and services or for residents' recreation facilities and use.
- C6 Any communal open space provided should be an appropriate size and design for use by residents, cost-effective to manage, and designed to ensure the safety and security of residents.

DEVELOPMENT CONTROL RULES

R1 Private open space (Compliance with the rule satisfies criteria C1, C2 and C4)

All dwelling units shall have outdoor living areas consisting of at least:

- an exclusive area at ground level of 40m² in the Residential 8a zone,
- and 25m² in the Residential 8b and 8c zones;
- and a minimum width of 3m which has convenient access from a living room; or
- a balcony with an area of 8m² and a minimum width of 1.6m which has convenient access from a living room; or
- a roof-top space with an area of 10m² and a minimum width of 2m which has convenient access to a living room.

The exception to this rule is where a residential unit was established from the conversion of a non residential building to a residential building, and the unit is not able to have direct access to areas of private outdoor living (including a balcony or roof top space). In that circumstance the following outlook area must be provided:

- 80m² in size;
- minimum dimension - 6 metres;
- 50% of outlook area must be contained within the site to which it relates _ 50% may be over a road, public open space or the harbour.
- the outlook area shall adjoin main habitable glazing of the dwelling unit to which it relates.

Obstructions - private open space or outlook areas shall not be obstructed by buildings, parking spaces or vehicle access and manoeuvring areas.



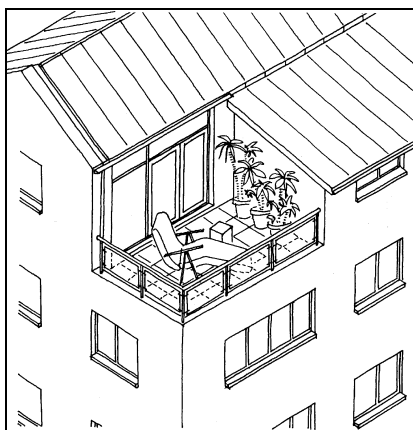


Figure 16 Private open space - rooftop area

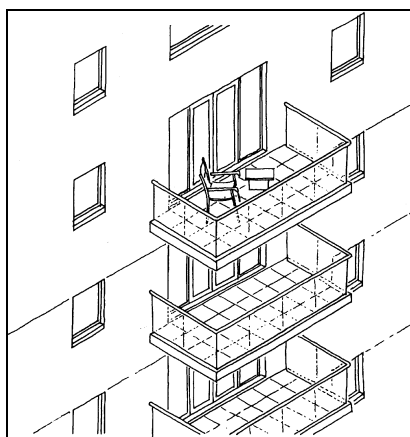


Figure 17 Private open space - balcony

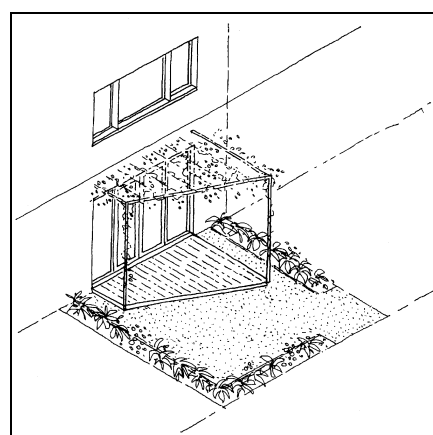


Figure 18 Private open space - lower level area

ELEMENT 11 - SITE FACILITIES

EXPLANATION

Residential dwellings units usually require site facilities for the storage of rubbish, recreational equipment, delivery of mail and drying of laundry. It is important that facilities are designed and sited in a manner appropriate to their function, and detailed to complement the development. The location and maintenance of site facilities is more easily managed where a body corporate exists for the development.

OBJECTIVES

- O1 To provide site facilities which meet the needs and provide convenience for residents.
- O2 To ensure facilities are practical, unobtrusive and easily maintained.

CRITERIA

- C1 Adequate storage and service areas should be provided. They should be screened to reduce impact on amenity of the development and streetscape.
- C2 Rubbish and recycling bin enclosures, mailboxes and other site facilities should be adequate in size, durable, waterproof and avoid visual clutter.
- C3 Bin and recycling enclosures should be located to facilitate access by residents and collection vehicles.
- C4 Rubbish and recycling areas should provide for the separation of waste into recycling and disposal bins.
- C5 Rubbish and recycling bin enclosures should be well ventilated, and have access to water and drainage facilities for cleaning and maintenance.
- C6 Rubbish and recycling areas, if located along the road frontage, should be incorporated into the façade of the building or screened to minimise impact on the road.
- C7 Mailboxes should be provided and located for convenient access by residents and as required by postal services.
- C8 Designated communal clothes drying areas (if provided) should be accessible by all residents.

GOOD DESIGN SUGGESTIONS

- Consider provision of private storage areas for bulky items such as bicycles.
- Private storage areas may be integrated with underground car parking, or in garages extended 1m in length or width.
- Consider provision of a permeable area (e.g. Gobi blocks or grass) with a tap suitable for washing cars, which could also be used for service/delivery vehicles.
- Provide open air clothes drying facilities and screen them from the road.



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- Keep number of television antennae and other receiving structures to a minimum, or where appropriate, provide a receiver to serve all dwellings within a single building.
- A development of more than ten dwellings should consider an on-site bulk rubbish bin service as an alternative to providing a rubbish bin (e.g. wheelie bin) to each dwelling.
- Consider providing bicycle parking for residents and visitors.



4.0 GLOSSARY

Arterial road

as defined in Part 13 of the Operative Auckland City District Plan (Isthmus Section).

Articulation

relief or detail which provides interest to an otherwise solid surface.

Balcony

a platform on the outside of a building, with access from an upper floor window or door which is not enclosed.

Building & building coverage definitions

as defined in Part 13 of the Operative Auckland City District Plan (Isthmus Section).

Communal open space

an area of open space not accessible to the public, but available for the use of all residents of a development.

Community

any group of people living in a common location or sharing common desires, characteristics or values such as race and religion.

Criteria

requirements of the design elements in the Guide that provide a basis for judging whether the objectives have been met.

Design element

defines a particular design aspect.

Development

any building construction undertaken as a single or integrated project.

Development control rules

rules which if complied with satisfy the relevant objectives and criteria of the Guide's design elements.

Facade

the face or front of a building.

Gross floor area

as defined in Part 13 of the Operative Auckland City District Plan (Isthmus Section).

Good design suggestions

these provide ideas and examples of how the urban design criteria can be met.

Gross site area

the total area of the site, including the entrance strip.

Habitable room

means any room in a residential unit excluding a kitchen, laundry, bathroom, toilet or any room used solely as an entrance hall, passageway or garage.

Height

as defined in Part 13 of the Operative Auckland City District Plan (Isthmus Section).

Internal Road

means a road / street reserve in private ownership which provides for the movement or parking of vehicles within a development.



APPENDIX 10

Landscaped area

as defined in Part 13 of the Operative Auckland City District Plan (Isthmus Section).

Landscape permeable surface

as defined in Part 13 of the Operative Auckland City District Plan (Isthmus Section).

Landscaped plan

a plan outlining the extent, type and location of proposed landscaping and planting.

Length of building on boundary

the maximum wall length of a boundary wall (it may be discontinuous).

Liveable Community Plan

Liveable Community Plans identify how growth will be accommodated in an area in a manner which meets the Growth Management Strategy

Neighbourhood character

spatial arrangement and visual appearance of a neighbourhood.

Net site area

of a front or corner site is the whole site, and in relation to a rear site means the difference in area between the total area of the site (gross area) and the area of its entrance strip.

Objectives

statements that define the intention of each design element and indicate the desired outcomes to be achieved in completed developments.

Private open space

an open area provided for each dwelling and for the exclusive use of the occupants which excludes driveways, car parks and vehicle circulation areas.

Setback

means the minimum distance which a wall face or window is required to be from a property boundary or another window to a habitable room. It is measured as the horizontal distance between the proposed wall or window and the boundary or other window.

Site analysis plan

a plan of a development site which describes the site in the context of its surroundings and which identifies opportunities and constraints.

Specified Growth Areas

areas of the city in which growth will be encouraged under the Growth Management Strategy

Storey

that part of a building from the upper surface of any floor to the upper surface of the floor above, measured from finished floor level. The topmost storey shall be from the upper surface of the topmost floor to the upper surface of the ceiling joists above, or where no ceiling exists to the upper surface of the roof cladding. For the purpose of calculating the height of a building, where this is fixed by the number of storeys:

The maximum height of a storey shall be 4 metres;

- A basement or any other space under the ground floor shall be counted as a storey, when the distance from ground level to the upper surface of the floor above exceeds 2.5 metres over 50% of the area of the floor above;
- An attic, or any space between ceiling joists and a roof shall be counted as a storey when the distance from the upper surface of the ceiling joists, or floor, to the mean height of the upper surface of the roof, is 3 metres or more over 5m² or more of the area of the ceiling joists or floor below.



Urban design

is defined as "the relationship between buildings and the streets, squares, parks and other open spaces which make up the public domain; the nature and quality of the public domain itself; the relationship of one part of a village, town or city with other parts; and the patterns of movement and activity which are thereby established; in short, the complex relationships between all the elements of the built and unbuilt space" (Department of Environment, London) (1996).



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