Building Multi-unit Housing

(In Living 3 zones)

An Urban Design Guide for Christchurch
Introduction

The purpose of this document is to provide urban design guidance for new residential development located in Living 3 zones under the Christchurch City Plan. It is aimed at developers, landowners, architects, designers and homeowners. The intention of the guide is to facilitate the design of high quality, medium density residential development. This means development which responds to the local context, is attractive, delivers a high level of amenity and which meets the needs of its residents.

Living 3 zones are intended to provide for medium density housing (generally townhouse and apartment style development up to four storeys in height) and are located within the inner city, around some commercial centres as well as in the new, larger subdivisions on the outskirts of Christchurch.

As housing densities increase, good design becomes especially important. Developments are typically larger in scale, more intensive and often on tightly constrained sites closely bounded by neighbouring properties. Higher densities also mean more people living in closer proximity to each other. As a result the potential for developments to have adverse visual, amenity or privacy effects is greater. A more contextual approach to design is required to address these matters and ensure that new developments are designed to respect and enhance the character of established neighbourhoods.

Good design needn’t cost more, but can add to the overall value of the development in the short and longer term, as well as contribute positively to the wider environment.

Background

In July 2011, Plan Change 53 to the City Plan was adopted to address concerns over the quality of medium density residential developments occurring in Living 3 zones, and their impact on amenity for residents, neighbours and the wider city environment. New provisions were introduced including the Urban Design, Appearance and Amenity assessment matters outlined in Volume 3, Part 2, Section 13.2.8 of City Plan. These are aimed at ensuring that a good standard of urban design is achieved, while largely retaining the flexibility to reflect individual style. It also provides the opportunity for Council and developers to discuss design outcomes rather than require strict adherence to City Plan rules.

This has resulted in a fundamental change in approach to how development Living 3 proposals are assessed. The assessment matters apply to all new buildings, alterations or additions that result in three or more residential units. They also apply to smaller developments of 1 or 2 units if the development falls with certain thresholds relating to the site area and total residential floorspace proposed. They also apply to non-residential uses over 40 square metres.

In addition the Plan Change also sets out specific matters which apply to the individual Special Amenity Areas (SAMs) and to Central New Brighton. These are outside the scope of this guide but are set out in more detail in the City Plan.

If you are proposing any new development in a Living 3 zone, it is advisable to speak with a Council planner or consult the City Plan to check whether your proposal falls within the scope of the new provisions. Council planners and design staff are available to provide planning and design advice, particularly prior to application for resource consent. Pre-application meetings with Council staff can save time and money, and result in a better development overall.

Using this Guide

This guide is intended as a reference for understanding and interpreting the City Plan urban design, appearance and amenity assessment matters outlined in Part 2 Section 13.2.8 of the City Plan. The guide provides examples of how the assessment matters may be met and outlines the key issues to bear in mind when designing a development in the Living 3 zone. Becoming familiar with these assessment matters and using them as a check sheet will be useful in the development of your proposal.

The assessment matters are divided into ten broad themes, each with its own set of criteria, providing more detail as to what needs to be addressed in the design. There are two tiers of criteria: The ‘shoulds’ (those in blue italics) indicate the basic requirements that must be met in order to get resource consent. The ‘encourages’ (green, no italics) however are the ‘nice to haves’ that result in a higher quality development. These assessment criteria are inter-relating and where appropriate have been grouped together within this guide.

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Enhanced Development Mechanism and Community Housing Redevelopment Mechanism Urban Design Assessment

The Land Use Recovery Plan (LURP) published by the Minister for Canterbury Earthquake Recovery on 6th December 2013 introduces a set of changes to the Christchurch City Plan which incentivise medium density multi unit residential redevelopment within existing parts of the city’s built up areas. This mechanism encourages the comprehensive design and redevelopment of multiple adjacent residential sites (i.e. sites where one original dwelling is or was present) with the goal of securing better residential environments than those which might be achieved from uncoordinated site by site redevelopment of the same land.

These provisions are set out in the following City Plan sections,

Volume 3, Part 2, Section 2a – Enhanced Development Mechanism (EDM)

Volume 3, Part 2, Section 2b – Community Housing Redevelopment Mechanism (CHRM)

All proposals using these provisions are subject of an Urban Design Assessment and so at Volume 3, Part 2, Section 15.5 is a list of Assessment Matters is set out. These are listed below. These matters broadly reword the Urban Design Assessment Matters applicable within the existing Living 3 and 4 Zones (set out at Volume 3, Part 2, Section 15.2.8) to which this guidance document relates. Hence, this guidance is equally applicable to schemes using the Enhanced Development Mechanism or the Community Housing Redevelopment Mechanism.

For the purposes of clarity, the page number cross references below should help inform users of the EDM and CHRM provisions of the urban design expectations under that are related to each matter.

EDM and CHRM assessment matters:

a) Engages with and contributes to adjacent streets and public open spaces with regard to fencing and boundary treatments (page 8), sightlines, building orientation and setback (page 6), configuration of pedestrian entrances (page 7), windows and internal living areas within buildings (page 6) and if on a corner site is designed to emphasise the corner (page 10).

b) Integrates access, car parking and garaging in a way that is safe for pedestrians and cyclists and that does not dominate the development, particularly when viewed from the street or other public spaces (page 15).

c) Retains or responds to existing character buildings or established landscape features on the site, particularly mature trees which contribute to the amenity of the area (page 4).

d) Responds appropriately to its context with respect to subdivision patterns, scale of buildings (page 12), degree of openness, building materials and design styles.

e) Is designed to incorporate Crime Prevention Through Environmental Design (CPTED) principles, including effective lighting, passive surveillance, management of common areas and clear demarcation of boundaries and legible entranceways (page 17).

f) Has had regards to residential amenity for occupants and neighbours, in respect of outlook, privacy, noise, odour, light spill, weather protection and access to sunlight through site design (page 3), building, outdoor living and service/storage space location and orientation (page 19 and 22), internal layouts (page 24), landscaping and use of screening (page 17).

g) Creates visual quality and interest through the separation of buildings, variety in building form, distribution of walls and openings and in the use of architectural detailing, glazing, materials and colour (page 12).

h) Incorporates environmental efficiency measures in design, including passive solar design principles that provide for adequate levels of internal natural light and ventilation (page 26).

It is important to restate here that applicants using the EDM and CHRM provisions are encouraged to seek advice from the Council’s resource consent and urban design teams at the earliest stage of scheme planning. Urban design quality is critical to higher density living and the council wishes to work with landowners and developers to optimise use of sites as living communities.
I) Site & Context

New development generally integrates better into established neighbourhoods when it responds to the local context. This includes incorporating existing site features, identifying and incorporating elements of the character and historical context of the area and giving consideration to micro-climate. A 'one size fits all' approach rarely works well. Well designed developments should retain and enhance positive aspects of the context and should contribute to ensuring a safe, pleasant and attractive neighbourhood.

Respond to Context

a) Developments should consider local environmental conditions.

All sites have a set of environmental conditions that provide the starting point for the design process. Microclimatic factors, such as wind direction and solar orientation are aspects of this. Outdoor living areas can be sheltered from easterly or southerly winds through careful location and arrangement of buildings, landscape elements or other design features such as walls. Porticos, canopies and roof overhangs can provide weather protection and add interest to the building.

Existing site features, such as mature trees and planting, drainage systems and heritage assets can add amenity and market value to the development from the outset. Topography plays an important role in defining local character and buildings should be designed to work with existing site contours rather than imposing artificial landscapes. Other elements of the site and context include where and how neighbouring buildings are located on their sites, and consequently how they relate to their neighbours and the street.

Respect Heritage

b) Developments should be sympathetic to nearby listed heritage items.

The retention of historic heritage is important both for its intrinsic value as well as ensuring the community’s ‘sense of place’ is maintained. Heritage buildings and features serve as a reminder of the past, adding depth and distinctiveness to a neighbourhood, while strengthening the connection to a place. Care should be taken in the location, layout and design of new developments to respect the setting and context of any historic heritage within the vicinity.

The design of new development should respect heritage buildings, drawing on design influences in a contemporary way, without simply replicating them by:

- Reflecting the scale, proportions and form (including building shapes and roof profiles).
- Repeating the rhythms and patterns in the design, position and spacing of windows or other detail.
- Using complementary materials and colours.
- Incorporating similar materials and construction techniques.
- Responding to the traditional details for window, doors and trims.
- Incorporating contemporary interpretations of traditional design features such as bay windows, porches, corbels, etc.

Image 1.1 Responding to heritage buildings

Good Practice Tip:

Carry out a detailed analysis of your site and the surrounding context before starting the design process. Identify the key environmental considerations and evaluate the local context and character of the neighbourhood (see Image 1.3 below).

This development relates well to its context. Front balconies and high windows at first floor level provide a good views of the park opposite.
Make the Connections

c) Developments should connect to the street network with vehicle, cycle, and pedestrian routes that maintain or enhance physical and visual links to key destinations.

Access to and through a site should be provided that links new development to key neighbourhood destinations such as community facilities, local shopping centres, public open spaces and transport. Pedestrian desire lines (the shortest or most easily navigated route between an origin and destination) should be protected and routes need to be safe, direct and attractive. Where pedestrian-only routes are provided, they should be short, well lit and overlooked. On larger sites, it may be appropriate to provide dedicated cycle routes and secure cycle parking facilities. Vehicle routes should connect the development to the local street network and should ensure that ease of movement through a site is achieved.

Adapt Existing Buildings

d) Developments are encouraged to adapt and/or renovate existing character buildings and retain existing trees.

The adaption of older buildings, whether through repair, alteration, or extension, can deliver a range of economic, social and environmental benefits. Economically, the adaptation of existing buildings can be less expensive than building anew, with potential cost savings in the design and construction phases compared with new build projects. Savings in time can also be achieved making earlier occupation possible. The environmental case for retaining existing buildings is also strong. Demolition and construction uses considerable amounts of energy and raw material and can generate a large amount of waste product. Aesthetically, character buildings make a significant contribution to the appearance of a neighbourhood providing an already established character, architectural diversity and sense of identity.

The following principles should help to inform proposals for adapting existing character and heritage buildings:

- Use materials, features and forms appropriate to the age and style of the house, or which will complement them.
- Minimise the changes and retain original external and internal features.
- Consider extensions the rear to retain the relationship with the street, before extending other parts of the building.
- Ensure extensions or additions do not visually dominate the original building.
- Maintain the original layout of important rooms where possible.

Retain Existing Trees

The retention of existing vegetation, particularly mature trees, can give a sense of a development being well established, assisting it to integrate more successfully with integration into the wider neighbourhood. Trees also add character, improve visual amenity, attract wildlife, provide privacy and shade in summer and can reduce sound reverberation from potential noise sources such as busy roads.

The form, design, and siting of new buildings should be informed by the retention of existing trees and other significant vegetation, while avoiding root or canopy damage. Consider incorporating the trees into shared open space, such as within an access lane or by providing slightly larger outdoor living spaces to accommodate them. Fence lines or other boundary treatment may be set back or staggered to accommodate existing mature trees.

Image 1.2 Respond To Local Environmental Conditions
Provide Views

e) Developments are encouraged to support prominent vistas and view shafts.

On the flat topography of Christchurch, views shaft and vistas to prominent landmarks and landscape features such as the Port Hills, Southern Alps and Central City, create reference points that contribute to sense of place and the visual amenity of residents. Developments are encouraged to retain and support important views by considering, for example:

- Providing separation between buildings on a site to allow views through gaps in the built form.
- The height of buildings and the effect of this on the outlook of neighbouring properties.
- Varying roof heights to allow vistas as well as provide variety and interest.
- The size and location of on-site landscaping to ensure views are not overly restricted.
- The size, positioning and orientation of window openings to capture views.
- Creating of viewing platforms such as balconies or roof terraces.
- Considering the use of materials, such as glazing, to allow views through the development.

Retain significant trees where possible.

In this development, large windows on the upper level provide residents with good views of the park opposite.
A building’s relationship to the street and other public spaces is critical to a safe, well functioning and high amenity street. In most cases, the street, or other public spaces, will be the principal vantage point from which people will view the development. It is therefore important that facades visible from the street (especially the front or street facing elevation) or other public spaces, are well designed and contribute towards an attractive, coherent and well ordered street scene. The appearance of a development from the street also creates the important first impression for prospective buyers or tenants, and contributes to the overall character of the area.

New developments should also be designed to ensure good surveillance of public spaces – the ‘eyes on the street’ that help to deter anti-social behaviour, foster good neighbour relations and make pedestrians feel safe when walking around a neighbourhood. The extent to which this ‘visual interaction’ between a property and the street is achieved is dependent on a combination of inter-related factors, which are the focus of the assessment matters under this theme and are listed below:

Face the Street

a) Buildings should orientate towards the street and be positioned close to the road boundary.

b) Developments should place active areas of buildings such as habitable rooms and entrances along the street and public open spaces, particularly at ground level.

Developments should be oriented towards the street. This includes the incorporation of front entrances, well proportioned windows and architectural features (e.g. balconies, gable ends etc) on the front façade. Not only does add to the quality and interest of the front façade, it also contributes to the wider quality and safety of the street.

Protecting Privacy

The privacy of occupants can be maintained whilst still achieving a good level of engagement with the street by simple measures such as:

- Raising the ground floor level of the development above the street level to allow people to clearly see out but not in.
- Placing higher kitchen windows on the frontage.
- Well placed outdoor living areas.
- Using a combination of hard and soft screening materials that allows for limited visibility but retains the sense of proximity.
Highlight Pedestrian Entrances

c) Pedestrian entrances should be identifiable, well-articulated and directly accessible from the street or shared access ways.

Well designed entrances contribute to the overall appearance of a building, providing visual interest and human scale to larger developments. Pedestrian entrances also act as focal points for activity. Placing pedestrian entrances where they are clearly visible from the street provides ground level activity, improves public safety and increases opportunities for social interaction.

There are a number of ways in which the appearance and visibility of entrances can be enhanced. Canopies, porches, pergolas and recesses all provide strong articulation whilst also providing shelter for visitors in bad weather. Architectural detailing in the form of fanlights, sidelights or door surrounds also provide interest, light and a clear indication of the entry, or consider using a strong design or colour for the door itself. Where a number of dwelling are proposed on the same site, varying the colour of doors can help to provide differentiation between units. Landscaping is also an effective way to make entrances identifiable and mark the threshold between outdoor and indoor living spaces.

Locating habitable rooms such as kitchens, living areas, dining rooms or bedrooms towards the front of the house improves the potential for informal surveillance of the street, reducing opportunities for crime and making streets feel safer for pedestrians. Non-habitable rooms (toilets, bathrooms and storage areas) are best located to the rear or side of the house. At least one habitable room should be located on the ground floor to provide a direct link between the interior and outside areas, as well as with the street.

Image 2.2 above shows a possible configuration of internal living space for a multi-unit development located on a corner site. This layout provides habitable rooms along both street frontages.

A clearly defined pedestrian entrance through the use of landscaping, high quality paving and a covered recess.

This development achieves a good orientation towards the street. Main living areas are located at the front of the house with generous glazing on the ground and upper floors. Front balconies encourage good surveillance of the street.

Image 2.2 Location of Habitable Rooms
Enable Views of the Street

d) Facades facing the street should have a generous extent of evenly distributed glazing.

As a rule of thumb, street facing facades should have a minimum of 25% glazing which should be evenly distributed between ground and upper levels (see image 2.5). Larger windows and balconies maximise opportunities for surveillance. On northern elevations facing the street, where heat gains are a factor, screening or shading devices may be used to minimise overheating whilst maintaining sizeable sized window openings.

Avoid High Solid Fencing

e) Ensure fences and landscaping do not obstruct ground level views.

Low fencing provides demarcation of private and public space, allows surveillance of the street, and the retention of sightlines to the footpath to ensure pedestrian safety when exiting a site. In conjunction with well considered areas of planting it can also ensure privacy where needed. An alternative is a combination of transparent sections of fencing, which can be planted with low level shrubs and trees to provide a degree of privacy screening whilst still maintaining an essentially open feel that allows for views between the house and street.

Dense planting along the street boundary that limits sightlines to the street should be avoided. Where trees are proposed along the street boundary, ensure they are limbed up to allow sightlines through. Locating private outdoor living space at the side rather than at the front of the house will reduce the need for privacy screening along the entire frontage of the property.

The City plan requires that when fences or other screening structures are over 1m in height, then 50% of the whole structure must be transparent. This can be achieved in several different ways, as indicated in image 2.7 above.
Transparency Defined

Transparency is defined as being able to see through, either because no solid construction is present, for example using railings (images above), or because there are spaces between the solid parts of the fence that are at least the same width as the solid elements themselves.

Use Quality Materials for Fencing

b) Fences are encouraged to be of high quality materials and complement the building design.

It is important that high quality materials are used for any fence or boundary wall so that it does not detract from the appearance of the house. One option is to use a similar material as that used for the house itself (see image below). Where timber fencing is used, it should be treated and finished in a colour which complements the house.

The use of poor quality materials which quickly degrade, can make them targets for vandalism and graffiti, particularly if they include large blank, untextured surfaces.

A low height, high quality front boundary wall which complements the design of the house.
Buildings on corner sites need to be designed with particular care owing to their prominence and visibility. Corner buildings need to be designed so that both frontages present an attractive view to the street and provide views in multiple directions.

Well designed corner buildings can make an important contribution to a neighbourhood’s character by serving as local landmarks, creating visual signposts that help people find their way around the area. Strong building forms and other design features can be used to good effect on corner sites, providing definition and emphasis to the intersection.

Express Corners

a) Buildings on corner sites should orientate towards all adjacent streets and public open spaces and emphasise these corners.

Corner locations require developments that address two (or sometimes three) different street frontages.

There are a number of ways in which buildings can be designed to provide articulation to a corner. Prominent entrances may be located at the apex of the corner or buildings may be set back to provide areas of public amenity space. Consider the use of architectural features which wrap around the building, for example balconies or continuous rooflines. With larger buildings, it may be possible to use the building form itself to emphasise the corner. Image 3.1 illustrates some examples of how this might be achieved.

Image 3.1 Using Building Form to Express Corners.

Double gable features provide good articulation of corner sites.

The wrap-around balcony and roof on this house provides good emphasis to the corner and provides views of the street in both directions.

The rounded edge on this building accentuates the continuity of the facade.
Corner Apartments

Corner sites are often good locations for multi-level apartment developments where the greater building mass can be used to provide strong definition to the corner in a way that is harder to achieve with smaller scale structures, and provide good opportunities for creating local landmarks which may warrant a taller building. Try and ensure that buildings provide a strongly defined built edge to the corner, with car parking provided out of view to the rear. Units should be arranged to face outwards to both adjacent streets.

Good Practice Tip:

On some corner sites, the character of each street will vary, for example there may be a difference in the architectural style or scale of buildings. New buildings can respond to these differences by introducing changes in the design treatment of each facade or by breaking down the building into smaller elements, for example so that the building steps down in height along one side.

Locate Main Pedestrian Access Along Principal Street

b) Pedestrian entrances are encouraged to be located along main pedestrian routes.

Corner sites provide a choice of location for pedestrian entrances. Locating pedestrian entrances along well trafficked pedestrian routes can improve safety and reduce the fear of crime. It is therefore encouraged to locate the principal pedestrian entrance along the street which carries the greatest volume of pedestrian traffic and which links to key destinations in the local area.
iv) Building Form and Articulation

The transition towards more intensive forms of development characteristic of Living 3 zones needs to be carefully managed. In Christchurch, the redevelopment of long, narrow sites has encouraged ‘sausage block’ style development at odds with much of the existing and well established residential areas. Good design is critical to ensure that new development is sympathetic to the established character of a neighbourhood and the scale and pattern of existing development. This means designing buildings which are of a domestic scale and appearance, are attractive to look at with a good level of architectural detailing and variety and are constructed using high quality materials.

Respect Existing Subdivision Patterns

a) Layout and form should reflect the predominant pattern of subdivision within a neighbourhood.

New developments will better integrate into existing neighbourhoods when the width of their front facades, the separation distance from internal side boundaries and between adjacent buildings (often referred to as the ‘grain’ of the street) is consistent with other dwellings on the street. Development which fails to respect the established grain can disrupt the sense of rhythm and continuity along a street. It also increases the likelihood of buildings appearing out of scale and visually dominant in relation to neighbouring houses.

Design to a Domestic Scale

b) Ensure buildings are of a domestic scale and avoid excessive repetition of building forms.

c) Avoid façades and elevations whose length or bulk is visually excessive or blank.

d) Limit continuous ridgelines and minimise the visual bulk of a building.

e) The separation of buildings within sites is encouraged to reduce perceived building bulk.

Design buildings to be of a domestic scale and appearance. The following design techniques can help to reduce the perceived bulk and size of buildings:

- Limiting continuous ridgelines or long blank elevations.
- Separating buildings into a series smaller blocks.
- Avoiding excessively high or steeply sloping roofs. (Restricting the roof pitch to between 27 and 33 degree) or choose a shallow mono-pitched, flat or hipped roof.
- Building within attic space or basements.
- Reducing the upper level floor area or stepping it back from the street.
- Providing variation in the building plane of external walls (often called ‘modulation’) by introducing step backs or projections.
- Setting buildings further back from the street.
- Introducing architectural features and human scale detailing such as balconies, shading devices, porches etc.
- Avoiding excessive overhangs.
- Using landscape elements to soften the form of the building.
- Use of colour and texture.

Developments should avoid excessive repetition of forms to provide interest and allow some individuality. Differentiation between units within the same development can be introduced through changes in colour, unit size, architectural detailing or subtle changes in the roofline, even door detail.
Avoid repetition by introducing subtle changes in colour, materials, or pattern of window openings. In this example, changes in the roof profile are used to provide differentiation between units.

**Image 4.2: Limiting Continuous Ridelines**

By limiting the length of continuous ridelines, exterior walls or parapets, visual variety and relief is provided which reduces the apparent bulk of a building.

**Good Practice Tip:**
As a rule of thumb, the maximum length of a building façade is 15 metres before a horizontal or vertical recess of at least two metres or separation of buildings is needed.

This development uses a mix of horizontal recesses/projections and vertical changes in height to provide visual relief and break up the scale of the building. Changes in the plane of a building also provide areas of shade and shadow which provide a sense of depth. As a result, the building reads as a series of smaller elements combined rather than a large bland ‘box’.

Avoid blank or bland facades. Introducing larger window openings or finer details such as eaves, sills, balconies or a change in material can improve the appearance of bulkier buildings.
Provide Variety and Visual Interest

f) Architectural features and a variety of materials and colours are encouraged.

Incorporating more architectural detail into building facades can add visual interest, depth, texture and variety to a development. It also helps to give buildings a residential character and human-scale. Architectural elements might include bay windows, balconies, shading devices, cladding changes, entrance features, projections or recessed elements. Careful use of colour can help to highlight details such as window frames, sills, entrance porches and to identify different parts of a building. The textural quality of a material is also important, particularly at ground level, where close up views are possible and interaction with the building occurs.

Use High Quality Materials

g) The use of high quality, durable and easily maintained materials is encouraged.

Materials that require less maintenance and last longer are more suitable for medium density housing, particularly when in multiple ownership. Not only does it reduce resource use, but also reduces the potential for conflict between neighbours over maintenance and costs. The durability of materials can be improved by ensuring adequate protection from the corrosive effects of the elements, for example by incorporating eaves and flashings in the design.

The Building Code sets minimum standards for durability for different components of a building, but some of these are quite short (for example, 15 years for cladding) so look for materials which perform better than - not just at - Building Code minimums. This can also add to the development’s value. The range of materials may include natural, locally sourced materials that can build on the area’s character to more manufactured materials such as hebel blocks and zinc panel.

For more information on choosing the right material go to www.smarterhomes.org.nz.
(v) Access and Car Parking

Garaging, large areas of driveway and vehicles parked in clear view of the street can have a significant adverse visual impact on the quality and appearance of a development. With increased density also comes the need for more efficient land use, including more creative responses to on-site parking. Communal or shared facilities are one response but must be designed well. Safe and convenient access for pedestrians and in larger developments for cyclists and service vehicles should also be ensured.

Provide Safe Access

a) Developments should be laid out to ensure the safe and efficient movement of pedestrians, cyclists and vehicles.

The layout and design of developments (including landscape treatment) should ensure good visibility around accessways onto the street and within manoeuvring areas. Where possible, provide adequate turning space so vehicles can exit the site without reversing.

Good Practice Tip:
Where a garage has the vehicle door facing a shared accessway, the minimum garage door setback should be 7.0m measured from the garage door to the kerb of the accessway. On tighter sites, a reduced setback may be possible by providing wider garage doors to allow a tighter turning circle. In larger developments, separate pedestrian access and traffic calming measures might be appropriate. Consideration should also be given to the provision of cycle paths, connecting to the wider cycle network, and secure, covered and conveniently located cycle storage facilities within the development.

Reduce the Visual Impact of Cars

b) Development should minimise the number of service and vehicle access ways from the street.

c) Car parking and garage areas should not dominate the development, particularly as viewed from the street or neighbouring properties.

d) Parking areas at ground and upper levels within buildings are encouraged to be located behind habitable rooms.

Limiting the number of vehicle access points from the street helps to reinforce pedestrian priority along the footpath and minimises the visual impact of driveways on the street scene.

In both examples above the site layout allows a number of units to be served by a single access from the street. Parking is set back within the site to the rear of properties, allowing habitable spaces within dwellings to front onto the street. In the left image, access to the rear parking court is via an archway with apartments above which helps to maintain continuity of built frontage along the street.
Reducing The Visual Impact of Car Parking And Garages

- Set garages back from the front facade of the house;
- Design double garages as two physically separated singles or use stacked parking;
- Use high quality sectional garage doors of a material and colour which complement the design of the house;
- Restrict hard paving or tarmac to areas essential for manoeuvring;
- Avoid locating driveways to neighbouring properties adjacent to each other as this results in a long section of street frontage dominated by car parking access; and
- Use textured paving for driveways, rather than asphalt, and soften the edges with planting.

Consider Underground or Communal Parking

Communal parking can save space and money and make use of corners or other awkward spaces within a site. Shared parking, basement, undercroft and multi level parking can also reduce the amount of land devoted to car parking, freeing up space for open space and landscaping. If grouped parking is provided it should be easily accessible to each unit and should be well overlooked and well lit at night. Use landscaping to break up long rows of parking bays or separate large car parks into several smaller ones. Design parking areas as courtyard spaces to provide greater amenity to the development.

e) Well-designed underground car parking is encouraged.

Underground or partially raised (undercroft) parking may be feasible on some sites, particularly where changes in topography across the site reduces the need for excavation. Entrances to underground car parks need careful treatment. Landscaping and attention to the style of garage doors will help ensure they sit well within the street scene.

Double garages accessed directly off the street and in combination with the adjacent right of way, results loss of pedestrian priority on the public footpath and the visual domination of driveway.
vi) Landscaping and Site Amenity

Landscaping, including tree and garden planting can reduce the visual impact of taller buildings, soften the appearance of large areas of hard surfacing and can provide screening to garages, parked vehicles, services areas and internal boundary fencing as well as give wider environmental benefits. A good landscape scheme including a mix of tree and garden planting, in combination with other landscape features and lighting can ensure resident safety and contribute towards the amenity and general sense of well being for residents. A high quality landscape scheme can significantly enhance the appearance, appeal and marketability of a development.

Use Planting to Improve Outlook

a) Soften areas of car parking, garages, side boundaries and service areas with planting.

The location and choice of planting should improve the outlook from the dwelling and the view from the street and neighbouring properties into the development.

Reduce Opportunities for Crime

b) Lighting, planting, fences and other structures should be designed to maximise the safety of occupants and visitors.

Crime Prevention Through Environmental Design (CPTED)

CPTED is a set of principles that can be applied to the design of new developments to help reduce both the fear of and incidence of, crime and anti-social behaviour. There are four key overlapping CPTED principles. They are:

1. Surveillance – ‘see and be seen’ - people are present and can see what is going on.
2. Access management – methods are used to attract people and vehicles to some places and restrict them from others.
3. Territorial reinforcement – clear boundaries encourage community ‘ownership’ of the space.
4. Quality environments – good quality, well maintained, well lit, places attract people and support surveillance.

Image 6.1 below illustrates a few ways in which these principles can be applied in the design of new residential development.
Provide Larger Vegetation

c) The distribution of landscaping throughout the development and provision for larger vegetation is encouraged.

An even distribution of landscaping and provision of larger trees throughout a development can help reduce the visual impact of larger buildings and car parking and improves outlook from a variety of view points both within the development and from the street and give environmental benefit. Ensure adequate pervious space is provided around plants to avoid restricting growth and allowing natural access to rainwater. Planting should be provided at entranceways, alongside driveways and shared accessways, within front and rear gardens, along internal site boundaries and on balconies or roof terraces.

Choosing Appropriate Plants

The biggest challenge with choosing plants is making sure they are suitable for the location. Aside from how the plant looks, this involves choosing plants that are the right size when fully grown, identifying water and sunlight requirements, frost, salt and wind tolerance, fragility, root growth and degree of invasiveness.

Normally plants grow best in locations that are similar to where they come from in the wild. All reputable nurseries will be able to advise what conditions each plant likes best. Landscape architects can offer design services and work with nurseries to ensure the right plants are chosen for maximum visual impact and long term growth.

Sources of further information:

Planting Guides:
- New Zealand Garden in Style, Get the Look You Want
  By Hallinan, Lynda (2004)
- New Zealand City Garden Style, By Matthews, Julian (2000)
- The Native Garden Design Themes from Wild New Zealand
  By Gabites, Isobel (2007)

Managing Pests:

Use Appropriate Plants

d) Landscape design is encouraged to use locally appropriate plants, including those that minimise water and maintenance requirements and promote biodiversity.

Hard landscape elements are also key ingredients of a successful landscaping scheme. Low walls, kerbs, raised beds and screens for example can give protection, shade and shelter for plants as well as providing ornamentation in their own right.

![Image 6.2: Balance of Hard and Soft Landscaping](image-url)

A mix of shrubs and trees are used to good effect to soften the appearance of a shared driveway. The use of deeper planting borders allows for larger vegetation including trees.

A well balanced landscape scheme incorporating a mix of low shrubs and taller planting distributed evenly throughout the development. Vegetation is used in combination with hard landscaping (paved areas and footpaths) and structural elements (such as planted screens).
VII) Outdoor living Space

Good quality outdoor living spaces can contribute significantly to the amenity of a dwelling. They provide for personal recreation and leisure needs, including opportunities for outdoor dining, barbecues and entertaining. Outdoor living space also allows for residents to engage in personal hobbies such as gardening, landscaping and food growing. Convenient access to outdoor areas promotes general health and well being, providing access to daylight and encouraging a connection with nature.

Choose the Best Location

a) Developments should locate outdoor living spaces to optimise useable space and provide a pleasant outlook for unit occupants.

b) Private outdoor living spaces, including balconies and terraces, should link directly to main living areas within the residential unit.

Locate outdoor spaces to receive optimal sunlight exposure, provide an attractive outlook for internal spaces, while sheltering from cold winds and preserving the privacy of residents. Linking outdoor areas with the main living areas (e.g. living rooms, dining areas, kitchens and bedrooms) encourages their use, improves outlook and provides greater flexibility for small spaces by allowing them to function as extensions to the indoor areas of the house (see image 7.2 below).

It is preferable that outdoor living spaces are located at ground floor level for ease of use. However, balconies or roof terraces may be appropriate in some situations provided they are of a usable size, adequately sheltered and provide an appropriate degree of privacy. Inset or recessed balconies provide for a more protected outdoor space with greater comfort for an extended period of the year.

Outdoor spaces should be able to accommodate a range of typical garden furniture such as tables, sheds and barbeques.

Roof terraces can be an option in situations where providing outdoor living space at ground level is not practical.

Try and ensure outdoor spaces are regularly shaped, located on relatively flat ground and have a minimum dimension of no less than 4m. A single large outdoor area offers more flexibility than a series of smaller physically separate spaces.
Consider Communal Spaces

c) Communal outdoor living spaces should be consolidated, accessible, usable and attractive whilst avoiding loss of privacy or amenity for residents and neighbours.

d) The provision of communal open space and facilities is encouraged for multi-level apartment developments.

Design Principles For Communal Open Space

Communal outdoor living areas should be:

- of an appropriate size for the number of people they serve;
- attractive and provide a pleasant outlook for neighbouring properties;
- equally accessible and convenient to use by all units in a development;
- multi-purpose - include facilities or features that appeal to all ages and that make it suitable for a range of different activities (e.g. play equipment, sports pitches, seating areas, landscaped areas etc);
- safe to use - provide adequate lighting and ensure the space is well overlooked by adjacent properties; and
- easy to maintain.

Good Practice Tip:
Communal outdoor space should be located and designed not to cause a nuisance or loss of amenity to neighbours. Ensure that an adequate buffer zone is provided between the outdoor space and adjacent properties and consider carefully the location of facilities that generate a lot of activity (e.g. play areas, sports pitches).
Image 7.2: Linking Outdoor Spaces with Main Living areas
VIII) Service Areas and Utilities

Accommodating the servicing requirements of residential development is an important design consideration. This requires giving thought to how waste is stored and collected and how the general outdoor storage and service space (e.g. for clothes drying) needs of a household are met. Ideally, storage and service areas should not be visible from the street as they provide a poor first impression of a development and degrade the amenity of the streetscape. It is also important to ensure that building services infrastructure (e.g. heat exchanges, lift plant etc) are visually integrated into a development to avoid causing unsightly clutter.

Provide Adequate Storage and Service Space

a) Position service areas to minimise adverse visual, noise or odour amenity effects and to enable practical use.

b) Rubbish storage areas, letter boxes, utility boxes and other service facilities should be visually integrated into the development frontage.

d) Ensure storage space is easily accessible and provides for a range of recreational and maintenance equipment.

Outdoor service and storage areas perform an important function, freeing up internal storage space, especially for recreational or maintenance equipment and larger household items and can accommodate domestic activities such as drying clothes. The design and location of these spaces should seek to minimise any adverse visual impact whilst maximising their functionality.

Locate service and storage areas away from primary views from main living areas, the street and neighbouring properties. The side or rear of properties are usually appropriate locations provided they can be readily accessed, preferably from a service room such as kitchen, laundry or garage (see image 8.1). Each unit is required to have a minimum of 5 sq. m of storage and service space (with a minimum dimension of 1.5m) to enable them to provide a range of appropriate functions. They should be conveniently located in relation to each residential unit.

Poorly designed waste storage points can undermine a development’s visual appeal as well as interfere with pedestrian movement and present potential health and safety risks. As with general storage areas, the first preference is for provision to be made at the side or rear of properties, out of view from the street but easily accessed by residents. Where bins are stored at the front of the property, appropriate screening should be provided to minimise their visual impact. This may take the form of landscaping, a small building, an enclosure or screen. Alternatively, it may be possible to integrate storage areas into other domestic features such as a boundary wall so that they complement the design of the house. Containment can help to minimise any adverse noise (e.g. the sound of smashing bottles) or odours.

Good Practice Tip:
For the convenience of residents and to encourage their use, the distance between rubbish storage area and collection point should be kept to a minimum (a maximum of 20 metres is a good rule of thumb) and the route should be of a gentle gradient, free of steps or obstructions. It is also important to ensure ease of access and manoeuvrability for collection vehicles.

Consider providing self-contained storage units, especially where garage space is limited.

Image 8.1 Locating Outdoor Storage Areas

In the example above, the outdoor storage and servicing area is located to side of the houses, out of view from the street or principal living areas. Providing a convenient and direct connection with both the garage and main outdoor living area, enables good practical use to be made of the outdoor space and allows items such as lawnmowers and general gardening equipment to be stored close to their end use.
Communal storage facilities may be appropriate within larger developments provided they can be located to be easily accessible to all units. There should be adequate lighting, good natural ventilation and facilities should be easy to maintain (an impervious floor will permit washing down). Ensure that refuse storage areas are physically separate from bicycle stores and are designed to visually integrate with the rest of the development.

Integrate Building Services

c) Building services, such as external access ways and mechanical, electrical and communications equipment should be integrated within buildings.

Building Services

Building services such as drain pipes, satellite dishes, lift plant, external stairs, mail boxes and utility boxes, can add to the visual clutter of a development and need to be appropriately integrated so as not to detract from the quality or appearance of the development as whole. Measures could include:

- Providing recessed channels for down-pipes or routing of flues/outlets to non-sensitive elevations.
- Providing communal provision for items such as satellite dishes and other telecommunications apparatus from the outset as part of the building design.
- Integration of post boxes within boundary walls.
- Locating utility meters and service connections in discreet locations or concealing them from view (but maintaining easy access for utility companies.
- Concealing roof mounted mechanical and electrical apparatus behind a parapet or extended wall.

Storage space for wheelie bins can be screened from view using planted screens.

Storage space should be of sufficient size to accommodate 3 standard sized wheelie bins for general waste, recyclable materials and organics.

Try and integrate letter boxes into the development frontage as shown here to avoid the need for a number of separate free standing letter boxes along the street.
**IX) Residential Amenity**

All residential units should provide a high standard of living environment to occupants. The size and layout of rooms, levels of acoustic insulation and privacy are also important considerations in this regard. With higher density housing, constraints on outdoor living space mean that the quality of the internal living environment becomes increasingly important. Developments which provide a good level of internal amenity are likely to sell faster, will be easier to let (and have lower turnover rates) and will be better maintained in the long term.

**Let the Sun In**

*a) The location, orientation and internal design of residential units should balance outlook and sunlight with the privacy of internal occupants and neighbouring residential units.*

Ensuring that each room in a house receives adequate daylight avoids the need for artificial lighting and contributes towards a pleasant internal living environment. Skylights, atriums and light wells can be used to allow sunlight penetration into internal spaces without exterior windows. High level windows can be used where privacy is an issue or to restrict views of service or storage areas whilst maintaining sunlight access. But these are not generally a good solution for street facing facades. Generous floor-to-ceiling heights promote allow for taller windows and greater solar penetration into interior spaces and facilitate the use of taller windows. This is particularly important for deep floor plan and single aspect apartments.

**Good Practice Tip:**

As a rule of thumb, for optimum sunlight access, floor to ceiling heights for apartment buildings should be a minimum of 2.7m for habitable rooms.

**Protect Privacy**

*b) Orientate and screen windows and balconies on upper levels to limit direct overlooking of adjacent dwellings or their outdoor living space.*

The size, placement and orientation of window openings should have regard for the need to minimise direct overlooking between properties, either on the same site or of neighbouring properties and their private spaces. Consider offsetting window openings, using high level windows or orientating windows 90 degrees (see image 9.1 below).

Balconies can be recessed or designed with inter-tenancy privacy screens or enclosed sides to limit overlooking between units in the same development. Alternatively, balconies can be orientated to avoid overlooking a development located directly opposite. Solid or semi-opaque infill panels to the front of balconies, balustrades or planter boxes can help provide a degree of privacy from the street. Operable screens and shutters can increase the usefulness of balconies by providing weather protection and daylight control as well as privacy screening.
Provide Housing Choice

c) Developments are encouraged to provide a variety of unit types and sizes to accommodate a range of households.

Residential accommodation needs to cater for a diversity of living types in order to maintain housing choice. Providing for a range of unit sizes, from single bedroom flats through to 4 & 5 bedroom houses can help to create diverse and demographically balanced neighbourhoods, catering for a wide variety of housing needs and responding to different income levels.

The appropriate mix of unit sizes and types will vary depending on the specific neighbourhood context, site characteristics, the supply and mix of housing locally, development economics and market demand or need. On larger sites, including apartments can be an effective way of maintaining site density without sacrificing levels of amenity or the availability of land for open space.

Developers should consider the need for non-traditional housing typologies such as live-work units and studios, mixed-use developments or communal living facilities (e.g. student flats, elderly housing or temporary worker accommodation).
Building homes that exceed basic insulation levels, which are designed to maximize energy efficiency and are built using green building technologies will help to reduce the impact of new buildings on the environment. Building homes with the environment in mind also delivers benefits to the occupier or homeowner in the form of warmer, drier, healthier homes that are cheaper to run.

Capture The Sun

a) The design, orientation and layout of developments is encouraged to minimise energy use.

Significant savings can be made in the amount of energy used for heating, cooling and lighting by following a few basic principles of passive solar design:

- Concentrate glazing on northern elevations (preferably within 30 degrees of north) to maximise solar gain in winter and use landscaping (especially deciduous trees), overhanging eaves, shades, screens or awnings to prevent overheating in summer. Wide frontage floor plans allow greater areas of north facing elevations suitable for a passive solar design approach.

- Avoid large areas of glazing on south and west facing elevations to minimise heat loss and avoid overheating.

- Locate principal living areas on the northern side of the house.

- Reduce the need for artificial lighting by ensuring each room in the house receives adequate daylight by making good use of windows and skylights.

- The arrangement of dwellings on a site should minimise the extent to which buildings shade each other.

- Explore opportunities for installing passive solar heating for water.

- Use materials with a high thermal mass such as exposed concrete, masonry or stone (see below).

Save Energy

- Locate opening windows on opposite sides of the house to enable natural cross ventilation.

- Ensure kitchens and bathrooms are vented outside.

- Avoid the use of downlights as they can use 2-3 times more electricity to light a room than traditional lighting and also permit heat loss by creating vents in the ceiling.

- Explore opportunities for producing electricity from the sun (photovoltaic panels) or wind (small turbines).

- Consider installing solar thermal panels for heating water.

- Introduce trees where necessary to reduce wind speed around new developments.

- Install energy efficient appliances, lighting and heating.

- Go beyond the minimum requirements of the building code for wall, ceiling and floor insulation.
Thermal Mass

Thermal mass is the ability of materials to absorb energy. Correct use of thermal mass moderates internal temperatures by averaging day/night extremes, increasing comfort and reducing energy costs. Exposed concrete floors or walls made from heavy materials such as concrete, stone or masonry, absorb heat during summer, keeping a house comfortable. In winter, heat from the sun or heaters is stored and released at night, helping to keep the house warm. Whatever thermal mass is used, it must be exposed to direct sunlight during winter months and have minimal exposure to sun in summer months. This can be achieved through a combination of orientation, use of shading devices, floor plan (for example, a shallower north-south floor plan will allow more sun exposure for a concrete floor slab), and window sizing and placement.

Consider the Environmental Impact of Building Materials

b) Developments are encouraged to use materials that minimise resource consumption.

Large amounts of energy and resources are used in the extraction, processing, transportation and use of materials for construction. To reduce the environmental impact of buildings, consider using recycled or salvaged materials or use materials from renewable sources. Locally sourced materials are a good choice, especially for heavy or bulky products. Select materials which are durable and can be easily maintained. To reduce wastage, use standard sizes and select materials and systems for ease of construction and installation.

Manage Stormwater Run-Off

c) On-site measures to reduce, treat or re-use storm water runoff are encouraged.

Stormwater is rain and snow melt that runs off surfaces such as rooftops, paved streets, highways, and parking lots. Usually, this water flows into stormwater drains or enters rivers and lakes directly as overland flow, often becoming contaminated with pollution and waste. Stormwater management techniques (such as permeable paving, swales, green roofs, rain gardens etc), can be used to store, collect, treat or reduce stormwater, helping to maintain the quality of Christchurch’s waterways.

For further information on environmental design visit:
www.homestar.org.nz
www.lifemark.co.nz/home

Natural ventilation is used to expel warm stuffy air from a building through convection. This process relies on there being two openings, one for the air to enter and one for the air to escape. Because warm air has the natural tendency to rise, natural ventilation works best when one ventilation opening is placed low down the wall (where the air is coolest) and a second opening at a higher level, possibly in the ceiling or roofspace.

Permeable paving helps to reduce surface water run-off by allowing rainfall to soak into the ground.

Green roofs can reduce stormwater run-off by absorbing rainfall.