



**ROTORUA  
INTENSIFICATION  
DESIGN GUIDE**



**ROTORUA  
LAKES COUNCIL**



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## PREAMBLE

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Everybody in Rotorua deserves access to housing that suits their lifestyle and life stage, in a community that is safe to live in, with reliable infrastructure. Right now, our city is growing and changing and as in many other cities across New Zealand, that growth has led to a significant housing challenges.

Housing is therefore a key priority for our community and for Rotorua Lakes Council and we are committed to making a difference and facilitating change so that there is greater access to housing. It is important for us to both enable more housing and provide for greater housing choice. Our population is changing and we need more homes, of all kinds.

With land as a finite resource and the benefits of living close to employment, services and amenities increasingly valued, Rotorua's community will build and live at higher densities than before. While we meet the increasing demand for homes, we also need to protect our natural environment, to provide for the wellbeing of our community and the sustainability of our economy.

By managing these challenges we have a real opportunity to shape a city and community that we can all be proud of, that meets people's housing needs now and into the future, and still protects the things we all love.



A key priority, is providing opportunities for a greater number of our community to live in smaller housing types close to employment, shops, schools reserves and other amenities. This provides for a more affordable, sustainable, efficient, better functioning and more liveable city.

It is important that homes are well designed because they will shape our changing neighbourhoods and city, and inform our built-form charter as we grow. Through this design guide and sharing best practice we look forward to working together with our development and design community on well-designed higher density housing projects for our people and our city.

**‘This is our first design guide and aims to support developers, landowners, designers, the council and the wider community to achieve good design for higher density residential developments’**

It will be regularly reviewed and will be updated as required to ensure we recognise the current needs of developers and property owners.



# A.0 HE KUPA WHAKATAKI | INTRODUCTION

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## A.1 HISTORICAL CONTEXT

Rotorua Township was established as a partnership between the Crown and Ngāti Whakaue when the Rotorua Township (Fenton) Agreement was signed on 25 November 1880. Through that Agreement, Ngāti Whakaue gifted reserves for use as parks, hospitals and schools, and streets were laid out, many named after important rangatira and leaders of Te Arawa. Today, the Rotorua District is the heart of Te Arawa and a centre of outstanding Māori culture and expression. Mana whenua and Rotorua Lakes Council have committed to a partnership that includes working together to protect and celebrate the rich cultural history and identity of our District.

Rotorua sits within a caldera at the heart of the North Island, with geothermal features, lakes and forests. These natural features have ensured that our ties with our natural environment have remained strong by providing us with great open space and recreation opportunities. Tourism and forestry are also key drivers of the Rotorua economy, so the preservation of our highly productive land is an important consideration as we accommodate growth.

After a long, sustained period of low population growth Rotorua has experienced significant and consistent growth from 2013. There is therefore a constant and growing demand for houses and it is important we provide for more housing in an efficient and sustainable way. Broadly speaking, urban areas can 'grow out' (enabling construction at our urban edge), 'grow up' (permitting more intensive development within established urban areas), or a combination of these. The general pattern of growth for Rotorua, like other New Zealand cities, has been to 'grow out' with a strong preference for 3-4 bedroom detached homes.

## A.2 BENEFITS OF INTENSIFICATION

We can best protect our important productive soils and natural landscapes by enabling residential intensification and 'growing up,' including by developing multi-unit attached homes in appropriate locations. Intensification helps ensure our city's growth is more efficient and sustainable. Residential intensification can be defined as housing development at a higher density than currently exists, through development, redevelopment, infill and expansion or conversion of existing buildings.

Other benefits of residential intensification include:

- Greater access to public amenities, shops and employment, particularly for those that do not have access to transport;
- Reduced travel costs for the local community;
- Reduced infrastructure costs through more efficient urban growth;
- A healthy community through the use of more active transport modes and closer proximity to public open space;
- A positive impact on the climate by reducing carbon emissions as we rely less on vehicles to get around;
- Increased neighbourhood interaction and community cohesion;
- A safer community through an increase in passive surveillance, as the public realm is used more frequently;
- Better utilised quality open space;
- More smaller housing types on smaller sections, resulting in more affordable housing over time.

Although it is important that we enable all types of housing, for different life stages and needs, like most parts of New Zealand our population is aging and older age groups will increasingly make up a larger share of our community. Our aging population will mean more smaller households and a growing preference for smaller, attached housing types, of which we currently have a shortage. Providing for residential intensification will ensure that as we grow we have enough homes to meet changing housing preferences over time.

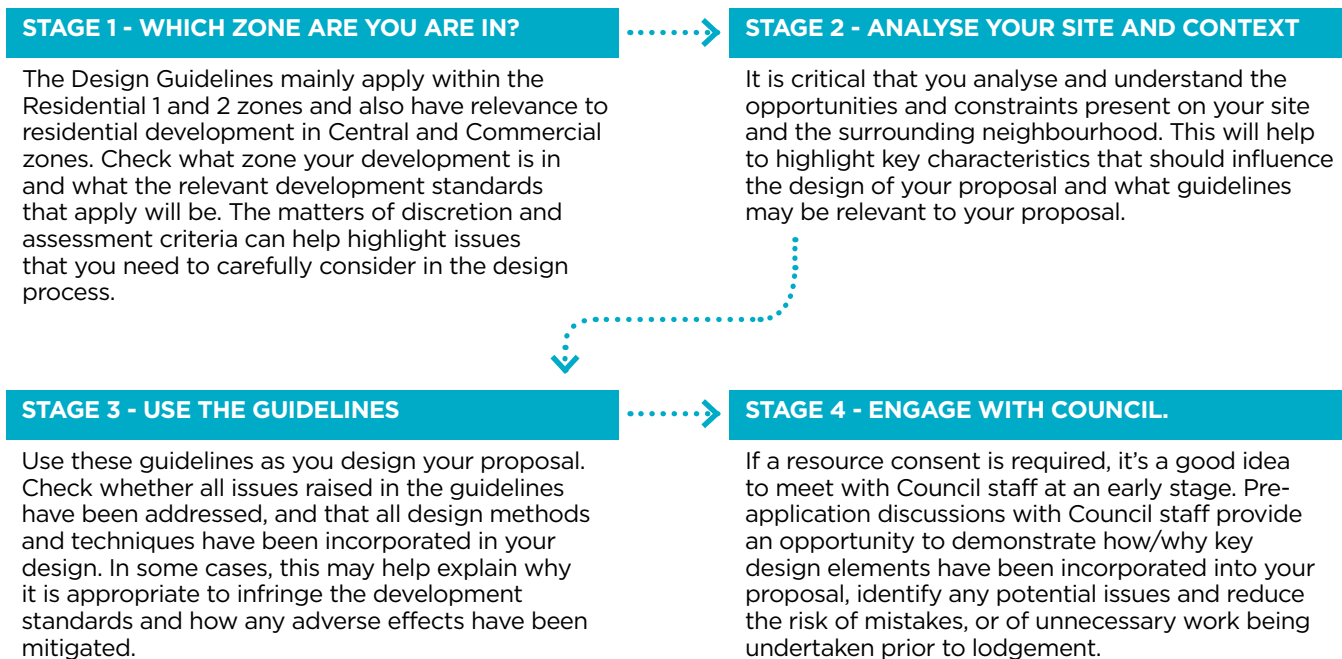
Residential intensification however, does come with new challenges. Higher density will likely lead to smaller yards and reduced private open space. This is particularly the case in Rotorua where residential character is typically defined by single family dwellings on larger lots. There now needs to be a greater focus on the design of multi-unit residential developments to achieve desirable outcomes for residents, neighbours and the wider neighbourhood. Developers and the design community will play an increasingly important role in shaping the new urban environment that will define our Rotorua of tomorrow.

### A.3 USING THIS GUIDE

The purpose of this Rotorua Intensification Design Guide is to support developers, landowners, designers, Council staff and the wider community to achieve good design for higher density residential developments.

The Design Guide complements the Rotorua District Plan and expands on matters covered within Ngā Tohutohu Hoahoa ā-Motu mō te Wharenoho Mātoru-waenga - the National Medium Density Design Guide which focuses on smaller scale infill development in line with the Medium Density Residential Standards. It provides guidelines and examples of best-practice urban design, with reference to key matters of discretion and assessment criteria within the Rotorua District Plan.

It also includes images of well-designed buildings and developments from across Aotearoa New Zealand, providing real examples of the guidelines in practice. When thinking about developing your property, follow these steps below:



## B.0 NGĀ MOMO WHARE | BUILDING TYPES

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This Design Guide is targeted at medium to high density residential development. This includes:



### A. DUPLEX / SEMI-DETACHED HOUSES

Two dwellings sharing a common wall. This removes the need for side yards between the houses. Typically, two-storey buildings, with entirely independent properties, entrances, parking etc. This is a more efficient use of land while retaining the visual appearance of a large house. A useful housing type to transition residential neighbourhoods from traditional detached houses on large sections, to an increased density. A more effective use of land than infill (subdividing and adding a second dwelling to the rear site), as both dwellings are orientated to and accessed from the same direction, avoiding conflicts of public and private space that occur with infill.



### B. TERRACE HOUSES

A row of houses with common walls (multiple houses joined together). Terrace houses start at 3 but could extend to 6, 10 or more in most urban settings. Public facing spaces and rooms are usually placed at the front of the house (facing the street) and private back yards and rooms at the rear of the house. Terraced houses are two or three-storey buildings, depending on the number of bedrooms and whether a garage is provided on the ground floor. Narrow width and longer length; challenges include light access to the centre of long building floor plans and dominance of garage doors on ground floor street elevation. Sometimes vehicle access and parking is provided via a rear lane, avoiding the dominance of parking on the public street and coordinating vehicle access of all dwellings in the terrace along a rear boundary.







## C. WALK-UP APARTMENTS

Small apartment buildings (typically up to three-storeys) that do not have an elevator and instead have a shared staircase to access apartments on the upper floors. The absence of an elevator reduces the cost of construction, resulting in a building that can provide more affordable homes. Apartments can be arranged horizontally or vertically i.e. an apartment on a single storey or located over two storeys with an internal staircase. Ground floor apartments may have their own entrances or all apartments are accessed via a common entrance and lobby. Upper floor apartments are provided with balconies for outdoor space.



## D. APARTMENTS

Larger apartment buildings of multiple storeys in height. Typically, an elevator is incorporated in buildings of four storeys or more, often triggering additional storeys to balance the cost of the elevator. Six or seven storeys may be built in very urban residential or mixed-use settings. Access is provided via a common entrance and lobby. Parking may be provided as basement parking or on lower floors. If apartments are located on the ground floor, tension between providing privacy while also providing activity out and over the street occurs. Ideally ground floor spaces would be used for retail and commercial activities, with residential apartments on the second storey and above. Outdoor space is provided via balconies for each apartment and sometimes additionally through common space such as roof terraces or ground floor courtyards. Building floor plans consider orientation of individual apartments and avoid creating any that solely face south. Location of multi-storey apartment buildings requires careful consideration as building size and form can create shading and overlooking concerns.

These four building types are referred to throughout the Design Guide. Most guidelines in this document are relevant to all four but we use these small icons to signal when a guideline is most applicable to one or two typologies:

The below tags indicate where the design guideline is especially relevant.



DUPLEX



TERRACE HOUSES



WALK-UP



APARTMENTS

## C.0 HE TĀTARITANGA WĀHI, HOROPAKI | SITE AND CONTEXT ANALYSIS

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Each development site has its own distinctive character, constraints, qualities and opportunities to which development must respond.

As the first step in the design process, it is imperative that you analyse the development site and its context. This will identify the natural, cultural and urban features of a site and its surrounds, recognise the site's limitations and identify opportunities for how the development can respond positively. It also provides a useful tool in discussions with neighbours, investors, Council and other interested parties, by demonstrating how the proposed development has been informed by its site and surrounds and how it responds positively to the local environment.

### C.1 ANALYSIS

Site and context analysis typically takes the form of maps and photos of the site and surrounding area and drawings overlaid on the maps to document key attributes and information that will inform the subsequent design. Undertaking this analysis is relevant for individual sites and buildings through to large complex development that may include amalgamated sites and multiple buildings and spaces.

Analysis may occur at several scales, first considering the site amongst the wider neighbourhood, looking at the location of local shops, public transport, schools, parks, key roads etc. Then a second scale looking in closer detail at the development site and the properties around it. This scale will look at the attributes of the development site but will also identify the location of private outdoor space, tall trees, vehicle access etc of the neighbouring properties and buildings. Often the maps, photographs and drawings are packed into a document referred to as a 'design statement' which presents the analysis done and importantly, the key factors observed that will influence the design of the proposed site and building(s).

Site and context analysis will consider the elements below and more; first identifying them and then considering how they influence potential design and development decisions.

#### NGĀ ĀHUATANGA MĀORI | NATURAL FEATURES

- Topography
- Native vegetation and habitats
- Other significant vegetation
- Solar orientation and prevailing winds
- Awa/waterways, including any that may have been piped underground in the past
- Overland flow paths and areas of flooding and ponding during heavy rain
- Natural hazards, including geothermal, flooding, erosion, ground contamination, liquefaction, lateral spread
- Ground stability
- View and vistas

#### NGĀ HONONGA ME NGĀ NEKEHANGA | CONNECTIONS AND MOVEMENT

- Location of streets and walking and cycling routes to and through the site
- Nearby public transport routes and frequency; bus stops, train stations
- Access points to the site for pedestrians, cyclists, vehicles
- Access to the site that is both accessible or not
- Pedestrian desire lines through the site
- Key links to surrounding destinations and amenities

Note: If any geothermal features are identified on site, you will need to consider design related requirements set out in the Rotorua District Council Geothermal [Bylaw](#) 2016.

## TE WĀHI ME TE ĀHUATANGA | PLACE AND CHARACTER

- Surrounding land uses (commercial, residential, open space etc.)
- Proximity to marae, wahi tupuna and mahinga kai
- Incompatible uses, or areas of reverse sensitivity - heritage/historical, industrial
- Existing infrastructure on the site - roads, power, three waters (fresh water, wastewater, stormwater), telecoms etc
- Existing buildings on the site
- Active edges around the site
- Private outdoor space on neighbouring sites
- Views from the site as well as views to the site that have potential to create privacy concerns
- Cultural narratives of the area - mana whenua occupation, conflict, kai gathering areas, legends and mythology, views to cultural landmarks; and current day land ownership, environmental stewardship, heritage
- Future character - anticipated change enabled by District Plan provisions or significant development consented or in construction nearby

## TE HANGA WHARE | BUILT FORM

- Characteristics of buildings on surrounding sites and on multiple properties along the street in both directions and across the road
- Position of buildings on each site, including building setbacks and any dominant building line
- Height and size of buildings, including width of houses facing the street
- Age, architectural character, exterior cladding materials (including roof materials)
- Extent of windows / glazing - any re-occurring patterns in window size, quantity, placement etc
- Predominant roof forms, porches, balconies or façade ornamentation
- Street boundary treatments - fences (style, height, material) and vegetation



# NGĀ ARATOHU HOAHOA | DESIGN GUIDELINES

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## 1.0 TE WĀHI | THE SITE

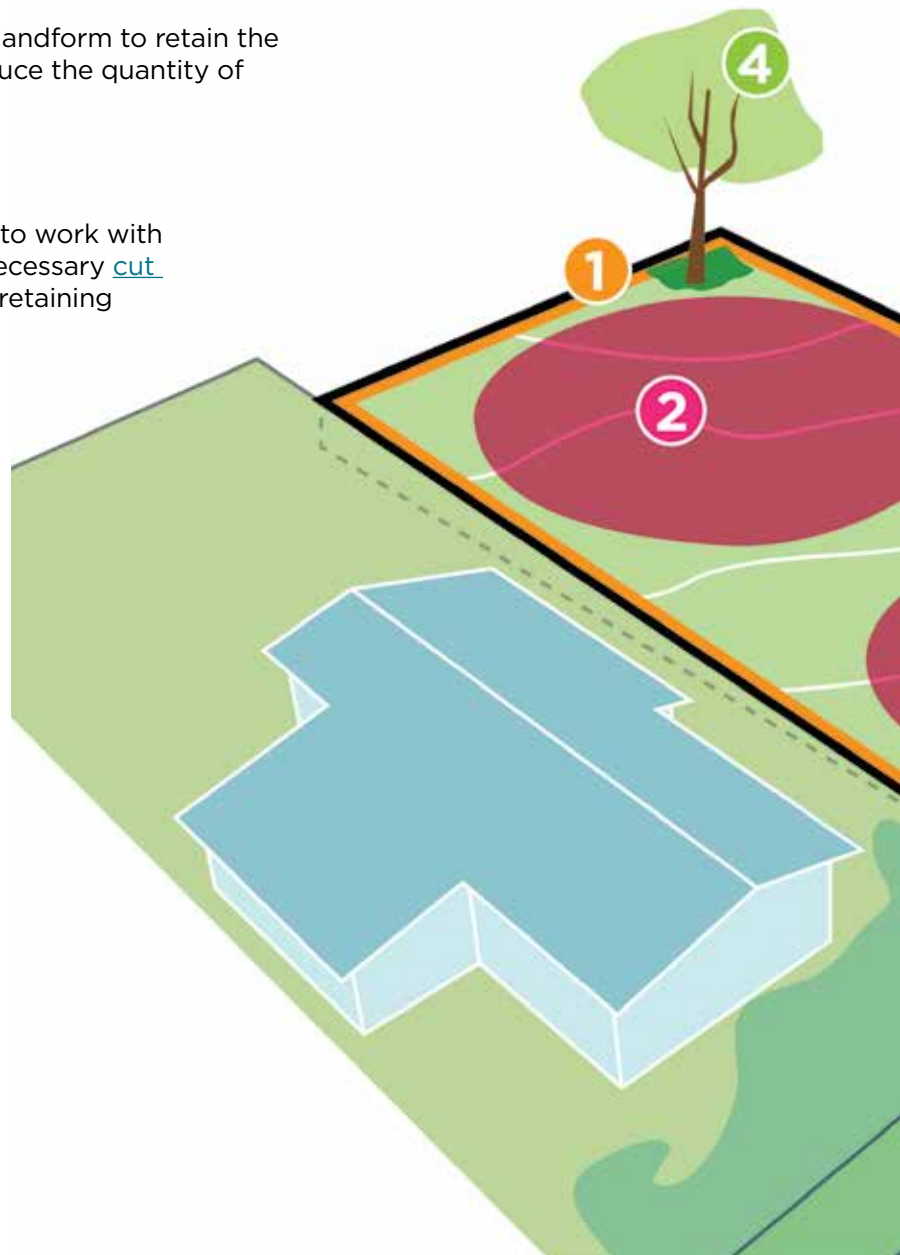
It is important to consider features of a development site, as identified in a site and context analysis, before any design work begins. Good design works with the characteristics of the site, responding positively to the site's attributes and carefully to the site's limitations, including natural hazards.

**1** Work with the existing landform to retain the site's character and reduce the quantity of earthworks required.

**2** Design the layout of roads and lots to work with the site's topography, avoiding unnecessary [cut and fill](#) or the construction of large retaining walls.



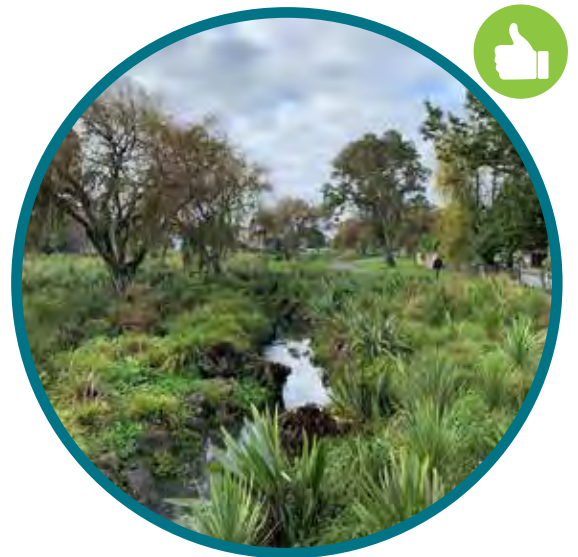
Avoid large scale earthworks and the need for tall retaining walls which can compromise connectivity and amenity within a development.



**3** Take advantage of sloping sites by working with the slope to provide for basement parking, access to views, access to sunlight etc.

4

Support and enhance [te taiao/the environment](#) by avoiding building on areas of natural habitat including awa/rivers and ngahere/bush or forest areas, integrating natural features into the development's design and adding to/enhancing water or vegetated corridors that run beyond the site.



Stream naturalisation and revegetation can enhance te taiao, onsite amenity for residents and help support stormwater management.



5

Design the development to respond to known hazards (e.g. flooding) and other constraints, starting with the site design and continuing design decisions through street, lot and building design.



Understand what the potential development constraints on your site are. The potential for flooding or presence of old geothermal bores will impact on where buildings can be located on your site.

## 2.0 TE TAKOTORANGA WĀHI | SITE LAYOUT

The position and [orientation](#) of a building and the spaces around it are fundamental to good design and delivering quality on-site living environments. The design of a development site should consider factors including public amenity, quality outdoor living spaces, residential privacy and sun access. It should also respect neighbouring properties and their right to the same positive qualities.

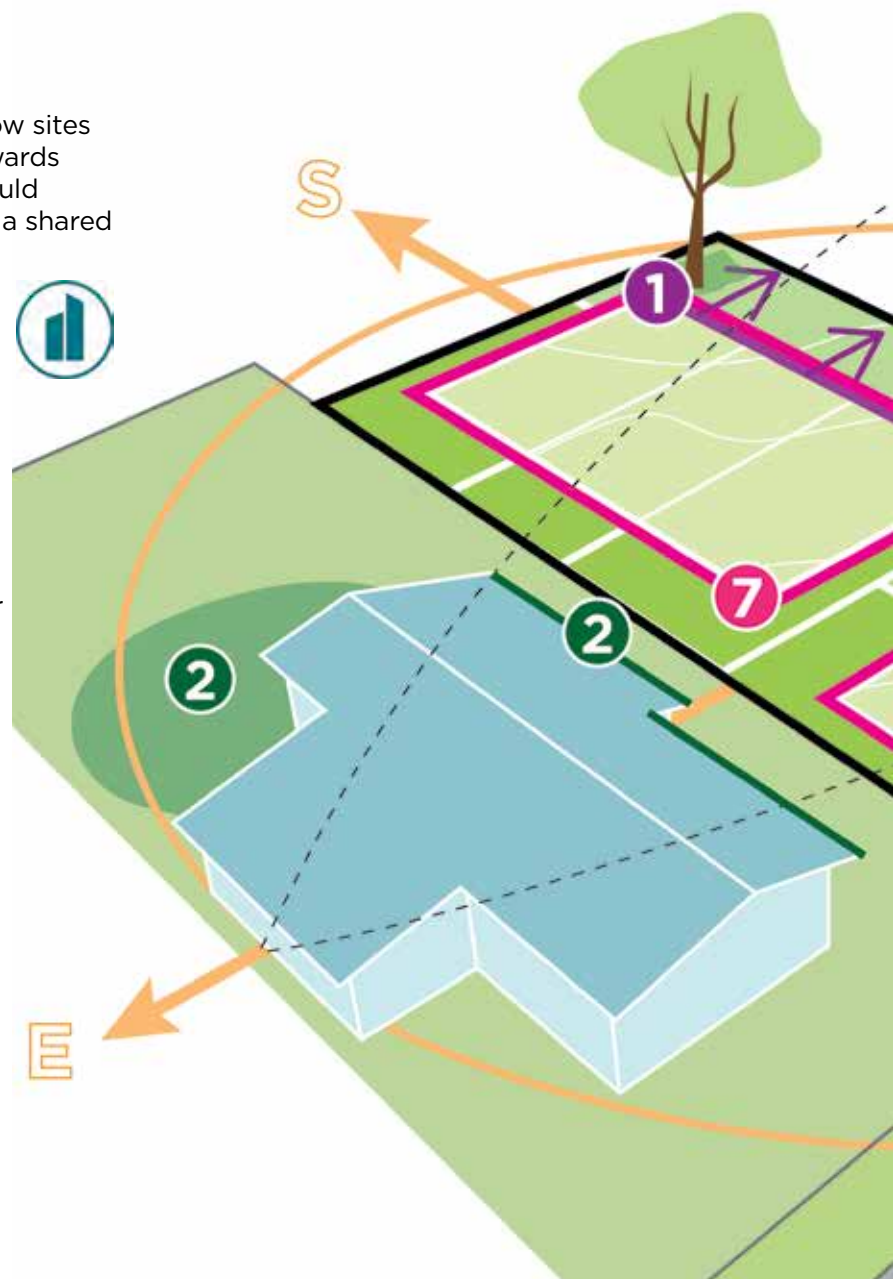
- 1 Multi-unit developments on long, narrow sites should orientate the front dwelling towards the street, while the rear dwellings should provide opportunities to look out over a shared driveway or accessway.



- 2 Position buildings to avoid significant [overlooking](#) of neighbouring buildings and outdoor living spaces.



A row of terraces positioned perpendicular to the street edge with a predominantly blank side elevation. This doesn't contribute to creation of attractive streets.

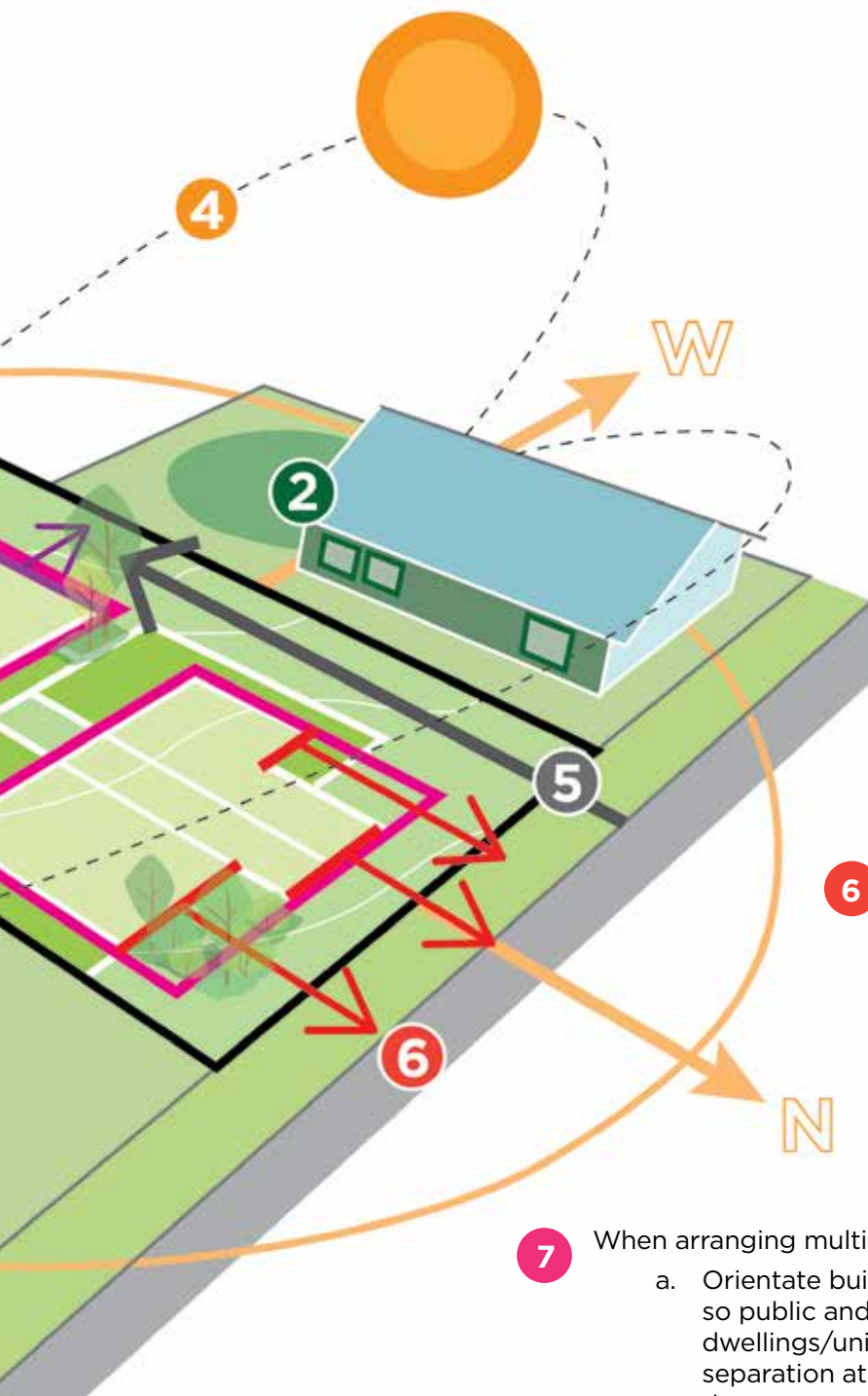


- 3 At the site design stage, factor in where on-site storage and collection space for refuse and recycling will be located.





4 Position buildings and their main indoor and outdoor living spaces to maximise sunlight access and provide shelter from prevailing winds.



Sunny and sheltered communal open space has been used to provide privacy/ separation between adjacent dwellings whilst affording opportunities for social interaction between neighbours.

5 If vehicle parking is required on the site, position carparking and access to/from it where it does not detract from the arrangement and use of buildings and associated open spaces.

6 Orientate dwellings to have a relationship to the street and/or other public spaces - locate frequently used rooms at the front of the building and locate the front door on the front of the building facing the street, both to provide passive surveillance and activity out over the street.

- 7 When arranging multiple buildings on a site:
- Orientate buildings consistently towards the street so public and private spaces of individual sites and dwellings/units are aligned, maximising building separation at the rear and limiting views between them.
  - Create positive and usable public and shared outdoor spaces between and around the buildings, avoiding leftover spaces with no clear purpose.
  - Ensure the ground floor of buildings can provide for universal access.

## 3.0 TE HANGA WHARE ME TE ĀHUA | BUILDING FORM AND APPEARANCE

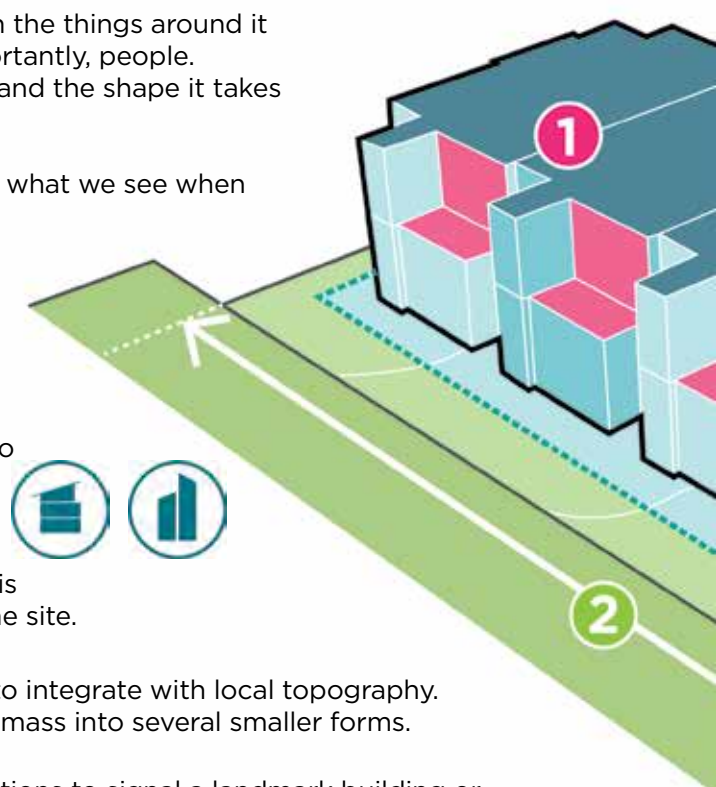
The form and appearance of a building is an important factor when designing a development and can contribute to visually attractive streets and more walkable neighbourhoods. This includes considering a building's scale, [mass](#) and height and the design of its [façades](#) and rooflines.

A building's scale describes how big it is in proportion with the things around it – the site, other buildings, the width of the street and importantly, people. Building mass describes the physical volume of a building and the shape it takes depending on how the [mass](#) has been arranged.

A [façade](#) is the name for an exterior face of a building, it is what we see when looking at each side of a building.

### 3.1 BUILDING MASS AND HEIGHT

- 1 Set upper floors back from side boundaries so as to locate building mass away from adjacent properties to reduce potential privacy and shading impacts.
- 2 When determining a building's [mass](#), consider what is appropriate for the size, shape and topography of the site. For example:
  - a. Step or terrace the building mass down a slope to integrate with local topography.
  - b. On larger sites consider breaking down building mass into several smaller forms.
- 3 Consider using increased building height in key locations to signal a landmark building or significant corner site.



Hobsonville, Auckland  
Setting back upper levels can create additional privacy.

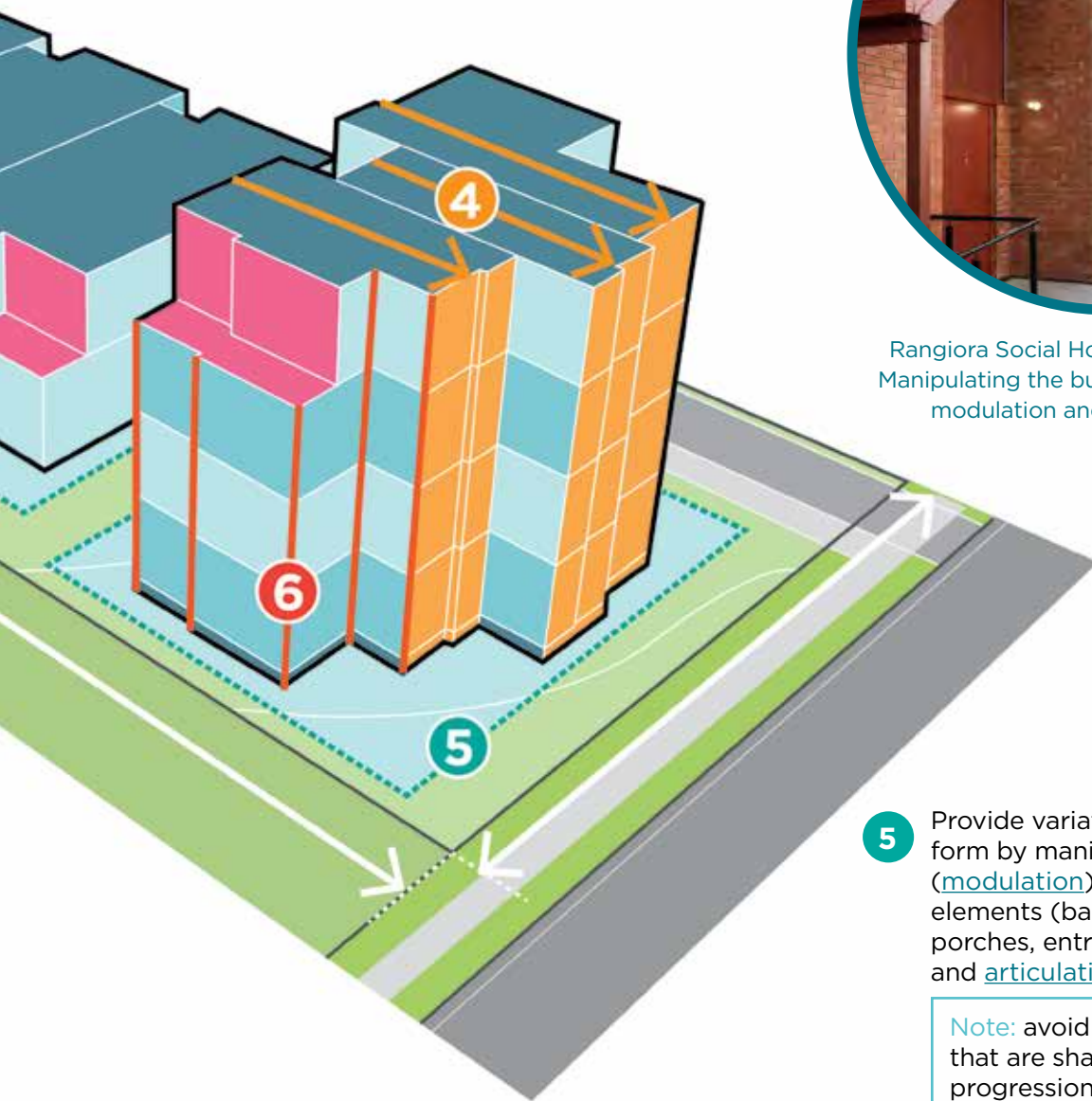


Kerewhenua Apartments, Hobsonville  
Uses additional height at the corner to create a landmark building.

- 4 Place the main building [mass](#) towards the front of the site, addressing the adjacent street or public space.



Rangiora Social Housing Development - Manipulating the building form can create modulation and visually interest.



- 5 Provide variation in a building's form by manipulating its mass ([modulation](#)) and using building elements (balconies, windows, porches, entryways etc.) to add depth and [articulation](#).

**Note:** avoid designing buildings that are shaped to be a literal progression of a [recession plane](#).

- 6 Position building mass so as to avoid long building [forms](#); design the building's form in multiple vertical blocks or elements and limit long continuous roof ridgelines and blank walls to reduce [visual dominance](#).



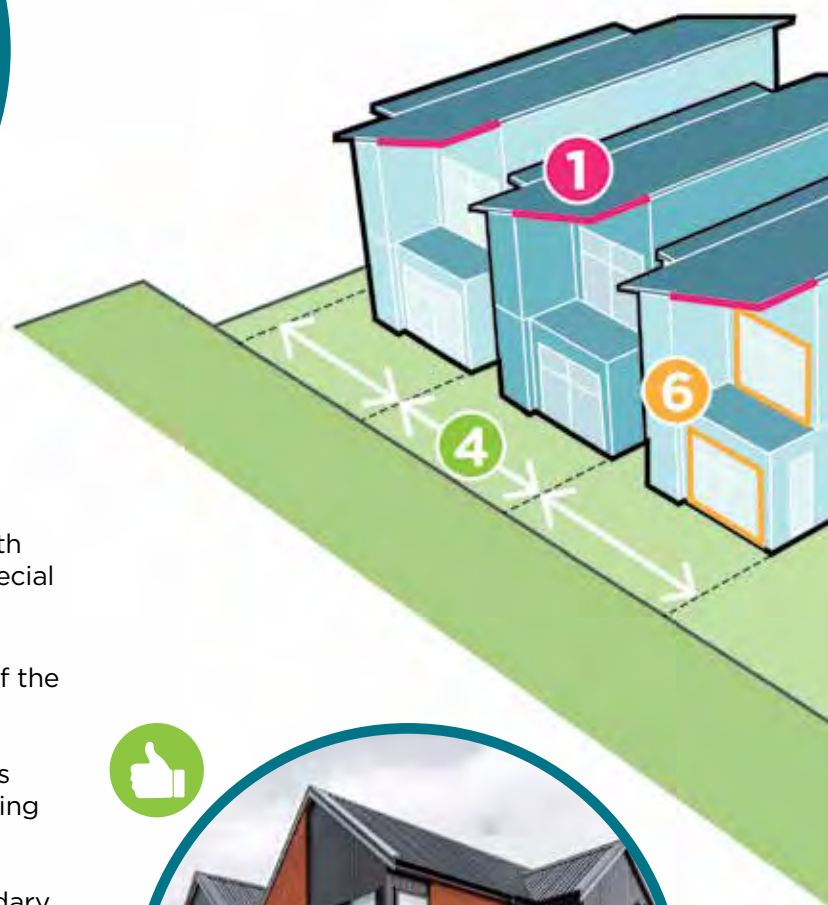
## 3.2 FACADE DESIGN AND ROOFLINES



Northcote Development, Auckland.  
An example of using material to create  
façade articulation

1

Use roof eaves (or the absence of them) to provide visual interest to the building's form and clearly define the edge of the roof, as well as providing weather protection.



2

Design buildings located on corner sites with two street frontages, to emphasise their special street corner position. Techniques include:

- a. Locating prominent building entranceways at the front corner of the building.
- b. Using architectural features like balconies, windows and continuous rooflines, to wrap around the building at the corner.
- c. Cut / chamfer the building's front corner back from the corner boundary, to create a transition space between the public street and the building's entrance.



Buckley Terraces, Hobsonville.  
The internal layout and associated façades  
have been designed to address both street  
frontages.

3

A corner building must consider the two streets it is located on and use its building form and appearance to signal if one street is more significant than the other, to assist in the creation of [legible](#), walkable neighbourhoods.

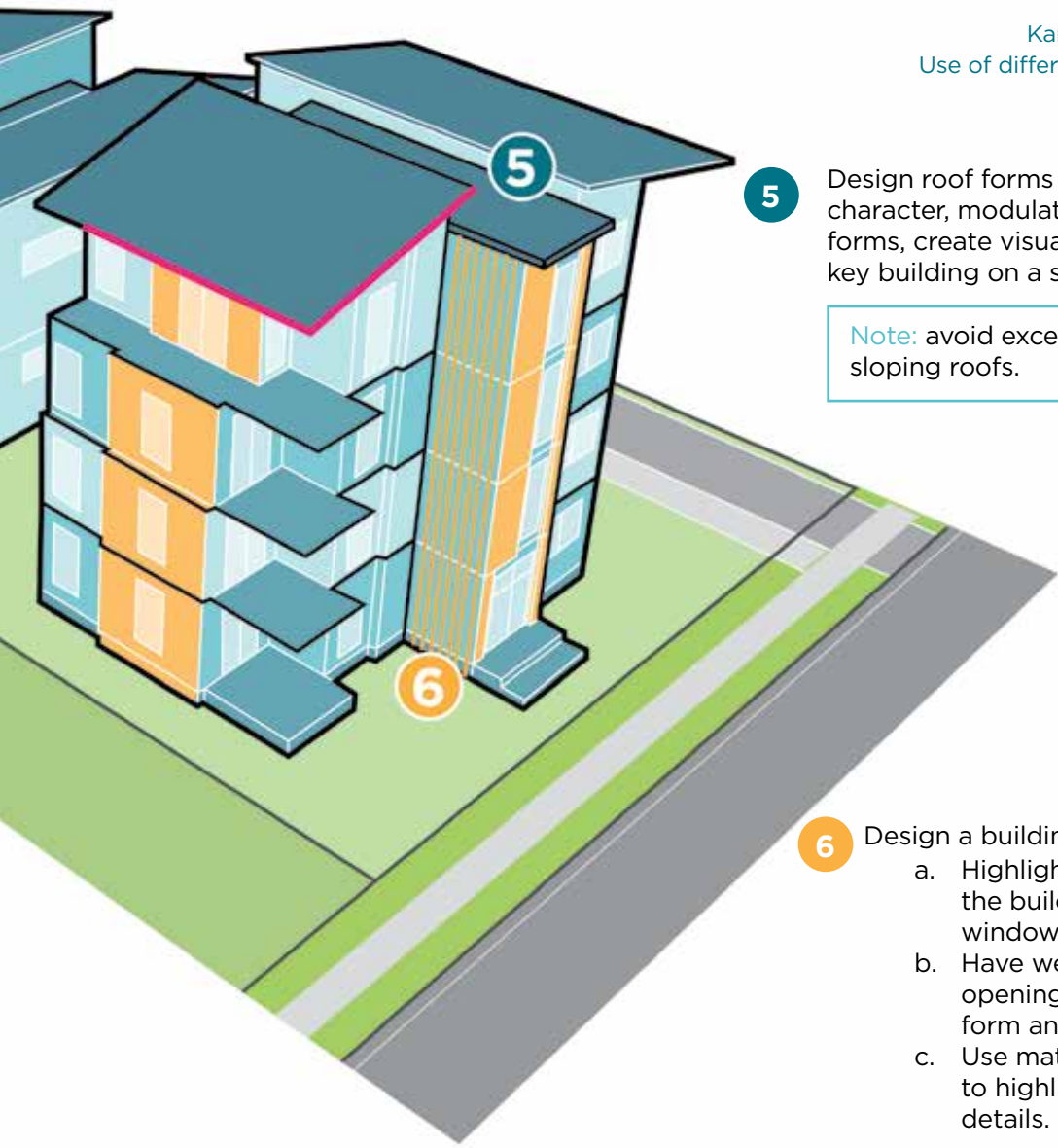


Karaka Grove, Takapuna.

Use of different roof shapes to individualise each unit.

4

Apartments, terrace houses and units within multi-unit developments should be expressed as separate entities in a building's form and façade. This provides a [residential scale](#) to large buildings, enables identification of individual homes and can reduce potential [visual dominance](#) effects. Techniques include [modulation](#), orientation of units, varied rooflines, placement of windows, doors, balconies etc and colour and material changes.



5

Design roof forms to express a building's character, modulate large buildings into smaller forms, create visual interest and/or identify a key building on a site with multiple buildings.

**Note:** avoid excessively high or steeply sloping roofs.

6

6

- Design a building's [facade](#) to:
- Highlight and define parts of the building, such as entries and windows.
  - Have well-proportioned windows and openings that relate to the shape, form and size of the building.
  - Use materials, texture and colour to highlight the building's form and details.

**Note:** Use of wood on a [facade](#) can add a fine grained texture to a development and helps to reflect Rotorua's emerging urban character which is reflected through Council's [Wood First Policy](#).

7

Consider how ancillary building services like solar panels and rain water collection devices can be integrated into the roof form to help reduce a building's impact on te taiao/the environment.

## 4.0 NGĀ HONONGA KIT TE WĀHI | RELATIONSHIP WITH SURROUNDINGS

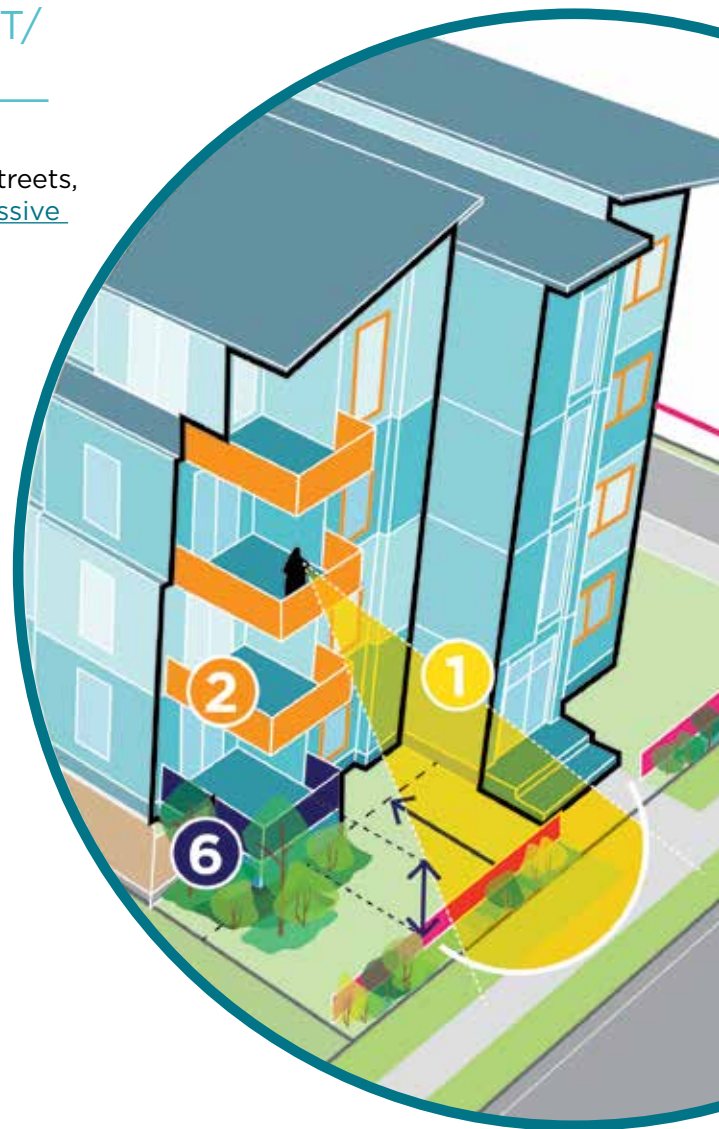
Good development responds positively to its surroundings and contributes to the safety and amenity of the area. This includes consideration of [CPTED](#) principles. It balances the challenge of providing privacy for residents and providing views and activity out over the street and public spaces to help make places safe.

### 4.1 RELATIONSHIP WITH THE STREET/ PUBLIC SPACE

- 1 Design buildings (including their internal layout) so residents can look out over public spaces such as streets, parks, reserves and shared driveways, providing [passive surveillance](#) over these spaces to increase safety.
- 2 Position windows and balconies to direct views towards the street and into back yards, not sideways into neighbouring dwellings or private outdoor living spaces.



Terraced House, Hobsonville.  
A full-height window to the street with minimal landscaping and no fencing compromises privacy resulting in drawn blinds and limited potential to contribute to passive surveillance.



- 3 If a development site shares a boundary with a public open space (e.g. a park), design the building(s) to address the street and also provide [passive surveillance](#) over the open space. Create a clear boundary between the private and public spaces; avoid high, impermeable boundary fences (over 1.5m); and position main rooms in the dwelling so residents can look out over both the street and the open space.

- 4 Place mailboxes at the front entrance to a site or building to help identify the entrance and aid wayfinding for visitors. They can be integrated into boundary walls and fences.



Terraced House, Hobsonville.  
Clearly visible door, low height fencing and landscaping contribute to an attractive frontage.

- 5 When designing boundary treatments for a front boundary:
- Signal where the public street or public space changes to private property. It is common to use fences or planting to do this.
  - Use a low fence (preferably no more than 1.2m) along the front boundary to allow views from private property out over the street, supporting safer public spaces.
  - Soften fences and walls by planting in front of them and/or creating a [rhythm](#) in their materials and design.
  - Long monotonous blank walls or tall, visually impermeable fences on front boundaries reduce safety and attractiveness of the street. There are very few scenarios where they are appropriate.
  - Enable clear sightlines from the street to building entrance(s).

- 6 Locating residential units on the ground floor of an apartment or multi-unit developments creates tension between privacy for residents and the safety of streets and other public spaces. When this can't be avoided:
- Set the building back from the street boundary and create a [landscape buffer](#) between the building and street boundary.
  - Raise the building's ground floor level slightly above the street, to prevent direct views from the street into the apartment.
  - Provide screening between the street and private spaces, without fully enclosing the front face of the building.
  - Provide individual street entrances for each ground floor apartment to add to the activation of the street.

- 7 Provide for step-free access from the street to the building entrance(s).



## 5.0 NGĀ TUKUORA ME NGĀ WĀHI NOHO TŪ-Ā-NUKU | ON-SITE AMENITY AND OUTDOOR LIVING SPACES

The design of outdoor living spaces becomes much more important as developments intensify and can help deliver quality on-site living environments. When outdoor living spaces are also used for utilities and building services, they need to be carefully managed and arranged so they do not affect the quality of the outdoor living spaces and development.

### 5.1 OUTDOOR LIVING SPACES

- 1 Locate private outdoor living space to receive a good quantity of sun throughout the year and avoid prevailing winds. Avoid creating south-facing private outdoor living space.

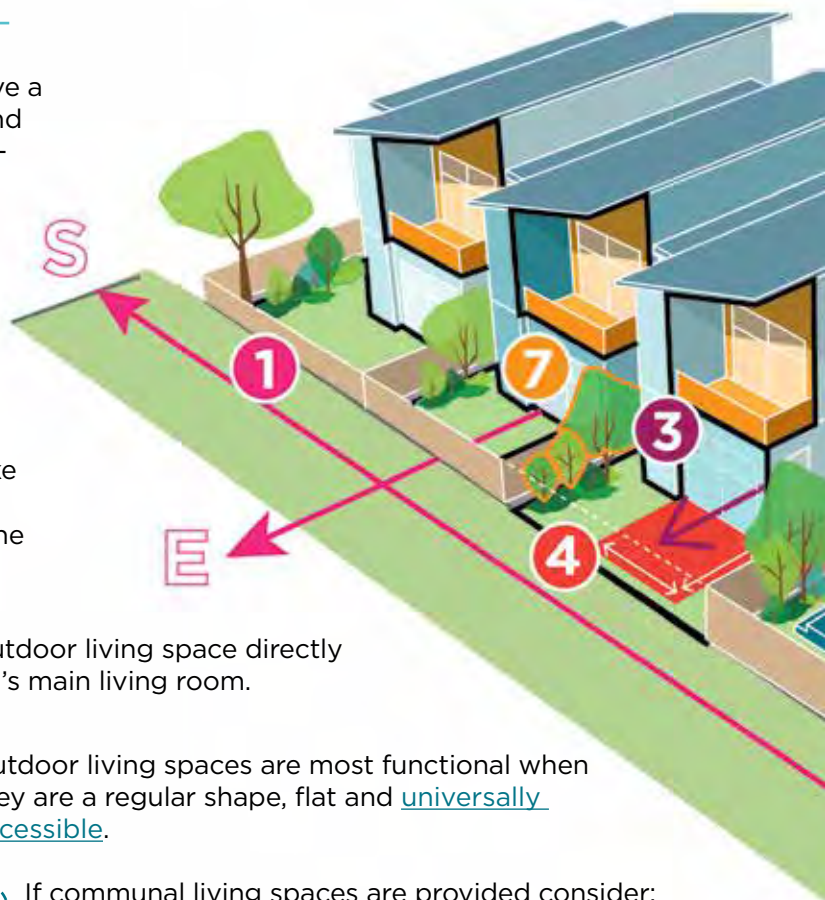
**Note:** If the main outdoor living space does not receive adequate sunlight, incorporate a secondary space that receives sun at a different time of the day and/or year.

- 2 Position private outdoor living spaces to take advantage of views towards natural, cultural and physical landmarks identified through the site analysis.

- 3 Position the main outdoor living space directly outside the dwelling's main living room.

- 4 Outdoor living spaces are most functional when they are a regular shape, flat and universally accessible.

- 5 If communal living spaces are provided consider:
  - a. Year-round use, at day and night, and position them to receive good levels of sunlight and daylight throughout the year.
  - b. If they are easily accessible by all residents; safe, with good levels of overlooking from surrounding buildings.
  - c. The fencing/containment of play areas for tamariki.
  - d. Incorporating opportunities for māra kai/ food gardening and interaction among residents (e.g. communal barbecue).
  - e. Whether landscaping provides amenity, supports biodiversity and is easy to maintain.



Co-Haus, Grey Lynn.

Dwellings are orientated towards a communal open space creating a safe, well used area that fosters a positive sense of community for residents.







Terraced houses, Hobsonville. A small level change, low-height landscaping and semi-permeable fencing has been used to provide privacy for outdoor spaces fronting a street.

6 Position private outdoor living spaces where it is most private and not overlooked by neighbouring buildings and their outdoor living spaces.



7 Balance privacy and social interaction from outdoor living spaces of neighbouring apartments or units. Measures could include:

- a. Use a combination of fence heights and [permeability](#) between private and communal areas to provide some privacy while allowing opportunities for social interaction.
- b. Orientating outdoor living spaces away from each other.
- c. Using screens, [balustrades](#), [pergolas](#) etc. to interrupt oblique views.
- d. Using vegetation as informal screens where a fence is not appropriate.



8 Where views from public space (e.g. the footpath) into private outdoor living spaces occur, balance visual privacy and [passive surveillance](#):

- a. Minimise direct views from the public space into the private property by setting the building and its outdoor living space a little above street level (i.e. half a floor height above the footpath).
- b. Use a combination of fence heights and [permeability](#) along a boundary to create areas of privacy while allowing views in and out of other areas.

9 When locating private outdoor living space in front of a dwelling is unavoidable, place entrance paths along the edge of the space, rather than through the middle of it, so to maximise usability of the space.

## 5.2 BALCONIES



Bernoulli Gardens, Hobsonville. Balconies have been recessed to help modulate the building form, increase privacy for residents and contribute to visual interest.

- 1 Design balconies to be elements of the overall design of the building, rather than add-ons to a façade.
- 2 Use sun screens, awnings, eaves, pergolas, shutters etc to manage sun, rain and wind so that balconies can be used for most of the day or year.



Te Maru o Tawatawa, Wellington. Semi-permeable balustrading and screening between apartments creates a sense of privacy whilst still enabling passive surveillance of the street.

- 3 Use communal building services (e.g. heat pumps and satellite dishes) for apartments and multi-unit development to avoid needing them for each dwelling.



- 4 When building services have to be located on a balcony, position them to minimise their visibility from other public and private spaces.



## 5.3 ACCESS TO NATURAL LIGHT/OUTLOOK

1 Design dwellings, both [single and dual aspect](#) units, to have good outlook, views, ventilation, daylight and sunlight to support more energy efficient buildings.

- a. Single aspect units should be a maximum depth of 8m and should not face south.

**Note:** The back wall of primary living spaces (i.e. kitchen, living, dining) should also be no more than 8m from a window.

- b. Double aspect units more than 15m deep should be at least 4m wide, to allow for sufficient glazing and to avoid deep, narrow apartments.

2 Create opportunities for natural light and outlook within large and tall residential buildings via:

- a. Internal open-air courtyards or open spaces at the rear of the site.
- b. Upper floors set back from one or more side boundaries.
- c. Skylights, clerestory windows, atria or lightwells.
- d. Leaving space between buildings (neighbouring or on the same site) to allow views through.

3 Maximise the height and size of windows and the height of ceilings to improve daylight access to rear rooms within a dwelling.

4 Design the size, position and orientation of windows to capture views.

5 Use shading devices such as eaves, pergolas, louvres, screens and planting to optimise summer shading while enabling winter sun reducing the need for mechanical heating and cooling.

6 Use passive solar design techniques, such as eaves, [living roofs](#) and solar panels, to heat and cool a building, creating a comfortable and healthy internal environment.

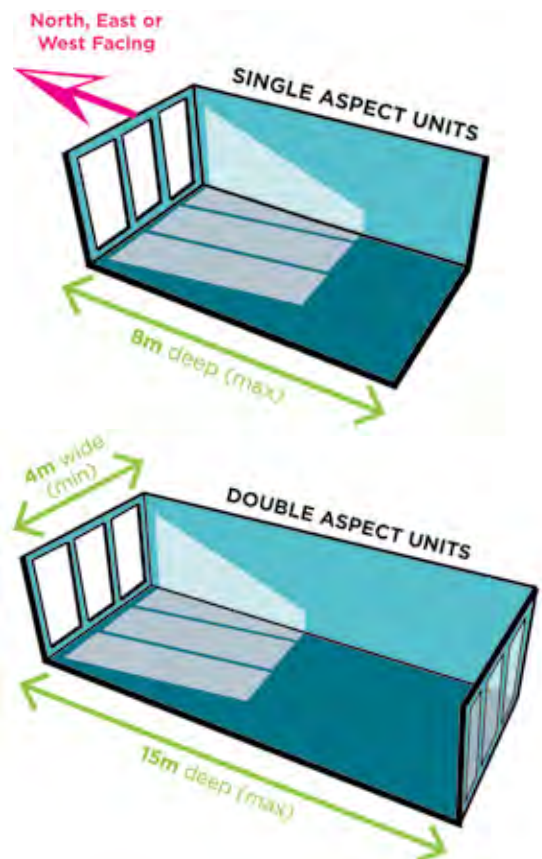
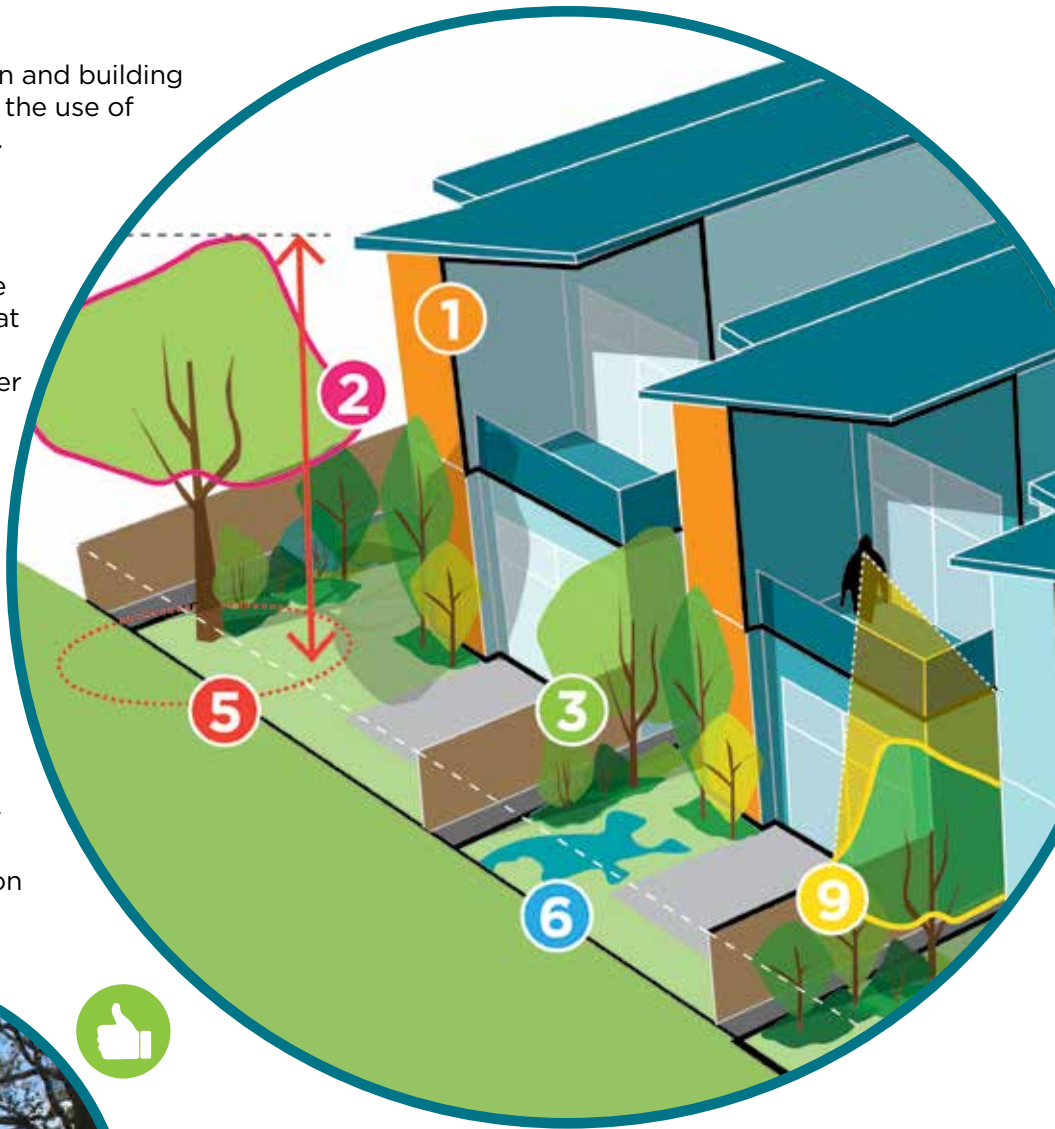


Diagram showing best practice solutions for double aspect and single aspect units

## 5.4 LANDSCAPING

- 1 Integrate landscape design and building design. This could include the use of [living walls](#) or [living roofs](#).
- 2 Plan planting schemes and landscape design to maximise the use of native species and to help combat weather discomfort by providing shade and shelter in response to the local climate.
- 3 Use landscape design to add richness, texture, colour and sensory experience to outdoor spaces.
- 4 Seek to retain existing mature trees and vegetation, for their many values, including assisting with temperature reduction in urban environments.

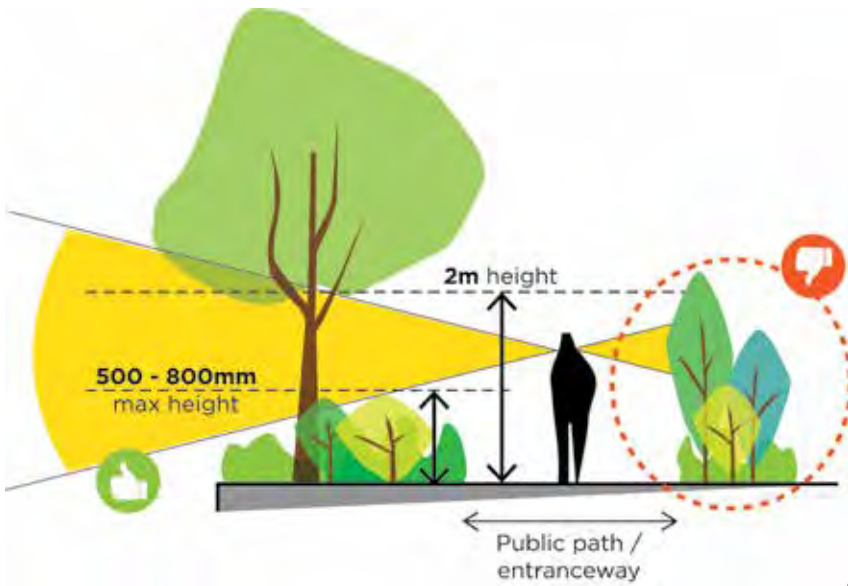


Waiata Shores, Manukau.  
Mature vegetation has been retained as part of a terraced housing development to provide increased amenity for new residents.

- 5 Consider the scale and height of trees at maturity when designing a planting plan. Ensure they are in scale with the development and buildings and will not block significant views or outlook or create too much shade over the development and neighbouring buildings.

**Note:** Use trees and plants as large as possible at the time of planting to generate a positive impact immediately.

- 6 Use permeable ground materials within the development to decrease stormwater runoff.



Avoid creating dense planting around public pathways as they disrupt sightlines

7 Avoid dense and tall planting areas along pathways and at entrances to ensure these areas remain safe, with good passive surveillance and clear [sightlines](#).

8 Extend landscape design and planting to include parking and service areas, to soften and shade what can otherwise be large areas of hard surfaces.

9 Use plants to soften blank walls, to screen private open spaces and contribute to privacy between dwellings and the street.



Paetutu, Porirua.

Landscaping has been used to break-up areas of paved car parking and contribute to privacy and visual amenity of adjacent dwellings.

10 Design outdoor spaces to provide for the intended use of the space, the frequency it will be maintained and the climate of the area. In particular:

- Maximise the use of trees and vegetation that are local to the area ([eco-sourced natives](#)).
- Use deciduous trees in locations where winter sun is a priority.
- Consider options for using fruit trees to support māra kai.
- Incorporate landmarks, special views across and from, and significant elements of the site into the landscape design.
- Use water-sensitive design methods to manage and treat water on and moving across the site (rain gardens, swales, soakage pits, deep soil zones).



Rear lane, Hobsonville.

Varied hardscaping and areas of planting contribute to amenity of this area whilst maintaining clear sightlines throughout.

11 Where retaining walls are located on a boundary, reduce their visual impact by stepping their height and incorporating planting.

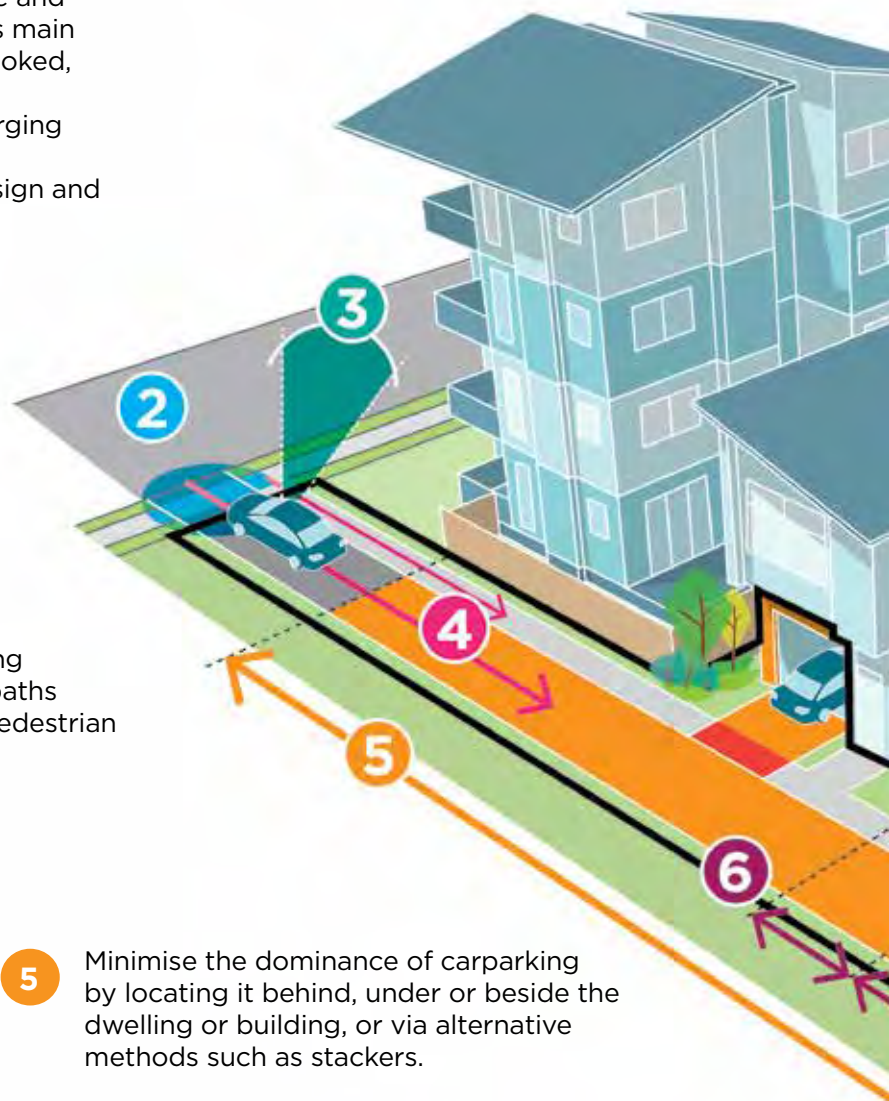
## 6.0 NGĀ MOMO TŪNUKU | MULTI-MODAL TRANSPORT

- 1 Encourage the use of active and zero-carbon modes by:
  - a. Providing adequate bicycle parking; locate it where easily accessible and close to a dwelling or building's main entrance and ensure it is overlooked, secure and sheltered.
  - b. Provide for electric vehicle charging points.
  - c. Prioritise pedestrians in the design and layout of sites.

- 2 Give priority to pedestrian footpaths at vehicle crossings to promote accessibility and slow vehicle exit and entrance speeds.

- 3 Use low fencing along front boundaries to ensure clear sightlines at vehicle crossings.

- 4 Locate parking and vehicle manoeuvring areas where they do not conflict with paths between a dwelling and the street or pedestrian entrances to a building.



Co-haus, Grey Lynn.

Car parking has been consolidated into a car stacker to the side of the development. This has enabled more space to be dedicated to communal outdoor spaces and landscaping.

- 5 Minimise the dominance of carparking by locating it behind, under or beside the dwelling or building, or via alternative methods such as stackers.

- 6 Limit the size of garages for individual dwellings, to be less than half the width of the dwelling.



- 7 When multiple dwellings have individual driveways minimise the width and number of these and use shared driveway crossings for adjacent dwellings.



**8** When designing surface parking for multi-unit developments:

- a. Ensure there is provision for accessible car parking spaces.
- b. Position the carpark where it will be overlooked by residential buildings.
- c. Provide paths between the parking area and the dwellings
- d. Incorporate good levels of lighting in the carpark and along any paths to and from buildings entrances, while managing [light spill](#) effect on adjacent residential units.
- e. Where possible, locate away from communal amenity space where tamariki/children may play.



Modal, Mt Albert.

Resident's cycle parking has been incorporated securely into the building facade with convenient access from the adjacent street.

**9** When a site has two road frontages (corner sites), locate entrances/driveways to vehicle parking areas on the secondary frontage and away from main pedestrian entrances.

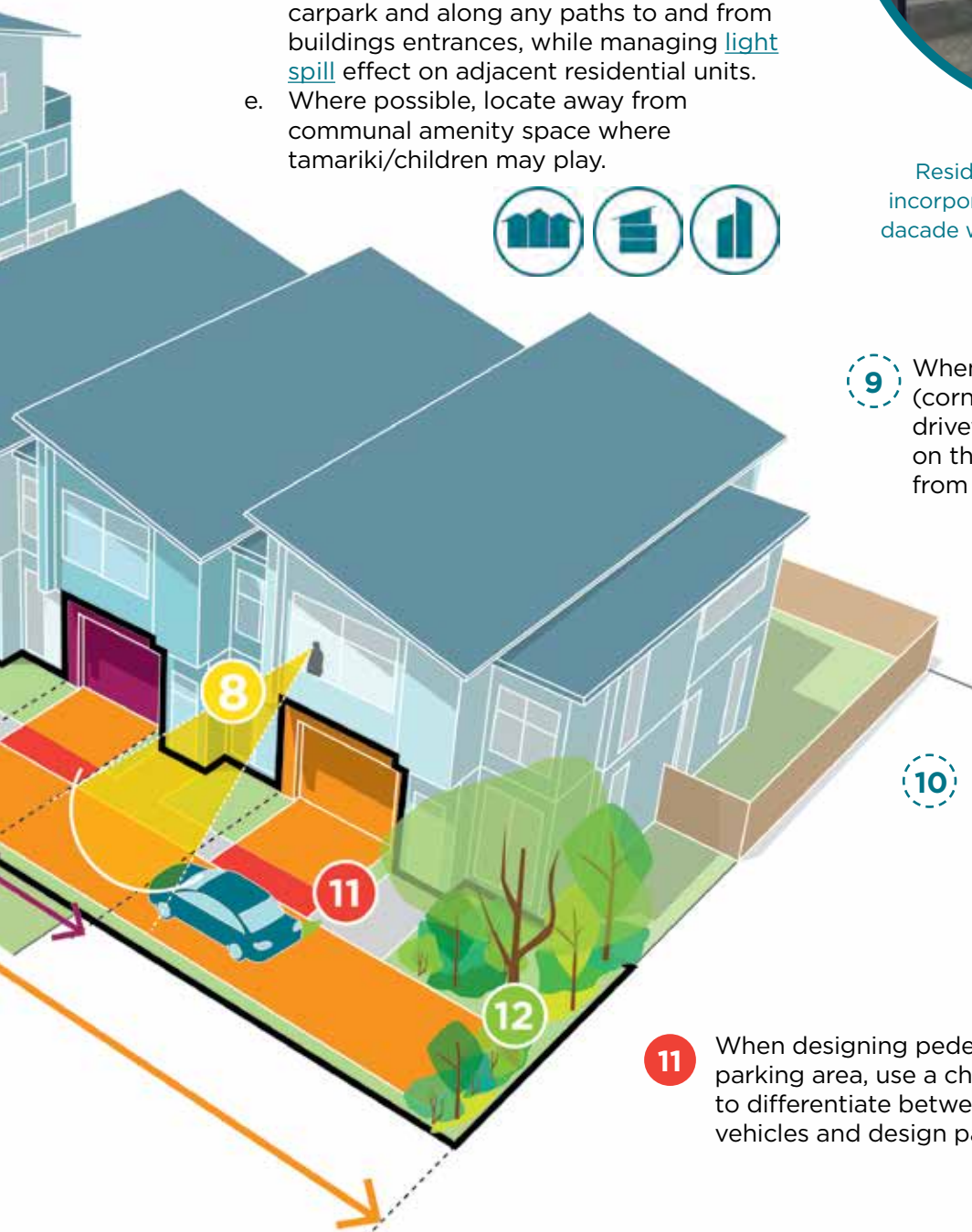


**10** Locate parking and vehicle access for narrow lots on [rear lanes](#) to avoid dominating the front of the building.



**11** When designing pedestrian paths to or through a parking area, use a change in ground surface material to differentiate between spaces for pedestrians and vehicles and design paths at a minimum of 1.5m wide.

**12** Incorporate landscaping, fencing and lighting within carparking and vehicle manoeuvring areas to soften the appearance of parked cars as viewed from the street and create an attractive outlook for residents.





Mechanical plant on the roof of this development has been screened in a manner which helps integrate these services into the buildings approach to mass and form.



Air conditioning units have been incorporated into an undercroft parking area away from the street frontage avoiding unnecessary visual clutter.



Vents from kitchens and bathrooms have been carefully positioned and used to create an architectural feature to add, rather than detract, to the visual interest of the building



Individual air conditioning units have been used and placed in a visually prominent location on the roofline of this building.



No dedicated storage area for rubbish and recycling bins is provided on site resulting in them being left exposed in the communal accessway.



Bins are screened by low level fencing and integrated into the front yard landscaping of this development.



## 7.0 NGĀ RATONGA ME NGĀ WĀHI PUTU | SERVICES AND STORAGE

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Building **services** and utilities include refuse and recycling bins, mail boxes, drain pipes, utility boxes, satellite dishes, lift plant, external stairwells on multi-storey buildings and other mechanical and electrical equipment. Consider the location and design of building services and utilities at the start of the development's design, to avoid unintended poor placement.

- 1 Locate service areas and facilities where practical and safe for use without creating negative visual, noise or odour effects. Locate services away from the front of buildings or where viewed from public open spaces to avoid visual clutter.
- 2 Provide an appropriate quantity of space for services, either adjacent to each dwelling or in a shared area.
- 3 Set back or conceal roof-mounted mechanical and electrical apparatus behind a parapet, extended wall or screen.
- 4 Install solar panels for water heating or electricity generation. A north-facing, sloping roof is the most efficient place to locate panels.
- 5 Design rubbish and recycling storage spaces to be:
  - a. Easily accessible from all dwellings, with good lighting and easy to maintain.
  - b. Located or screened to be visually unobtrusive.
  - c. Naturally ventilated, to avoid significant smells.
- 6 Identify where refuse and recycling will be placed for collection day and for multi-unit developments, identify how this will occur without dominating a driveway or street front.
- 7 For multi-unit developments with communal rubbish areas, use shared refuse and recycling bins and consider a private rubbish collection service.
- 8 For dwellings with gardens and lawns, provide storage space for garden tools and outdoor equipment.
- 9 In multi-unit developments where internal storage space is limited, provide opportunities for the storage of bulky items like prams, sports equipment or suitcases. Large and secure storage lockers, typically placed next to the parking area allocated to each dwelling is a common solution.



## 8.0 HE KUPUTAKA | GLOSSARY

Term	Definition
Active edges	A building frontage that directly interacts with an adjacent space. This could be via doors that allow people to move between inside and outside. Active edges are distinct from interactive edges, where buildings overlook the street and passersby can see activities inside the building, but do not physically access these activities directly. This permits building occupants and passersby to see one another. Examples of active edges include street cafes that positively enhance the adjacent open spaces. Examples of interactive edges include office space visible from the street, but accessed elsewhere.
Articulation	An architectural term typically used to describe the parts and composition of a façade, how they are joined, and what they are used for.
Balustrade	A row of columns or posts with a rail along the top. Balustrades typically line staircases or balconies and serve both decorative and safety functions.
CPTED	Crime Prevention through Environmental Design (CPTED) is a crime prevention philosophy based on proper design and effective use of the built environment leading to a reduction in the incidence and fear of crime, as well as an improvement in quality of life.
Cut and fill	Excavation whereby earth is dug up from one part of a site ('cut') and used elsewhere ('fill') to establish an activity on the site such as creating a level building platform, redirecting drainage, forming an accessway or for landscaping.
Desire line	A desire line path usually represents the preferred route and the shortest or most easily navigated route between an origin and destination. Desire lines can often be seen as alternative shortcut tracks in places where constructed pathways take a circuitous route.
Dwelling	Defined in the Resource Management Act 1991 as "dwellinghouse" a dwelling is any building, whether permanent or temporary, that is occupied, in whole or in part, as a residence. This includes any structure or outdoor living area that is accessory to, and used wholly or principally for the purposes of, the residence, but does not include the land on which the residence is sited.
Eco-sourced natives	Native plants grown from locally sourced seeds.
Facade	An exterior face of a building. Often used to describe the front facade of a building as the most important side of a building.
Form	The height, volume and overall shape of a building as well as its surface appearance.
Landmark building	A distinctive building that provides a sense of place and orientation. It may have historical, cultural or architectural significance (MICD).
Landscape buffer	An area of planted landscaping intended to provide occupiers of a building with visual privacy from the street, public spaces or adjacent sites.
Legibility	The ease with which a person is able to see, understand and find their way around an urban environment.

Term	Definition
Light spill	Unwanted light falling on areas outside those intended for illumination that causes annoyance, discomfort, distraction, or a reduction in visibility. Often defined as light illuminating areas outside the property line containing the lighting system, but may also be applied to lighting in public spaces that affects amenity in private spaces.
Living roofs and living walls	Sometimes referred to as green roofs and green walls. Living roofs typically combine a vegetation layer and growing medium over a waterproof membrane. Living walls include plants growing directly on walls, on supporting structures or within lightweight modular systems. Plant species ideally have shallow root systems and are drought resistant.
Mass/ Massing	The combined effect of the arrangement, volume and shape of a building or group of buildings.
Modulation	An architectural technique to vary or change a facade to make it appear as a collection of smaller components.
Orientation	The position of a building and its internal spaces in relation to its site, the street, the subdivision and neighbouring buildings. Building orientation directly affects residential amenity, including solar access, and influences other matters including visual and acoustic privacy.
Overlooking	The placing of a building or window in such a way that public spaces or neighbouring properties are clearly visible from the building or window.
Passive surveillance	To overlook an area with the aim of making the space a safe and pleasant environment. A beneficial side effect of passive surveillance is the potential to foster social engagement between people.
Pergola	A garden structure with an open roof made of beams supported by columns. They are often used as sheltered outdoor living spaces or passageways, and form support structures for vines.
Permeability (visual)	The degree to which visibility through a boundary wall or fence is possible. Usually expressed as a percentage.
Permeable ground materials	Surfaces made of paving systems that reduce stormwater runoff flows and improve runoff water quality. They are usually used in low traffic areas like carparks, driveways and footpaths.
Rear lanes	A space at the rear of a property or set of properties that may accommodate vehicle access. A rear lane may also present an opportunity to build secondary units, often residential, above garaging adjoining the rear lane.
Recession plane	A plane inclined at a particular degree from a point above a site boundary through which no part of a building may protrude without resource consent. The recession plane is intended to safeguard a degree of access to sunlight and daylight for neighbouring properties.
Residential scale	The apparent size of a residential building, window, or other element as perceived in relation to the size of a human being. Scale refers to the apparent size, not actual size, since it is always viewed in relationship to another building or element. For example, the scale of one element may be altered simply by changing the size of an element nearby, such as windows, doors, or other architectural details. These relationships may contribute to the experience of a place as intimate/vast/daunting, etc.

Term	Definition
Reverse sensitivity	The potential for the operation of an existing lawfully established activity to be constrained or curtailed by the more recent establishment of other activities which are sensitive to the adverse environmental effects being generated by the pre-existing activity.
Sense of place	A person or community's appreciation of the special and unique qualities of their neighbourhood, city or environment that is different from other places.
Service area	An area that is external to the apartment building and used for the storage and collection of waste and recycling from individual apartments.
Sightlines	Lines of clear, uninterrupted sight from a viewer's location to other locations and distances.
Single and dual aspect (units)	Single aspect: Units with three closed sides (except for the entrance) that are typically used with a double-loaded (central) corridor access arrangement. Dual aspect: Cross ventilating units with at least two major external walls facing in different directions, including corner, cross-over and cross-through apartments.
Te taiao	The natural world.
Three-waters	The three main types of water infrastructure: Stormwater, drinking water and wastewater.
Topography	The arrangement of natural or artificial forms and physical features. Topography is likely to strongly influence the location and characteristics of built form, drainage, movement, routes and green infrastructure (Designing Buildings).
Universal accessibility	An approach to design that considers people at all life stages and potential scenarios.
Vehicle crossing	Facility for vehicle access between a road carriageway and a site boundary.
Vertical and horizontal rhythm	A common compositional technique in architecture that uses repetition, be it rows of structure, a grid of openings, or the stacking of a material. Repetition in massing, bays, columns, windows, bricks (or other elements) can create rhythm across a facade.
Visual amenity	The visual qualities of a place that make it pleasant and attractive for individuals and communities to occupy.
Visual dominance	Visual dominance refers to buildings that over-power a space and appear disproportionately large or out of scale with what is anticipated within an urban environment. Measures to address visual dominance typically include a considered approach to the modulation and articulation of a buildings form and facades.

## 9.0 HE RAUEMI WHAIHUA ANŌ | OTHER USEFUL RESOURCES

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Auckland Design Manual (2022)

<https://www.aucklanddesignmanual.co.nz/>

The Built Environment - Kāinga Ora Design Guidelines (2021)

[https://kaingaora.govt.nz/assets/Publications/Design-Guidelines/Part-1b\\_The-Built-Environment\\_2021-06-03.pdf](https://kaingaora.govt.nz/assets/Publications/Design-Guidelines/Part-1b_The-Built-Environment_2021-06-03.pdf)

Hastings Residential Intensification Design Guide (2020)

<https://www.hastingsdc.govt.nz/assets/Document-Library/Hastings-Residential-Intensification-Design-Guide/Hastings-Residential-Intensification-Design-Guide.pdf>

He papakāinga, he hāpori taurikura te pou pou rautaki - Homes and thriving communities strategic framework (2020)

[https://www.rotorualakescouncil.nz/repository/libraries/id:2e3idno3317q9sihrv36/hierarchy/our-council/council-publications/standardsandstrategies/documents/200925\\_housing\\_framework\\_Final\\_Web.pdf](https://www.rotorualakescouncil.nz/repository/libraries/id:2e3idno3317q9sihrv36/hierarchy/our-council/council-publications/standardsandstrategies/documents/200925_housing_framework_Final_Web.pdf)

Living Roof Guide - Pukapuka tataki ki te mataora tuanui (2019)

<https://www.wdc.govt.nz/files/assets/public/documents/council/standards-guidelines/whangarei-living-roof-guide.pdf>

Living with Children at Density - Kāinga Ora Design Guidelines (2018)

<https://kaingaora.govt.nz/assets/Publications/Design-Guidelines/180730-HLC-AHPDG-Part-3-3b-Children-at-Density-REV-A2.pdf>

Mauri Ora Housing Development Wellbeing Compass (2021)

[https://www.tetatau.nz/site\\_files/28219/upload\\_files/COMPASS\\_17NOVwithTohu\(1\).pdf?dl=1](https://www.tetatau.nz/site_files/28219/upload_files/COMPASS_17NOVwithTohu(1).pdf?dl=1)

National Guidelines for Crime Prevention through Environmental Design in New Zealand (2005)

<https://environment.govt.nz/publications/national-guidelines-for-crime-prevention-through-environmental-design-in-new-zealand/>

Ngā tohutohu hoahoa ā-motu mō te wharenoho mātoru-waenga - National medium density design guide (2022)

<https://environment.govt.nz/assets/publications/national-medium-density-design-guide-31May2022.pdf>

New South Wales Apartment Design Guide (2015)

<https://www.planning.nsw.gov.au/apartmentdesignguide>

Rotorua Lakes Council Geothermal Bylaw (2016)

[https://www.rotorualakescouncil.nz/repository/libraries/id:2e3idno3317q9sihrv36/hierarchy/our-council/policiesandbylaws/bylaws/Geothermal\\_Bylaw\\_2016.pdf](https://www.rotorualakescouncil.nz/repository/libraries/id:2e3idno3317q9sihrv36/hierarchy/our-council/policiesandbylaws/bylaws/Geothermal_Bylaw_2016.pdf)

Rotorua Lakes Council Wood First Policy (2015)

[https://www.rotorualakescouncil.nz/repository/libraries/id:2e3idno3317q9sihrv36/hierarchy/our-council/policiesandbylaws/policies/9\\_7-Wood-First-Policy.pdf](https://www.rotorualakescouncil.nz/repository/libraries/id:2e3idno3317q9sihrv36/hierarchy/our-council/policiesandbylaws/policies/9_7-Wood-First-Policy.pdf)

Te Arawa 2050 - Te Arawa Vision

<https://indd.adobe.com/view/3cf693c0-09a4-4f18-9cbf-7b7f4f9787ff>

Whangarei Urban Design Guidelines for Residential Development (2020)

<https://www.wdc.govt.nz/files/assets/public/documents/council/standards-guidelines/urban-design-guidelines-residential-development.pdf>



**TE KAUNIHERA**  
**O NGĀ ROTO O ROTORUA**