HOROWHENUA DISTRICT PLAN

Medium Density Residential Development

DESIGN GUIDE

Horowhenua DISTRICT COUNCIL

Horowhenua
DISTRICT COUNCIL

DATE: 02 OCTOBER 2017

Contents

1. Introduction

The Horowhenua district's population is growing and this creates a demand for housing. Currently, most houses (referred to throughout this document as 'dwellings') in these areas are single standalone structures on generous sections. This type of development is common throughout New Zealand and is a low-density form of residential development.

Low density suburban development generally consumes larger amounts of land. As demand for development increases, this type of suburban development typically involves expansion into surrounding rural or coastal areas, with corresponding adverse effects on natural character, fertile land and green open spaces. It can also present challenges to the provision and cost of infrastructure such as roading.

To meet increasing population demand within urban areas, a better range of housing types to accommodate a more diverse population is now required.

Provision has been made in the Horowhenua District Plan (the Plan) for more intensive types of housing to meet the needs of the district. However, increased density needs to be carefully managed and the approach of the Council is to provide this through the Plan and the Medium Density Residential Development Design Guide (the Guide).

There are several benefits associated with medium density development:

- It provides more diverse housing choice, and is especially beneficial for first home buyers or for retirees looking to down size to smaller low-maintenance homes
- It promotes better use of limited land around town centres
- It is a compact form of development that promotes energy efficiency.

There are several ways in which medium density housing can be developed, but each development should respond to the site's context. Detailed information on different types of medium density residential housing is outlined in Section 3.1 of the Guide, with the types of medium density considered most appropriate for the Horowhenua being:

- Small stand-alone dwellings - not attached to other dwellings but can still be fairly close to their neighbours
- Semi-detached dwellings - pairs of houses side by side that share a common wall. These are also known as duplex dwellings, can be 2-3 storeys in height and are often of a similar design
- Terraced or row housing - a row of identical or very similar dwellings that are typically 2-3 storeys. They are joined together on one or both sides. They can have their own private open space or can be laid out around a courtyard or a shared space in some cases.

The Guide applies to the Medium Density Overlay Areas in Levin, Foxton Beach and Waitarere Beach identified on the Planning Maps in Section 3. The Overlay Areas are located in the heart of each settlement, close to the town centre and key commercial and recreational areas and facilities.

Under the rules in the Plan, all medium density developments within these Overlay Areas require resource consent, where they will be assessed against the guidelines contained within this document. The Guide is to be applied in conjunction with the rules and standards in the Plan.

Although the Guide offers some flexibility to enable innovative design solutions, development proposals that are inconsistent with the guidelines can be a basis for the Council to decline approval.

1.1 Purpose

The purpose of the Guide is to:

A **Assist property developers, designers, architects, planners and builders to plan, design and build high quality medium density residential developments; and**

B **Assist Horowhenua District Council staff to evaluate new development proposals for medium density residential development as part of the resource consent process.**

The Guide explains the characteristics of medium density residential development that will be acceptable to the Council and the Horowhenua community. It is an aid to interpreting the provisions (objectives, policies, rules and assessment matters) of the Plan. Many of the principles outlined in the Guide form the basis for assessment criteria contained in the Plan and the guidance provided describes ways these criteria can be met. By setting out principles and guidance for achieving better design, the Guide defines the level of vironment expected by all and an improved decision-making process.

1.2 Aims of the Guide

The aims of the Design Guide are:

i. **To ensure dwellings and private open space are designed in an integrated way that makes the most of site conditions**

ii. **To ensure that new medium density development is appropriate for local context and the existing character of the neighbourhood**

iii. **To ensure new development contributes to the community's sense of comfort and safety**

iv. **To ensure visual and acoustic privacy for residents and their neighbours is provided through well considered siting and design of buildings and outdoor space.**

v. **To maintain reasonable standards of privacy and daylight for residents and neighbours.**

vi. **To provide safe, convenient and attractive pedestrian and vehicle access to the houses.**

vii. **To encourage the design of new housing to respond to known and typical user needs.**

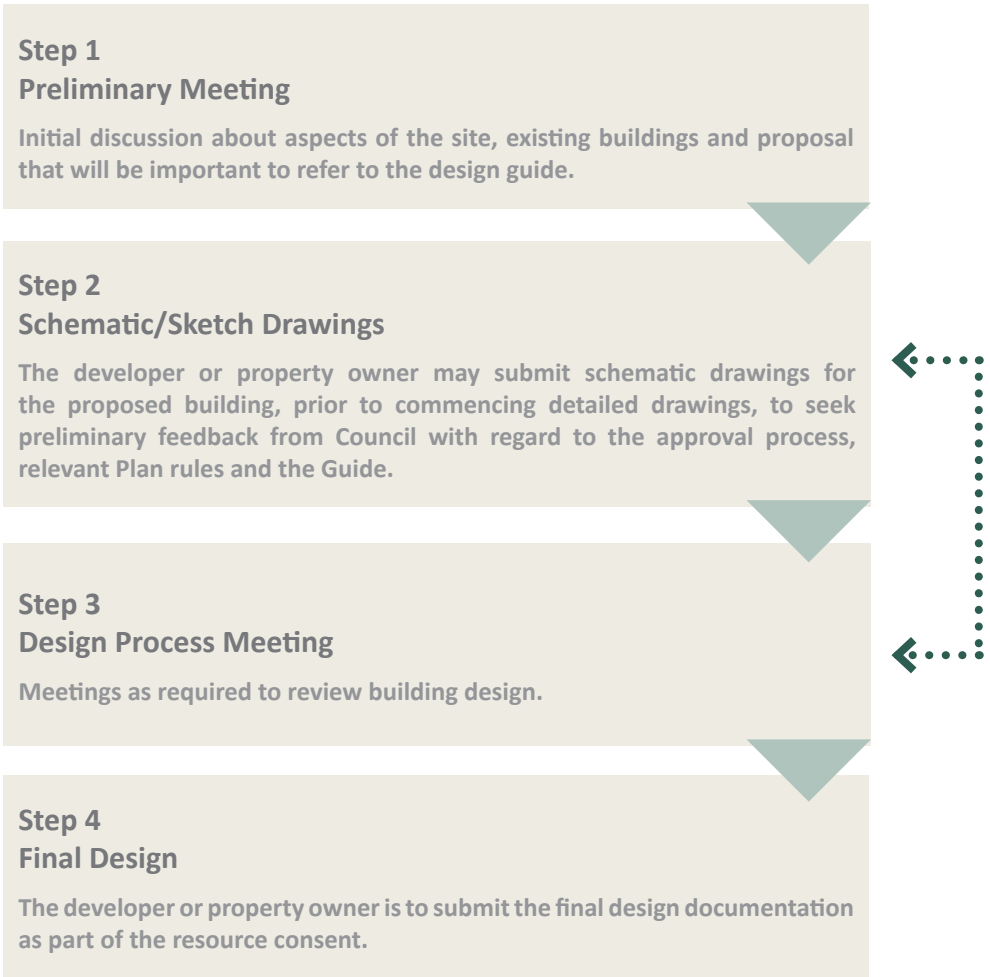
viii. **To encourage good-quality, cost-effective design.**

1.3 Pre-Application Process

The Horowhenua District Council encourages landowners, developers and their architects, engineers and other advisers to work collaboratively throughout the development planning process and to seek early discussions with Council prior to undertaking detailed design for any development.

This process will enable concepts to be discussed prior to commencing detailed design to enable early feedback from Council and the most appropriate outcome for all parties to be reached.

A diagram of the desired process is outlined below. The need for all these steps will depend on the development scale. Although optional, it is intended to assist in providing for an efficient design and consenting process.



2. Housing Types and Local Character

2.1 Types of Medium Density Development and Housing

More intensive forms of housing may be achieved in two ways – either through medium density residential development or conventional infill subdivision.

Medium Density Residential Development

The Plan provides for medium density residential development in specific areas within Levin, Foxton Beach and Waitarere Beach. Medium density development is where three or more residential dwelling units (semi-detached or stand-alone) are designed to achieve a maximum density of 225m² per residential unit, in a way that results in quality on-site amenity and respects the character of the local area and streetscape.

To achieve an integrated design for medium density development, the Plan requires both land use and subdivision consent to be sought at the same time. This allows the site layout and the subdivision mechanisms to be assessed together, so there is an understanding of how each unit will operate, particularly in terms of access, rights of way and the provision and maintenance of any common areas.

To provide medium density development, the Plan uses rules and standards, as well as the Guide, to shape and assess development proposals. The Residential Zone provides for medium density development as a Restricted Discretionary Activity, subject to compliance with standards such as density, building bulk and location provisions, private outdoor space, utility space, carparking and access. While these standards define the basic form for medium density development, they are not the sole means to achieve good design. The Guidelines therefore set out the necessary elements to be considered in the design of medium density development, so that the overall site layout results in an optimal development.

An optimal development is one that achieves a high level of on-site amenity for future occupants. It is also one that ensures that adverse effects on the character of the street and locality, and on privacy and visual amenity of neighbouring properties, are minimised through good design and appropriate mitigation measures.

Conventional Infill Subdivision

The Plan allows for more intensive subdivision, to a minimum lot size of 330m^2 as a Controlled Activity and 250m^2 as a Restricted Discretionary Activity, in Levin, Foxton, Foxton Beach and Shannon subject to compliance with relevant conditions through the infill subdivision rules. Where an infill subdivision design does not comply with all of the relevant conditions, the 'activity status' of the consent changes to a Restricted Discretionary (330m^2) or Discretionary Activity (250m^2).

For a Restricted Discretionary infill subdivision, an Applicant must demonstrate that they have considered the Guide, and applied the principles and guidelines to the subdivision design.

Housing Typologies

The following housing typologies are generally considered appropriate in the context of the District's Medium Density Overlay Area:

Detached coastal dwelling on compact site

Detached (stand-alone)

A single detached dwelling is a stand-alone house sited on an individual lot with yards on all four sides. The building can be from 1 - 2 storeys high and can incorporate garages within the building footprint or separated from the main dwelling. In a medium density context, detached dwellings are usually smaller than in a typical suburban situation.

Semi-detached two-storey dwellings (source: Auckland Design Manual)

Semi-detached (or duplex)

Semi-detached dwellings (or 'duplexes') are two housing units that share a common wall. The houses can be 1 - 2 storeys in height, with or without enclosed garages, and with space on three sides of the dwelling. Sometimes the single-storey garages are the only part of the dwellings attached, with the habitable parts of the dwelling and any upper floors setback from side boundaries to allow light and privacy into upper floor rooms and living areas. The dwellings are often mirror images of one another.

Row of terraced houses joined on both sides

Terraced Housing

Terraced housing is often designed as a row, group or cluster of 2 – 3 storey residential units. As this more intensive form of housing would represent a distinctive change to the character and amenity of the coastal settlements of Foxton Beach and Waitarere Beach, it is likely to be better suited to Levin where a greater level of urban intensity already exists. Typically, a greater area of land is required (usually achieved by amalgamating existing land titles) to develop a row of terraced houses. This enables the density and form to be configured in a way that is generally more compatible with the surrounding neighbourhood.

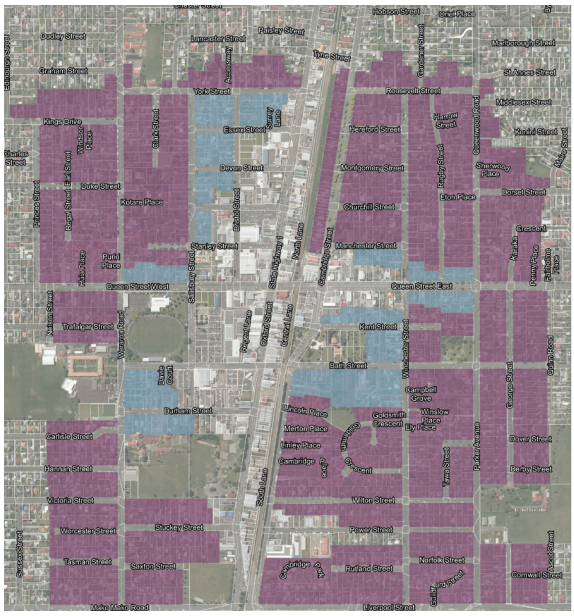
3. Local Character

This section identifies the important characteristics of residential development within the Medium Density Overlay Areas located in Levin, Foxton Beach and Waitarere Beach. Local character generally consists of the key things that define the quality of an area. These include visual elements such as architectural style, building materials, size and shape of lots, private and public green spaces, vegetation, elements of the street such as footpaths and verges, topography and views of the surrounding landscape. It is an important consideration within existing residential neighbourhoods.

3.1 Levin

The Medium Density Overlay Area in Levin is located on the periphery of the town centre, providing easy access for residents to local services and facilities. Local reserves and open space is also readily accessible, with the Levin Domain, Village Green and Aquatic Centre on the western side, and the Levin Public Gardens on the eastern side. The topography is flat. There are views towards the Tararua Ranges along the east-west aligned streets. The overall character is suburban, with relatively wide sealed streets with kerb and channel, concrete footpaths on both sides of the road, small street trees and narrow mown grass verges. Properties are connected to reticulated water and wastewater services, with on-site stormwater disposal.

There is a mix of lot sizes/densities in the area ranging from 300m^2 up to 1,200m^2, with an average of approximately 700m^2. Lot shapes are predominantly rectangular mirroring the street pattern, with relatively uniform lot width and street frontage widths. The predominant housing typology is single detached dwellings, with a number of semi-detached (townhouses) recently establishing. There is a range of age in housing, from a few early 1900s dwellings (villas), through to more recent new typically 'brick and tile' infill houses.



Proposed extension of the Medium Density Overlay Areas, Levin

Current Medium Density Overlay Areas, Levin

The predominant housing typology is single detached dwelling represented in a range of styles (Early 1900s through to recent brick and tile)

Uniform street frontage with a consistent setback along the street and low front fences

On-site vehicles parking, access and internal garaging attached to the dwelling

Fences and screens used to provide privacy between properties

The street frontages are relatively uniform, with a strong pattern of consistent building setbacks (4-5 metres) along all streets. Low fences along the front boundary are a common feature, with private well maintained front gardens a frequent element adding significantly to the visual quality of the streetscape. Tall trees and other large vegetation are limited and typically located on the larger and older properties.

Single storey dwellings dominate, with only a few two storey dwellings. There is fairly regular separation distance (3-4 metres) between dwellings on adjoining properties, with a few semi-detached dwellings (typically garages attached). The proportion of building coverage is mixed, with older and larger properties having a relatively low building coverage, compared to more recent infill development with higher building coverage (around 35%). The majority of properties have on-site vehicle access and parking, with more recent development incorporating garaging attached to the dwelling.

Most properties have private outdoor living and utility areas, which vary in their size, quality and appearance. Fencing and screens are commonly used to provide privacy between private outdoor living areas.

3.2 Foxton Beach

The Medium Density Overlay Area in Foxton Beach is located at the western end of the settlement in the vicinity of Holben Reserve and within close proximity to the beach. The location of the Medium Density Overlay Area supports the new commercial area in Signal Street. The topography is relatively flat, but there is more elevated land in parts of the Overlay Area. There are views towards Holben Reserve and the southern edge of the Manawatu River Estuary. The overall character is coastal suburban, with relatively wide road reserves with narrow sealed streets with no kerb and channel, no concrete footpaths, and wide mown grass verges. Properties are connected to reticulated water and wastewater services, with on-site stormwater disposal.

Medium Density Overlay Areas, Foxton Beach

There is a mix of lot sizes/densities in the area ranging from 400m^2 up to 1,200m^2, with an average of approximately 700m^2. Lot shapes are predominantly rectangular, with relatively uniform lot width and street frontage widths. However, some properties have angular boundary alignments creating irregular shaped lots. The predominant housing typology is single detached dwellings which range in age, from the 1930s-1960s, with a few more recent houses. The older dwellings have a 'bach' coastal character, while more recent dwellings are a mix of 'brick and tile' and more contemporary designs.

Aerial view of Holben Reserve and surrounding streets , Foxton Beach

Bond Street, Foxton Beach

Signal Street, Foxton Beach

Typical bach character, Marine Parade, Foxton Beach

Single and two-storey houses in Nelson Street, Foxton Beach

The street frontages are mixed, with some dwellings and standalone accessory buildings (garages) located close to the front boundary (4-5 metres), while on other properties buildings are well setback from the street with large open front yards. There is also a mix of front boundary treatments, ranging from no structure or planting, low formal/informal fences, through to low and tall hedges. There is a variety of vegetation, including areas of shrubs and taller trees, all of a hardy coastal nature.

A mix of single storey split-level and two storey dwellings are prevalent in Foxton Beach. There is fairly regular separation distance (3-4 metres) between dwellings on adjoining properties. The proportion of building coverage is mixed, with older and larger properties having a relatively low building coverage, compared to more recent dwellings that have a higher building coverage (around 35%). The majority of properties have on-site vehicle access and parking, with more recent development incorporating garaging attached to the dwelling.

Most properties have private outdoor living and servicing areas, which vary in their size, quality and appearance. Fencing and screens are commonly used to provide privacy between private outdoor living areas.

3.3 Waitarere Beach

The Medium Density Overlay Area in Waitarere Beach is located in the centre of the settlement in street blocks on either side of Waitarere Beach Road. This location is in close proximity to the beach and commercial area in Waitarere Beach Road. The Medium Density Overlay Area does not apply to the western side of Rua Avenue to avoid more intensive development immediately adjacent to the coastal edge due to natural character, natural hazard and access reasons. The topography is relatively flat, with some more elevated land and low spots in parts of the Overlay Area. The overall character is coastal suburban, with relatively wide road reserves with narrow sealed streets with some streets having no kerb and channel, no concrete footpaths, and wide mown grass verges, while other streets include some kerb and channel and concrete footpaths. Properties are connected to reticulated wastewater system, with on-site water collection/supply and on-site stormwater disposal.

There is a uniform lot size/density in the area of 800m^2, with lot shapes predominantly rectangular reflecting the street pattern. Given the uniform lot size and width, street frontage widths are also uniform. The predominant housing typology is single detached dwellings which range in age, from the 1950s-1960s, with a few more recent houses. The older dwellings have a 'bach' coastal character, while more recent dwellings are a mix of 'brick and tile' and more contemporary designs.

Medium Density Overlay Areas, Waiterere Beach

Aerial view showing uniform street pattern of Waiterere Beach

Park Ave, Waiterere Beach

Park Ave, Waiterere Beach

Rua Street, Waiterere Beach

The street frontages are mixed, with some dwellings and stand-alone accessory buildings (garages) located close to the front boundary (4-5 metres), while on other properties buildings are well setback from the street with large open front yards. There is also a mix of front boundary treatments, ranging from no structure or planting, low formal/informal fences, through to low and tall hedges. There is a variety of vegetation, including areas of shrubs and taller trees, all of a hardy coastal nature.

Single storey dwellings dominate, with only a few two storey dwellings. There is fairly regular separation distance (3-4 metres) between dwellings on adjoining properties. The proportion of building coverage is mixed, with older and larger properties having a relatively low building coverage, compared to more recent dwellings that have a higher building coverage (around 35%). The majority of properties have on-site vehicle access and parking, with more recent development incorporating garaging attached to the dwelling.

Most properties have private outdoor living and servicing areas, which vary in their size, quality and appearance. Fencing and screens are commonly used to provide privacy between private outdoor living areas.

4. Guidelines

Each section of the design guide is structured into 4 parts as illustrated in the example below:

Lot Design and Site Layout

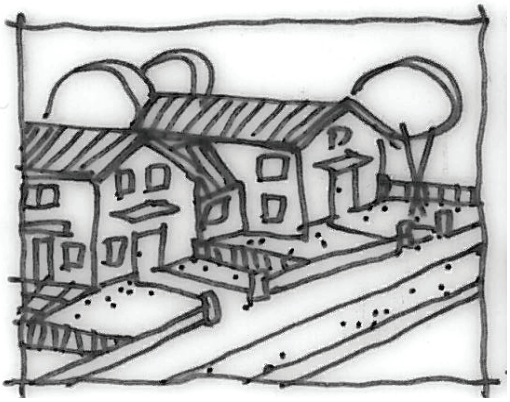
Guideline Heading

The integrated and comprehensive planning of buildings, access and open spaces together is fundamental to achieving high quality residential development. Placement of building forms in relation to other buildings creates open spaces and establishes conditions of sunlight, daylight and privacy as well as a relationship to neighbourhood character.

Context and explanation for why this guideline is important

1. Reflect established street patterns and precedents to ensure new development complements the neighbourhood character (e.g. building height and width, spacing between buildings). Where this is not achievable, the design should consider other methods to soften the change (e.g. rooflines, materials).

Assessment Guidelines



Respect existing neighbourhood character

Illustration and caption relating to Assessment Guidelines

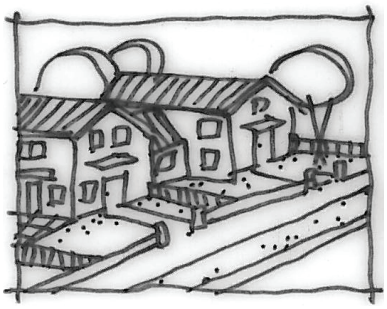
4.1 Site Planning

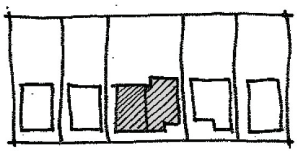
The integrated planning of buildings, access and open spaces is fundamental to achieving high quality residential outcomes. Careful placement of building forms in relation to one other creates open space, establishes conditions of sunlight, daylight and privacy and contributes to neighbourhood character. Good site planning reflects a concern for occupation, considering how a place is used by its occupants as well as its relationship to neighbouring houses, the character of street and the wider urban area.

1. Reflect established street patterns and precedents to ensure new development complements the neighbourhood character (e.g. building height and width, spacing between buildings). Where this is not achievable, the design should consider other methods to soften the change (e.g. rooflines, materials). See Section 4.4 for guidance.

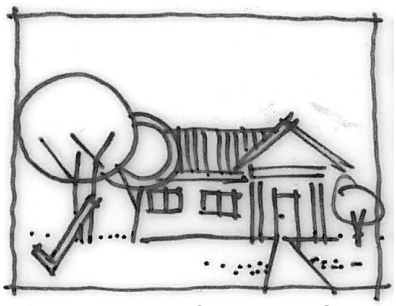
2. Retain significant, locally recognised existing trees, vegetation and other character features where practicable and where these can be usefully integrated into the residential development. Where this is not achievable, the planting of new trees should be considered.

3. Respond to environmental conditions such as sunlight and predominant winds to maximise sunlight to main living areas, (e.g. locate living areas on the northern side of the dwelling) and both sunlight and shelter to private open space. See Section 4.2 for further guidance.

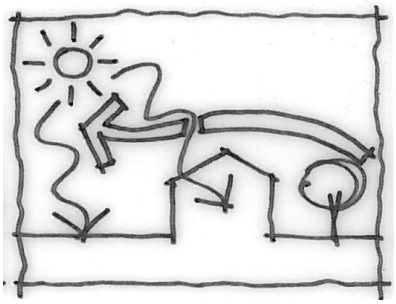




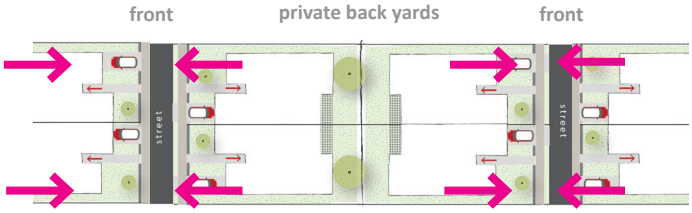
Respect existing neighbourhood character



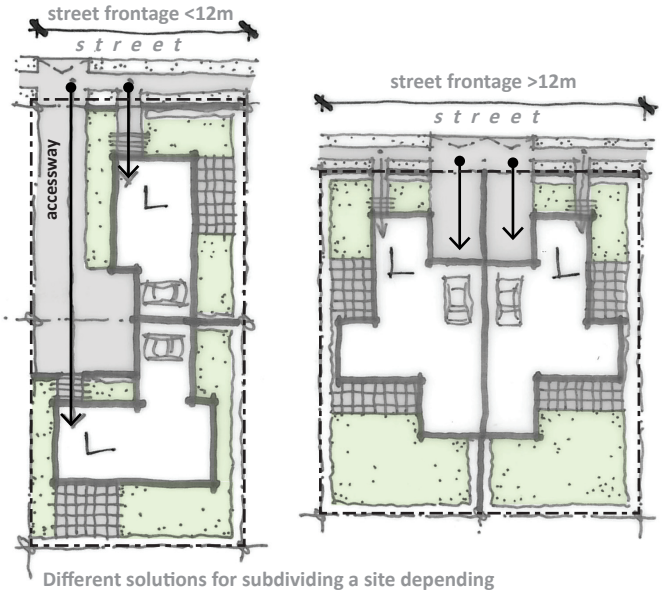
Retain significant existing features



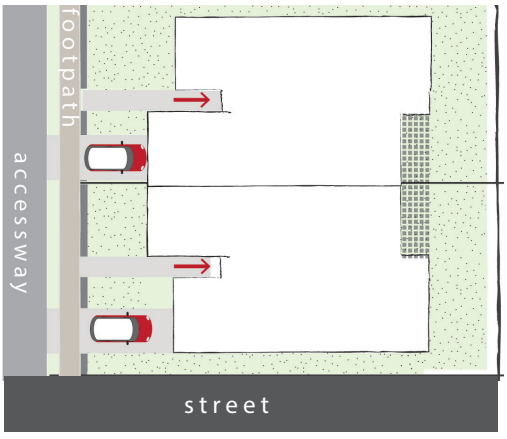
Respond to environmental conditions



Clear fronts and backs support strong street frontages and retain private open space for dwellings



Different solutions for subdividing a site depending on frontage width



Common walls reduce heat loss

4. Align dwellings to face the street where possible; where this is not possible, ensure dwellings have good visibility over the street by positioning windows to overlook it.

5. Where possible, dwellings should have visibility over accessways or public spaces to help with passive surveillance.

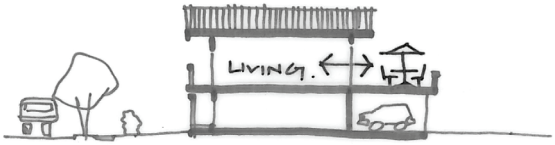
6. Where a lot has a street frontage of greater than 12m in width a semi-detached dwelling could be well suited. Subdividing into narrower lots (i.e. a minimum of 6m wide) would also allow the dwellings to retain good street frontage.

7. Where a lot has a street frontage of less than 12m in width, but is fairly deep, then a common accessway may be appropriate along one side.

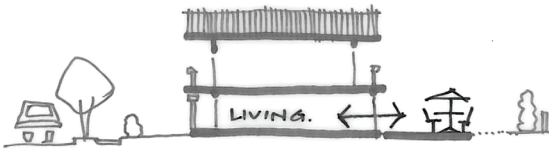
8. Attaching dwellings conserves heat and provides more usable private open space for each unit.

9. Dwellings should be sited to provide good quality interior space with comfortable temperatures, good solar access, and direct access to private open space. Private open space can include ground level gardens and paved courtyards as well as upper level balconies accessed from principal living areas. While not technically private open space, conservatories also provide a means to maximise solar access throughout the year.

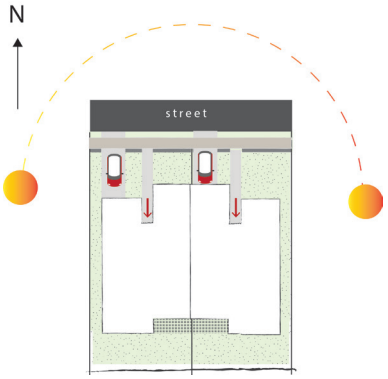
10. Design the interior of the units so that they are economical and creative with space. A reduced size suburban-style dwelling may not necessarily translate into a residential dwelling suitable for more intensive living.



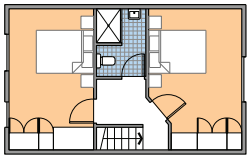
First floor living access to outdoor space (deck)



Ground floor living access to outdoor space

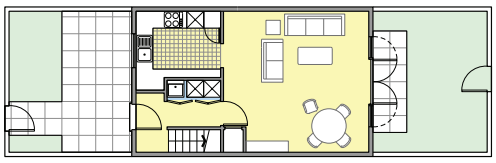


Model built form to maximise solar access and avoid shading or loss of privacy



Upper floor

Example of an interior layout for a medium density dwelling that is both liveable and creative with space



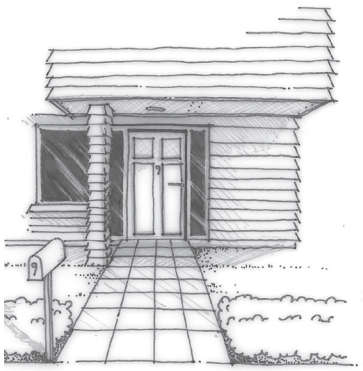
Ground floor

4.2 On-Site Amenity

As site areas are smaller, high standards of on-site amenity are required to provide for the comfort and enjoyment of residents. This means having access to private open space and a good quality aspect (the view or outlook). It is also important that the dwelling has high visual and acoustic privacy, as unlike lower density suburban developments there is less, or no, separation between dwellings.

It is essential that on-site amenity is considered at the *site layout stage* to ensure that each dwelling and its respective outdoor space is designed with visual privacy, good access and a quality aspect in mind. The location of rooms and uses in the dwelling is a key consideration to achieving good visual and acoustic privacy and should be considered at the *building design stage*. The size and placement of windows, doors and balconies are all important factors to consider in terms of acoustic and visual privacy. Acoustic privacy is especially important for medium density dwellings as they may be connected by common walls; consequently noise insulation materials and techniques should be considered.

Further on-site amenity considerations include: dedicated areas for rubbish collection, washing lines and other utility areas. These are important, but can often be forgotten when designing smaller units on compact sites. Lockable storage areas for items such as gardening tools, camping gear and sports gear are also worth considering and do not have to be large to be of benefit to residents.



The entrance should be clearly visible

Screening devices and landscaping should provide privacy for private outdoor space

11. Each dwelling should have its own main entry, consisting of a sheltered threshold that is well lit and clearly visible as the entrance to the dwelling.

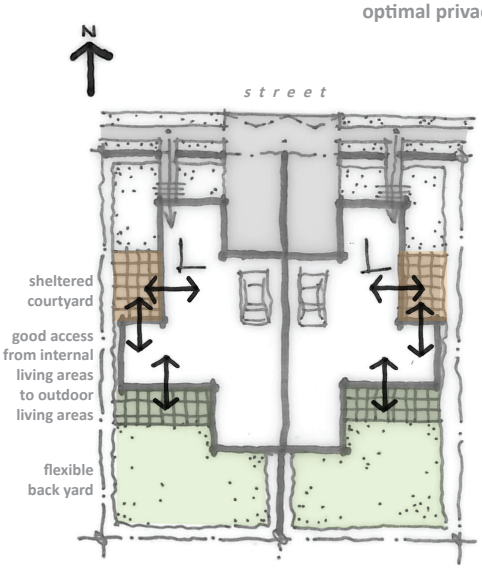
12. Use careful positioning, screening devices or landscaping to provide visual privacy for private open space. For example, where the outdoor space for two units backs onto each other, consider a well designed and maintained fenced/ planted screen along the common boundary.

13. Position windows to achieve optimal privacy - bedroom or bathroom windows at street level should be screened for privacy. Recessions and projections can be created along building elevations and elements such as screen panels and solid or semi-solid balustrades, can be incorporated into the design and function of outdoor space

14. Provide private outdoor spaces with good internal and external access that are sheltered, and enjoy sunlight for most of the day. Avoid long narrow strips of open space between the unit and the front, side or rear boundaries as these cannot be optimally used.

15. Provide adequate utility areas and storage facilities in discrete locations on the site to ensure easy access and to reduce their visibility from the street.

Windows should be positioned to achieve optimal privacy



Outdoor space located so it is private and not overlooked from neighbouring properties

Utility areas separate from parking & screened from street

4.3 External Amenity

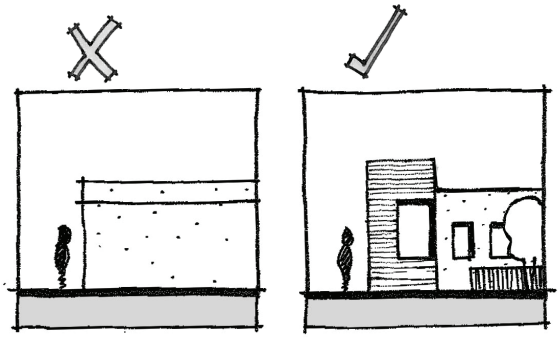
The introduction of medium density development to an existing residential street consisting of low density, stand-alone dwellings requires careful consideration to ensure that potential visual effects and privacy impacts on adjoining neighbours are appropriately managed.

The Medium Density Overlay provides for 1 - 2 storey dwellings (detached or semi-detached). Upper storeys have the potential to create overlooking and shading of adjoining properties. Factoring setbacks and daylight recession planes into the site layout and building design will help to avoid adverse privacy and shading (external amenity) effects on neighbouring properties. Additional building and landscape design may also be necessary to minimise the impact and change experienced by neighbours.

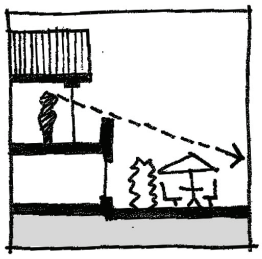
16. Solid, blank walls should be avoided on external boundaries to ensure the visual impact of a new development does not adversely affect the outlook from the street or adjoining properties. Where this is not possible, consider the introduction of architectural detailing, creative use of materials, and landscape treatment.

17. Design new development to ensure adequate building separation and setbacks in order to optimise the visual privacy of existing adjacent sites.

18. Where front yard outdoor spaces are required (especially to take advantage of a sunny aspect) use devices such as a landscaped boundary or permeable fence to create a sense of privacy without impeding sightlines onto the street.



Avoid blank walls at the street edge



Screen with balcony balustrade

A landscaped boundary and permeable fencing creates a sense of privacy without impeding sightlines onto the street

4.4 Design and Appearance

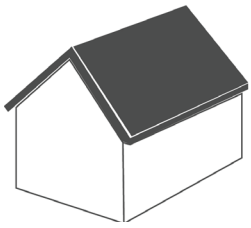
A key consideration for any new development within the Medium Density Overlay Area is how it integrates with the existing neighbourhood, particularly in the coastal suburban areas of Foxton Beach and Waitarere Beach.

In this regard the facade or external 'face' of the building, has an important role to play as part of the 'streetscape' - the visual elements that make up a street, like buildings, the road, footpaths, street furniture and trees. Good architectural design, along with quality materials, textures and colours, can make an important contribution to the character of a street as well as influence the overall value of a development.

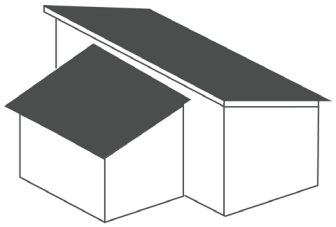
Settlements in the district have a dominant built character typically based around detached, weatherboard or brick clad, iron-roofed dwellings. In Foxton Beach and Waitarere Beach, simple materials, a strong relationship with the water and a 'bach' character is also common.

The choice of materials used will affect the appearance of a development and how well it performs and endures over time. Robust materials that are easy to maintain will help to ensure that dwellings, as well as any communal areas prone to wear, retain their appearance without the need for extensive ongoing maintenance.

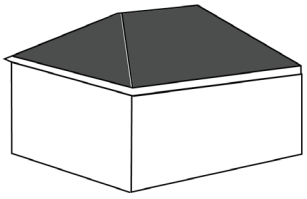
Typical roof types in the Horowhenua District



Typical roof types: Gable roof



Typical roof types: Monopitch roof



Typical roof types: Hipped roof

19. New development should reflect the context of the neighbourhood instead of 'copying' existing dwelling types. Simple ways to ensure a new development does this is by respecting the scale (e.g. one or two storeys), general form and roof lines of existing dwellings in the area.

20. New development should also make use of contemporary and complementary materials (e.g. weatherboard, brick cladding, iron roofing) and colours that reflect the neighbhourhood context.

4.5 Access, Carparking, Manoeuvring and Infrastructure

Parking requirements and vehicle access are important considerations for every medium density development. Parking will affect site layout (i.e where to position the driveway) and building design (i.e. whether it needs to accommodate a garage or not). It will also impact on the general quality of the neighbourhood. Therefore, provision of parking needs to be considered early on in the design process.

Car parking and vehicle entries should not be the dominant feature of sites, dwellings or streets. Streets dominated by driveways, cars and carparks generally become uncomfortable places for people to be as their access and movement becomes restricted. Vehicle entries should be consolidated to minimise interruption to pedestrian movement along footpaths, while garages should be recessed from the street, to minimise visual dominance, and ensure clear pedestrian movement. Public streets will typically be used for overflow visitor parking. Although good surveillance from surrounding units increases security for parking, car parks should be softened by suitable landscape and paving treatments to improve the outlook from dwellings.

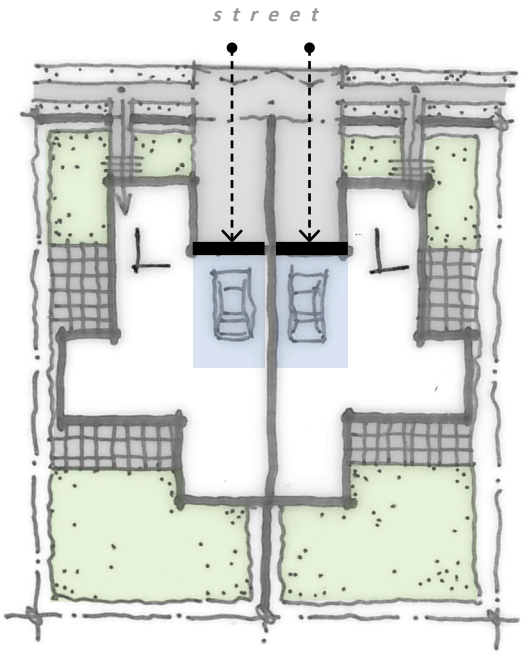
Infill and redevelopment of existing areas can place increased pressure on services that are already stretched to capacity. When designing on-site stormwater collection and disposal schemes, a high level of impervious surfaces should be included based on the type and intensity of development. Alternatively, opportunities to generate on-site stormwater management solutions and on-site water collection and storage should be explored.

21. Accessways and vehicle manoeuvring spaces should be designed to ensure cars enter and leave the site slowly and with good visibility of the street.

22. Accessways and vehicle crossings should be treated as an integral part of the site layout and should be designed to be durable in the long term (Refer to the relevant HDC engineering standards).

23. The amount of sealed vehicle access, manoeuvring space and parking should be minimised, and planting and permeable paving used where possible to soften hard surfaces and promote drainage.

24. Wherever possible carports and garages should be recessed from the main frontage of a dwelling to avoid dominance of vehicles and garage doors along the street edge or adjacent shared spaces.



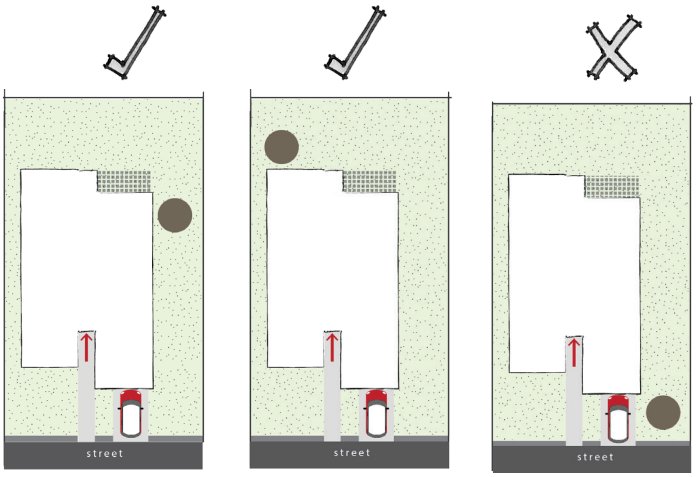
Garages recessed back from street to reduce visual dominance

Accessways and garages designed as part of the development and consistent with the dwelling

25. The design of external carports and garages should complement the associated dwellings and be constructed of similar materials.

Permeable paving used where possible and stormwater managed on site

26. All stormwater is to be managed and disposed of on-site and the extent of impermeable surface areas minimised.



Position water tanks discretely to reduce visibility from the street

27. All water collection, storage and supply is to be managed on-site at Waiterere Beach, and consideration should be given to the placement and integration of rain water tanks with the site layout to reduce visibility from the street.