

Subdivision Design Guide

September 2023





Table of Contents

Introduction	2
Core Subdivision Design Principles	4
Design Guidelines	6
1. Neighbourhood Context and Site Analysis	6
2. Designing with the Environment	8
3. Access and Connections	12
4. Layout.....	14
5. Character and Sense of Place.....	16
6. Street Design and Road Hierarchy	17
7. Public Open Space	19
8. Individual Lot Design	21
Bibliography	23

Introduction

Many sites across the New Plymouth district provide opportunities to accommodate a larger number of dwellings through land subdivision. The way a site is subdivided is important as it not only determines the quality and character of the development, but also impacts on adjacent sites and the wider surroundings and introduces long-term development patterns that cannot be easily changed. Therefore, ensuring new subdivisions are well-designed is an integral part of providing for residential growth while enhancing the character and amenity of the district.

To achieve this, the Council has introduced the Subdivision Design Guide. The Design Guide is part of a suite of design guidelines promoted by the Council as tools for improving the quality of design outcomes within the district.



Application and Purpose

The Design Guide applies to subdivisions whether that be on land on the edge of the urbanised area (greenfield sites), undeveloped land within the existing urban footprint (infill sites), or previously developed land (brownfield sites). It also applies to subdivisions within the future growth areas identified in the District Plan, for some of which Structure Plans have been prepared.

The Design Guide should be read and applied in conjunction with the relevant objectives, policies, rules and standards of the District Plan and any relevant Structure Plans. However, the Design Guide is a non-statutory document.

For detailed technical and engineering requirements and guidance on 'low impact design' solutions and stormwater management, reference should be made to the Land Development and Subdivision Infrastructure Standard based on NZS 4404:2010 incorporating NPDC and STDC Local Amendments.

The purpose of the Design Guide is to:

- give landowners, developers and subdivision designers guidelines for best practice infrastructure and subdivision design; and
- outline the type and quality of outcomes the Council is seeking for new subdivisions within the district.

The key aim is delivering good quality community environments both now and into the future through responsive and innovative design.

The illustrations in the Design Guide are intended to support the text and illustrate the principles, not to promote specific design solutions. Through the Design Guide italicised text provides explanation and further assistance on the intended application of the guidelines.

How to Use the Design Guide

Relevance and application

Good subdivision design is responsive to its context and builds upon the conditions of the site and the character of the surrounding neighbourhoods. This means that not all of the guidelines will necessarily be relevant to every site or type of development. Relevant guidelines for each proposal can be identified and confirmed with the Council in pre-application meetings. The Design Guide does not seek to prescribe specific design solutions, but rather provides a set of 'best practice' design principles and guidelines which developers and subdivision designers need to consider.

Design Guide and consenting process

To be effective the Design Guide should be considered at the early stages of subdivision design to inform the initial design concepts. It is important that all of the relevant guidelines are considered in an integrated way, as they are inter-related and reinforce each other.

Applicants are encouraged to attend pre-application meetings to discuss the initial design concepts with Council staff from different disciplines (e.g. planning, design, transportation and engineering). This will help the Applicant gain an understanding of the key issues and clarify the site-specific outcomes sought by the Council for each development site. It will also ensure that the Applicant receives coordinated, transparent and consistent advice from all Council officers involved in assessing the proposal.

An efficient design and consenting process based on early Council engagement and clarity of Council's expectations are key outcomes sought through the application of the Design Guide.

Core Subdivision Design Principles

The following 'best practice' design principles cover the key issues a new subdivision should address and underpin the guidelines included in this Design Guide.

CONTEXT

The subdivision is responsive to the characteristics of the site and its context

The subdivision responds to the opportunities and constraints of the site and its context. The subdivision respects the local landform and natural character and integrates important site features in a manner that adds value to the subdivision and enhances its identity.

ACCESS and CONNECTIONS

The subdivision is accessible and connected to the surrounding neighbourhoods and provides a choice of routes and travel modes

The subdivision is integrated with the surrounding neighbourhoods through walkways, cycleways and the roading network. Streets, walking and cycling routes within the subdivision are connected and designed to provide accessibility and choice, promote walking and cycling and reduce vehicle dependency and emissions.

LAYOUT

The subdivision has a logical and integrated layout which supports connectivity and wayfinding and maximises solar access and views

The key layout elements - blocks, streets, open spaces and lots - are designed in an integrated and comprehensive way, while responding to the site's characteristics. The size and layout of blocks are designed to promote connectivity, increase the choice of routes within the subdivision and minimise the number of rear lots. Street and block orientation take advantage of existing views and maximise solar access. Streets are designed to facilitate orientation and ease of movement and enhance the identity of the subdivision while catering for traffic and infrastructure needs.

CHARACTER/SENSE OF PLACE

The subdivision has a distinctive character and contributes to a local sense of place

Building upon the local landscape character, the subdivision creates its own identity and sense of place as an attractive and safe residential environment with a strong community focus. Streets and open spaces are of high amenity and create a network which people readily understand and find easy to navigate. The view along the street is of front gardens and houses that overlook the street and adjacent public spaces and facilitate informal surveillance. The subdivision is not visually monotonous or dominated by houses that look the same. Instead, it provides for a mix of housing types and lot sizes that promote housing choice, diversity and innovative forms of development.

OPEN SPACE

The subdivision provides well-designed accessible, sunny and safe open spaces

The subdivision provides recreational opportunities through public open spaces and reserves. Public open spaces are conveniently located, sunny, safe and easily accessible and, if possible, supported by community facilities or other activities. Linked to the wider recreational network the public open spaces are designed to enhance the natural character of the site, provide a focal point to the subdivision and contribute to a sense of community.

SAFETY

The subdivision design incorporates the principles of Crime Prevention Through Environmental Design (CPTED)

The subdivision feels safe and the residents are able to 'watch out' for each other. Houses overlook streets and adjacent open spaces and facilitate informal surveillance of the public realm. Pedestrian and cycle routes are sufficiently wide with clear sightlines along the route. Parks, reserves, bus stops and community facilities are located so that they can be easily seen from nearby houses and streets.

STORMWATER MANAGEMENT and WATER SENSITIVE DESIGN

The subdivision recognises the value of natural systems in order to mitigate environmental impacts and enhance local amenity and ecological values

The subdivision is mindfully designed to reduce the impact of land and infrastructure development through sustainable stormwater management and water sensitive design.

Design Guidelines

1. Neighbourhood Context and Site Analysis

Good subdivision design provides a considered response to the conditions and attributes of the site and neighbourhood context. Understanding the specific characteristics, context and issues of each development site is, therefore, an important prerequisite for a successful outcome and the first step in the design process.

Outcome: Subdivision design that is informed by and responsive to the characteristics, constraints and opportunities of the site and neighbourhood context.

Neighbourhood Context Analysis

- 1.1. Consider and respond to the opportunities and constraints of the neighbourhood context with reference to:
- Local and wider landform and vegetation patterns.
 - Significant views.
 - Heritage features and elements.
 - Roading patterns, street, walking and cycling network.
 - Open space network.
 - Land uses.
 - Existing and planned local centres and community facilities (schools, parks, bus stops and public transport routes).
 - Existing and planned residential areas, surrounding lot density and housing typologies.
 - Infrastructure capacity, connections and linkages with existing neighbourhoods, including wastewater, water, stormwater, power, communication, existing utilities.

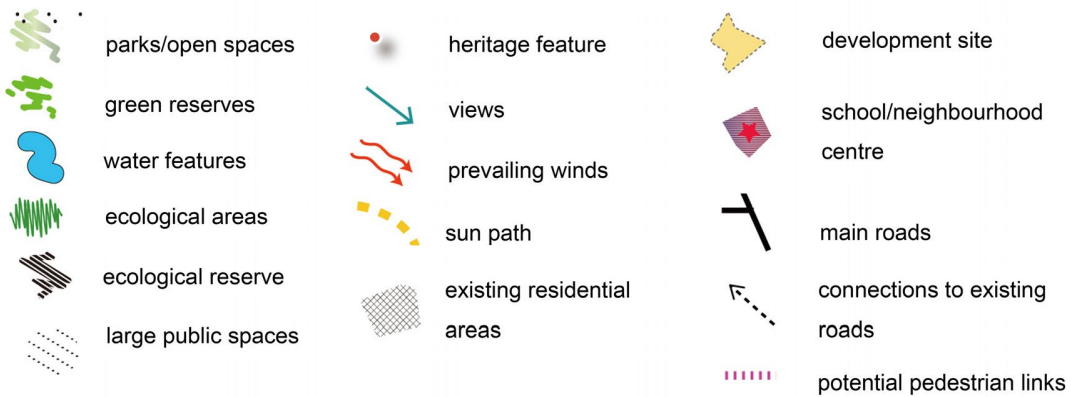
Site Analysis

- 1.2. Identify and consider how best to respond to the opportunities and constraints of the site and any likely issues with reference to:
- Topography, landform and soil (site contours, slopes, unstable ground).
 - Vegetation patterns and their contribution to the wider landscape, existing vegetation that would enhance the subdivision.
 - Orientation, solar access, views, prevailing wind.
 - Waterbodies, groundwater, springs, overland flow paths and other natural drainage features and how they might change throughout the seasons and within the context of the wider stormwater catchment.
 - Road, walking, cycling and open space connection points.
 - Naturally occurring focal points that might function well as open spaces.
 - Cultural features and heritage items that communicate the story of the land and add to its sense of place.
 - Previous land uses and the potential for contaminated land.
 - Existing buildings and structures.
 - Land that cannot be built on and land susceptible to flood risk.
 - Conditions along the site's boundaries.
 - Character and land uses of surrounding areas.

- Location of any commercial activities or areas of higher density within or in close proximity to the site.
- Distance to existing and planned local centres, parks and reserves beyond the site.
- Infrastructure connections and capacity and how this integrates with existing services including reticulation, power, communication.



Neighbourhood Context Analysis (diagram to the left) and Site Analysis (diagram to the right) should inform the planning and design of the subdivision



2. Designing with the Environment¹

Landform and landscape features such as notable vegetation, waterways and prominent views are key elements of the local character and identity of a neighbourhood. Working with the landform and existing landscape features can enhance the amenity of the subdivision thereby protecting its sense of place. Minimising earthworks, maintaining natural drainage patterns and established natural ecosystems can result in unique neighbourhoods that sit well within their context.

Managing stormwater in a sustainable way by incorporating water bodies and associated landscaping and applying Water Sensitive Design (“WSD”) solutions can reduce the impact on the environment, be cost effective and enhance the amenity of the subdivision.

Outcome: Subdivisions that:

- follow the natural landform;
- minimise earthworks;
- maintain and enhance natural features;
- support established ecosystems and habitats; and
- promote sustainable stormwater management through WSD solutions.

Working with the Landform

2.1. To maintain the character of the landform:

- Minimise intensive development on coastal escarpments, ridgelines and hilltops and generally on sites steeper than 30 degrees.
- Minimise disturbance to natural landform, extensive earthworks and large visible retaining structures.
- Follow the existing contours of sloping land and aim for changes to appear as ‘natural’ as possible.
- Design the layout of roads and lots to work with the natural characteristics of the site (e.g. on sloping and hilly sites avoid straight roads that disrupt the landform).



2.2. When the land contour is modified:

- The resultant landform should relate to the wider landform patterns.
- Cut faces should be concealed behind development or effectively landscaped.
- Any large visible retaining structures should be designed as landscape features well-integrated into the site (see Guideline 2.4 for more detail).



Examples of road and lot design that work with the landform.

Prominent landforms such as coastal escarpments, hilltops and ridgelines are integral part of the local character and sensitive to change. Concentrating development on relatively flat areas and minimising development on steep sites will help maintain the integrity of these landforms.

¹ Many of the guidelines in this section overlap with and support Māori Design/Te Aranga principles. The guidelines will be further developed and updated following consultation with local iwi.

Minimising earthworks by working with existing slopes will reduce the impact on the landscape, disturbance to natural systems and vegetation and the impact on stormwater quality. It will also maintain the local sense of place. Aiming for gradual contours with slopes that resemble surrounding natural topography will avoid significant level changes and the need for retaining significant structures.

Landscaping and Existing Mature Vegetation

2.3. Retain existing mature vegetation and large visually prominent trees and provide new planting suitable to the site's conditions.

2.4. Mitigate the visual effects of any necessary retaining walls through landscape treatment. This may be achieved by:

- Limiting their scale and height.
- Splitting the wall into multiple levels and incorporating planting to soften effects of level change.
- Using local materials and planting to aid integration with the local landscape.

Established trees and mature vegetation are important components of ecosystems. Retaining them will help with stormwater management, integrate the subdivision into the landscape and provide character, shelter and privacy.

Aiming for small-scale retaining walls (i.e. under 1.5m) and using landscaping to integrate them into the site is effective in mitigating their visual effects and reducing the overall impact of development on the landscape.



Example of an out-of-scale retaining wall devoid of planting which detracts from the amenity of the streetscape.



Retaining walls split into levels and planted integrates well with the streetscape.

Watercourses, Stormwater and Water Sensitive Design (“WSD”)

2.5. To preserve and enhance local ecology and existing stormwater flow paths:

- Integrate existing watercourses, wetlands and native vegetation into the subdivision's design.
- Do not pipe watercourses or wetlands where other practicable options are available.
- Where watercourses or wetlands cannot be preserved, their watersheds and flow patterns.
- Should inform the layout and stormwater management plan of the subdivision.

Land development can disturb natural processes through vegetation clearance and soil modification. The WSD approach is to maintain the flow and storage capacity of natural drainage systems such as headwater catchments, streams and natural floodplains. These natural systems attenuate surface flows and extend detention periods compared with pipe networks, reducing (but not eliminating) flooding effects.

Retention of watercourses and wetlands within subdivisions also reduces the adverse effects of erosion, sedimentation, and helps trap leach contaminants from copper materials, galvanized metal and treated timber. Enhancing watercourses with new planting improves their habitat value, adds amenity value to the subdivision and assists with stormwater treatment.



Retaining existing trees, limiting the height of retaining walls and designing them as landscape features enhances amenity.

2.6. Minimise the generation and impact of additional stormwater runoff resulting from development by:

- Directing runoff into WSD landscapes and devices such as vegetated swales, rain gardens, soakage pits, infiltration trenches/basins, tree pits. Refer to 'NZA4404:2010 and NPDC Local Amendments' for design detail.
- Encouraging narrower carriageways and single-car width driveways and vehicle crossings to reduce impervious surfaces. Use permeable paving where appropriate.

WSD is a multi-disciplinary freshwater management approach to land-use planning and development applied at both catchment and local scales.

WSD seeks to protect and enhance natural freshwater systems, address stormwater effects as close to source as possible and mimic natural systems to achieve enhanced outcomes for ecosystems and our communities in the long term.

In the New Plymouth district, WSD represents the best practice approach to stormwater management. Good planning and design early in the development process maximises the cost effectiveness of WSD.



Subdivisions should be planned to enhance the ecology and habitat of the natural environment.

2.7. Ensure the effects of any secondary flow paths on proposed buildings and structures are avoided or appropriately mitigated.

Coastal Environment

2.8. Subdivisions within the coastal environment should be sensitively planned to:

- Minimise the effect of development on the coastal environment and its natural character.
- Avoid impacts on the local ecology.
- Maintain and enhance public access along the coast.



2.9. To deliver an environmentally sensitive subdivision:

- Respond to the existing ecology by preserving dune systems, coastal features and habitats.
- Restore areas of degraded coast through suitable indigenous planting.
- Set back development behind the coastal escarpment to maintain the feel of the natural coastal landscape and enhance recreational users' experience.
- Aim for public roads to 'front' beaches and dune systems to maintain public access.
- Where possible integrate any esplanade reserves with existing public parks to increase the amenity of these spaces.

Examples of a swale (image above) and a vegetated swale (image below) incorporated into street design.



- Locate development away from eroding coastlines to minimise risk of natural hazards.
- Reduce the visibility of proposed development using setbacks.
- Screen built development from prominent viewpoints (such as views from the beach).
- Design building platforms that integrate into the landform.
- Work with local vegetation patterns to inform site layout and building location.
- Use natural materials, recessive colours and permeable driveway materials.

Public access to and enjoyment of the coastal environment is an important part of living in New Plymouth. As a sensitive and ecologically diverse landscape the coastal environment can be significantly altered by residential subdivision. Aiming for carefully planned subdivisions that respond to and preserve the existing ecology, avoid coastal hazards and maintain public access will preserve and enhance the natural character of the coastal environment.



The coastal environment is an ecologically diverse sensitive landscape. Views and access to coastal areas are part of the local character.

3. Access and Connections

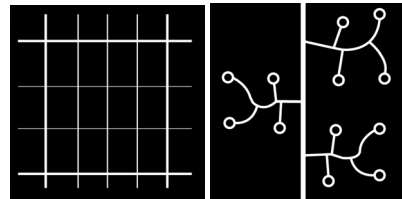
The way streets, cycling and walking routes are laid out is important as it influences the layout, infrastructure, accessibility and convenience of the subdivision. Interconnected streets providing direct links and multiple connections to surrounding areas and important destinations are key elements of an accessible and resilient neighbourhood. Designing subdivisions to maximise connectivity and provide for increased travel choice and convenience for users contribute to social interaction and energy saving by facilitating walking and cycling.

Outcome: Subdivisions that provide good accessibility to, from and within the subdivision and a choice of routes and travel modes to facilitate walking and cycling.

Connections to Neighbouring Areas and Facilities

3.1. Create accessible and well-connected subdivisions by:

- Providing street connections and direct pedestrian and cycling routes to surrounding neighbourhood centres, public/community facilities (e.g. schools, parks, reserves), future development areas and existing and planned public transport services.
- Linking pedestrian and cycling routes within the subdivision to the wider pedestrian and cycling network.



Connected streets (left image) provide better connectivity than a pattern of many cul-de-sacs with few through routes (right image).

Internal Connectivity (use of cul-de-sacs and right-of-ways)

3.2. Create a network of interconnected streets, pedestrian and cycle routes which provides a choice of routes and can accommodate future growth by:

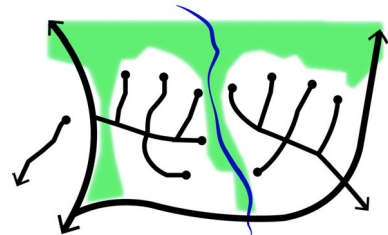
- Limiting the maximum length of urban blocks to 120m as a guide, particularly for blocks around or close to any neighbourhood centre.
- Minimising the use of cul-de-sacs and right-of-ways to encourage walking and cycling.

A connected street network provides direct connections between roads and pathways and increases the number of route choices. Compared to a series of long unconnected cul-de-sacs, a connected street network increases accessibility, enables more efficient infrastructure provision and reduces travel time for all forms of transport. This facilitates walking and cycling thereby creating walkable neighbourhoods.

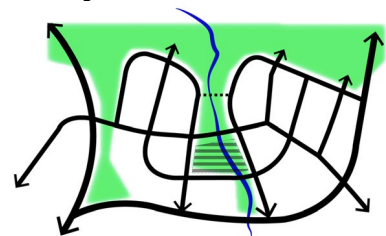
Aiming for connected streets forming small blocks (ideally less than 120m) and avoiding long unconnected cul-de-sacs will deliver the desired outcome.

3.3. Where cul-de-sacs are necessary (because of topography or other landscape features):

- Minimise their length to 75m as a guide.
- Provide sufficiently wide pedestrian and cycle links from the cul-de-sac's head to an adjacent street or public open space.



Cul-de-sac layouts (image above) offer little choice of alternative routes. Connected streets (image below) provide alternative routes that encourage walking/cycling and allow for an accessible central open space that integrates with the subdivision.



3.4. Where right-of-ways are used they should aim to:

- Serve a small number of lots (ideally no more than three lots) to encourage walking and cycling.
- Provide space for planting and landscaping.
- Use permeable fencing to allow informal surveillance.

Similar to cul-de-sacs, long right-of-ways increase travel distances and hinder walkability. They also reduce opportunities for informal surveillance as properties most often 'line' the right-of-way with a solid fence for privacy.

Right-of-ways provide little opportunity for planting which diminishes their amenity and the amenity of the lots they serve.



Example of a right-of-way devoid of planting and lined with solid fencing. This diminishes its amenity and reduces informal surveillance.

4. Layout²

Blocks, streets and lots are key elements of a subdivision's layout. The design of these elements is important as it influences connectivity, sunlight access and amenity and determines the relationship of the subdivision to the landscape. Aside from hindering connectivity, large blocks create rear lots and the need for right-of-ways. The orientation of streets and lots determines the amount of sunlight to dwellings and open spaces.

A comprehensive approach to the planning and design of blocks, streets and lots can deliver subdivision layouts that integrate well with the landscape, maximise sunlight access and amenity and promote safety and connectivity.

Outcome: Integrated subdivision layouts which work with the site's characteristics, maximise sunlight access, outlook and amenity and support connectivity.

Comprehensive and Integrated Layout

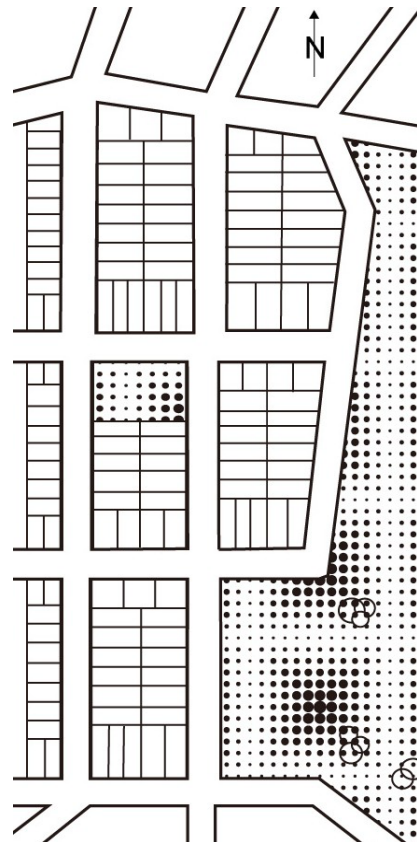
- 4.1. Plan the subdivision layout relative to the slope and orientation of the site and its natural characteristics to maximise sunlight access, views and privacy (see Guideline 1.2).

Block Layout

- 4.2. In designing blocks aim to:
- Limit the size of blocks to support connectivity (see also Guideline 3.2).
 - Create blocks that are two-lots deep to minimise the number of rear lots.
 - Maximise the number of lots fronting the street to allow for private yards at the back and public fronts to the street (see Guideline 8.4 for more detail).

Aside from reducing walkability, large blocks increase the number of rear lots and the need for right-of-ways. Compared to lots with a street frontage, rear lots often generate privacy issues along the sides of adjacent lots and compromise outlook. Often enclosed on all four sides with a solid fence, rear lots do not enjoy the same sense of openness and views as front lots.

With no direct frontage to the street, rear lots do not have a clear sense of address which make them more difficult for visitors to find.



Layouts with streets aligned north-south and blocks that are two-lots deep maximise the number of lots with good sunlight access and minimise the number of rear lots.

² The guidelines in this section overlap with and reinforce the guidelines in Section 3 (Access and Connections) and Section 8 (Individual Lot Design)

Street and Lot Orientation

- 4.3. To maximise opportunities for sunlight access:
- Align streets north-south and orient lots east-west where possible.
 - Vary lot shape in relation to orientation (see also Guideline 8.3).
 - Provide south-facing lots with north-facing outdoor spaces.
 - Ensure the selection of street trees provides sunlight penetration during winter.

Aiming for north-south oriented streets will maximise the number of lots with good solar access (i.e. east-west oriented lots). Ways of optimising sunlight access to lots with variable orientation are indicated in Guideline 8.3.



Example of rear lots with no direct street address and private open spaces facing a right-of-way with little planting.

5. Character and Sense of Place

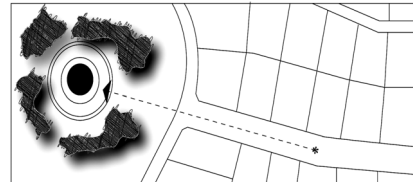
The way people feel about where they live and whether they find it attractive is related to its sense of place. Neighbourhoods with a strong sense of place have a distinctive character that is usually based on the underlying landscape, the layout and amenity of streets and open spaces and the activities and events taking place in the neighbourhood.

Outcome: Subdivisions with a distinctive character that build upon the local landscape and create a network of attractive streets and open spaces which people find easy to get around.

Distinctive Character

5.1. Create subdivisions with a distinctive character and strong local identity by:

- Retaining existing notable landscape features and incorporating new elements to create a distinctive character
- Aligning streets and designing open spaces to focus on significant views or landmarks.
- Using street trees to enhance street amenity.



Street aligned to focus on a local landmark feature.

Local Sense of Place

5.2. Reinforce the local sense of place by referencing:

- Past local events.
- The history of development and the use of the site.
- The site's cultural significance (e.g. highlight traces of past occupation where these exist).
- Incorporate historically significant structures in the subdivision's public open spaces).

Retaining and enhancing existing natural features, incorporating landscape design elements and celebrating the history and cultural significance of development sites will strengthen local identity and create a sense of place.



Example of distinctive street trees that create identity.

Orientation and Way-Finding

5.3. Facilitate orientation and help people find their way around by:

- Enhancing the main routes throughout the subdivision with distinctive planting (e.g. avenue of trees) and other streetscape features (e.g. special lighting).
- Emphasising street corners with larger street trees to provide a sense of direction.
- Enhancing the entrance points to the subdivision with planting, marker elements or well-designed signage.

Expressing the street hierarchy through streetscape design features and enhancing the main entrances to the subdivision will create identity and assist users' orientation.



Example of a street corner emphasised with a taller tree.



Example of a sign feature at the entrance to a subdivision that promotes its identity and contributes to a sense of arrival.

6. Street Design and Road Hierarchy

Aside from catering for traffic and infrastructure services, streets also have an important role in shaping the character and amenity of the subdivision. When designed well and according to their role in the road hierarchy, streets can provide interest and identity to the subdivision and make it easy for people to find their way around.

Outcome: A clear road hierarchy and street design that create accessible and safe subdivisions which people find attractive and easy to move around, while enhancing the identity of the subdivision.

Street Design

6.1. Streets should be designed:

- As attractive public spaces that add interest through street trees, footpath and planting patterns, landscape features and well-integrated parking bays.
- According to their role in the road hierarchy of the subdivision, anticipated traffic volume and desired vehicle speed. Refer to 'NZS4404:2010 and NPDC Local Amendments' for required carriageway widths, landscaped berms, street trees, carparking, lighting and footpath requirements.

Streets have an important function as public spaces not just vehicle-ways. They should be designed to reflect their multiple uses and clearly express their role in the roading layout of the subdivision. This will assist people to identify the main routes and help them find their way around.

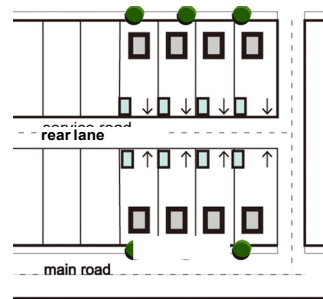
6.2. Consider providing rear lanes or slip lanes for vehicle access and parking adjacent to heavy traffic routes to avoid multiple driveways compromising the road's function.

Street Trees and Landscaping

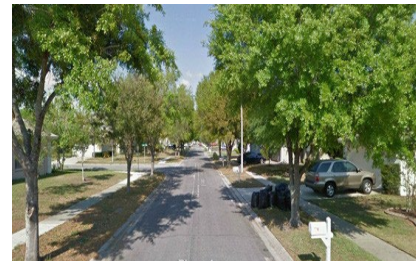
6.3. Express the road hierarchy by using different types/scale of street trees and vegetation patterns to highlight important routes and destinations (e.g. use larger trees on wider streets to create the impression of an avenue).

6.4. Ensure street trees are:

- Of type/height appropriate for the location and width of the street and for on-going maintenance. For guidance on preferred tree species refer to the District Tree Policy.
- Spaced generally 10m apart and located in a way to avoid interference with services, driveways and parking bays. Refer to 'NZS4404:2010 and NPDC Local Amendments', Section 7 for technical detail.



Rear lanes for vehicle access and parking adjacent to heavy traffic routes help to avoid multiple driveways compromising the main road's function.



Examples of 'avenue' tree planting enhancing the character and significance of main routes.

- 6.5. Ensure street planting and landscaping is sensitive to the landscape character of the site and maintains important views.

Pedestrians and Cyclists

- 6.6. Streets should be designed to cater for cyclists and pedestrians, including children, the elderly and disabled. Refer to 'NZS4404:2010 and NPDC Local Amendments', Section 3 for technical detail.

- 6.7. Safe and convenient pedestrian footpaths should generally be provided along both sides of the street.

Pedestrian access arrangements may vary depending on the role of the street in the road hierarchy or the activities along the street. Refer to 'NZS4404:2010 and NPDC Local Amendments'.

- 6.8. Walkways and cycleways between streets should be at least 5.5m wide, attractive and relatively straight with clear visibility from both ends.

- 6.9. Design footpaths to take precedence over vehicle crossings (e.g. ensure vehicle crossings do not interrupt the gradient and material of the footpath).

On-Street Parking

- 6.10. Meet the on-street parking needs of the subdivision in a manner that maintains the amenity of the street. To achieve this consider:

- Providing parallel parking bays incorporating landscaping and street trees.
- Differentiating the surface materials used for parking bays from those used on traffic lanes to make the streetscape more attractive.
- Concentrating parking alongside public spaces to promote public use and provide informal surveillance.

Traffic Calming Measures

- 6.11. Use traffic calming devices suitable for the type of street and traffic conditions to reduce traffic speeds. This can be achieved through methods such as:

- Planting.
- On-street parking.
- Narrow carriageways.
- Spatial constriction/local narrowing.
- Roundabouts and tight corner radii.
- Creating shorter distances between intersections.

Traffic calming measures aim to ensure the safety of pedestrians particularly in shared areas. Refer to 'NZS4404:2010 and NPDC Local Amendments' for specific engineering criteria.



Example of a walkway/cycleway with good visibility integrated with a natural feature.



Examples of street trees within parking bays that reduce traffic speed and add character to the streetscape.

7. Public Open Space

Public open spaces such as parks, squares and reserves provide settings for community life and form an important part of the subdivision's character. Well-designed and appropriately located public open spaces add to the identity and amenity of the subdivision while providing opportunities for recreation and social contact.

Outcome: Subdivisions that provide conveniently located, well-designed and safe public open spaces which support a range of activities and promote community interaction.

Open Space Location, Size and Design

7.1. Open spaces should be:

- Accessible, sunny and safe.
- Suitable for both active as well as passive recreation.
- Planned as integral elements of the subdivision layout.
- Designed to add value to the subdivision and enhance its character.

Public open spaces should be treated as integral features of the subdivision layout and as an opportunity to add character and create identity. Except for areas of bush, streams and wetlands, public open spaces should not comprise residual land or land which is unsuitable for recreation (e.g. areas that are predominantly steep, south facing or difficult to access).

7.2. The size and type of open spaces should be based on the size of the subdivision, the types of users and their requirements, access to existing facilities and any gaps in amenity provision.

As a guide, residential housing within any new subdivision should be within 10 minutes walking distance (500m) from a 'neighbourhood open space' that is between 3000m² and 5000m².

7.3. The location and design of open spaces should be informed by the characteristics of the site and its context and take advantage of existing trees or other landscape features. Potential locations for where within the subdivision layout an open space might go include:

- Around an existing natural feature to enhance the natural character of the site.
- In the centre of the subdivision to create a focal point.
- Around the entrance of the subdivision to enhance its identity and sense of address.
- Adjacent to the site boundary so that it can be extended by a possible future reserve on an adjacent subdivision.
- At the rural boundary if the subdivision borders rural land to maximise views to the rural landscape.



Example of a public open space developed around a natural feature.



Examples of parks designed as focal points in the centre of the subdivision that are overlooked by adjacent houses.



Example of stormwater detention pond designed as a landscape feature integrated into the subdivision's open space.

7.4. Apply WSD methods for stormwater disposal within public open spaces whenever practicable. Design any WSD features in a way that enhances the amenity of the open space (See Guideline 2.8 for more detail).

Safety

7.5. Design public open spaces that are consistent with the principles of Crime Prevention Through Environmental Design (“CPTED”). To achieve this ensure streets, accessways, parks and other public spaces are overlooked by adjoining activity to allow informal surveillance by:

- Designing and orienting lots to allow future dwellings to locate their entrances and living areas to front adjacent streets and public spaces.
- Ensuring front yard fencing and street planting allow visual connection from the dwelling to the street and do not obstruct driver’s vision of pedestrians.
- Providing on-street carparking adjacent to parks.
- Accommodating vehicles, cyclists and pedestrians together in preference to pedestrian-only routes to make them safer.
- Avoiding open spaces and pedestrian/cycleways between the ‘backs’ of adjacent sites (e.g. in the middle of large blocks).

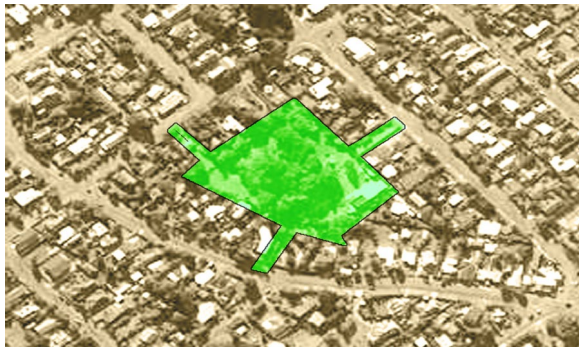
CPTED principles promote urban spaces bounded by activity and overlooked by buildings. Buildings with front doors and living areas facing adjacent streets/public spaces and front yards with low or permeable fences provide informal surveillance and promote safety in the public realm and security within the private realm.



Example of well-designed dwellings providing visual connection to the street that promotes informal surveillance.



Dense planting and high fences (left image) obstruct the driver’s vision of pedestrians and creates safety issues. Appropriate planting/fencing allows visibility and improves safety (right image).



The mid-block location of this reserve at the rear of lots makes it difficult to see from the street lowering its potential use. For privacy it is generally lined with solid fencing making it less safe to use and adding no value to adjoining lots.



Streets that provide for a range of users are safer than pedestrian-only routes.

8. Individual Lot Design

The shape, size and orientation of individual lots can influence the amenity of subsequent development as well as the amenity of adjacent lots and the character of the wider neighbourhood. When carefully approached, lot design can optimise views and solar access, minimise exposure to prevailing winds and allow for a good quality outdoor space, while enhancing the safety and character of the subdivision.

Outcome: Lot design that optimises the amenity of individual lots, enhances the safety and amenity of the subdivision and promotes housing choice and diverse neighbourhoods.

Lot Shape and Size

- 8.1. Create lots that are easy to develop, work with the landform and maximise private open space. To achieve this lots:

- Should be generally regular in shape (ideally, lots should be rectangular in shape allowing for usable outdoor areas accessible from future dwellings).
- Shaped in a way that minimises earthworks and/or major and sudden changes in the contours of the lot or at the boundary of the neighbouring lots. Where necessary, such changes should be used to separate lots rather than occur within the lot.

Lots that are generally compact and regular in shape are easier to develop, maximise usable open space and allow greater flexibility in building location.

- 8.2. Create a mix of lot sizes to provide for diversity of dwelling types and sizes and promote housing choice.

Variety of different lot sizes creates diverse neighbourhoods and provides for a range of housing types. Aside from increasing housing choice, this creates interest and identity to the subdivision.

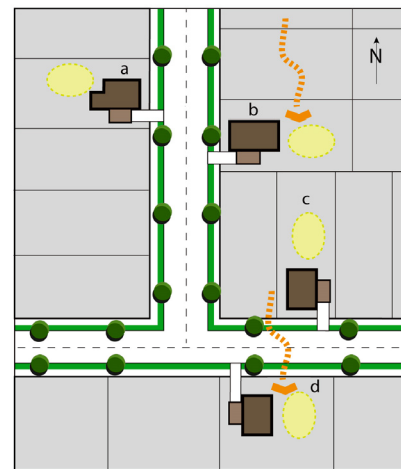
Solar Access, Building Location and Private Outdoor Space

- 8.3. Design lots to maximise sunlight access to the outdoor spaces and living areas of future dwellings. Vary lot shape/proportions to maximise sunlight access in relation to lot orientation. For example, see diagram to the right:

- East and west oriented lots can be designed to have vehicle crossings and house platforms on the southern side allowing outdoor spaces to be located on the northern side (conditions a + b).
- South-facing lots can be narrower and deeper to allow house in front and a north-facing outdoor space at the back (condition c).
- North-facing lots can be wider and shallower with a house and an outdoor space located side by side and both with a good orientation (condition d).



Example of good lot design that minimises earthworks and allows for buildings that fit in well with the landscape.



outdoor space



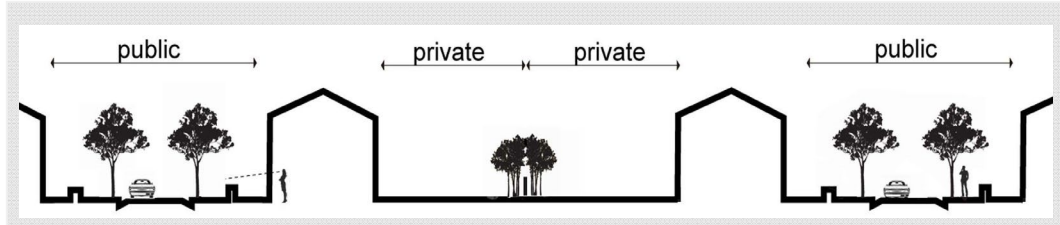
sunlight access

Four basic conditions based on lot orientation fronting east-west and north-south running streets are shown above.

Depending on the street orientation, lots may need to be orientated differently to maximise sunlight access to outdoor spaces and living areas of future dwellings.

- 8.4. Design lots to have street frontages and allow for possible future dwellings to have their front doors facing the street and private outdoor spaces at the back.

Lots with street frontages and future dwellings facing the street with private open space at the back ('fronts facing fronts' and 'backs facing backs' arrangement) provide a clear separation between the public and private realms. This allows for outdoor spaces away from the street and a house facing the street and providing informal surveillance (see diagram below).



'Fronts facing fronts' and 'backs facing backs' arrangement.

- 8.5. Plan for building footprints that:

- Allow for at least one primary outdoor space of 4m x 4m size with a north, east or west orientation that is directly accessible from the dwelling.
- Maintain views to notable landscape features and retain any mature tree/s within the lot.

Lot Access

- 8.6. Provide for vehicle access and future garaging in a way that minimises earthworks and does not dominate the streetscape. To achieve this consider:

- Narrowing down driveway width.
- Using landscaping (including both hard and soft elements) to reduce the area of impervious surfaces and soften its visual effect.
- Setting the garage back from the building frontage.



Use of permeable paving reduces visual impact of driveways.



Example of a garage set back from the building frontage to reduce impact on the streetscape.

Bibliography

NZS4404:2010 and NPDC Local Amendments

New Plymouth District Council Tree Policy

New Plymouth District Council Earthworks and Green Infrastructure Design Guidelines for Built Development, Draft 2012

New Plymouth District Council Rural Subdivision and Development Design Guidelines, 2012

Wellington City Council Subdivision Design Guide, 2013

Hastings District Council Subdivision and Infrastructure Development: Best Practice Design Guide, 2009

Kapiti Coast District Council Subdivision Design Guideline

Selwyn District Council Subdivision Design Guide, 2009

Queenstown Lakes District Council Subdivision Design Guidelines, Draft 2015

Manawatu District Council Subdivision Design Guide, Fielding - Precincts 1-3, Draft 2013

Auckland Design Manual, Subdivision

Auckland Design Manual, Māori Design /Te Aranga Principles

Auckland Council District Plan, Section 3/Appendix 17B

Auckland Regional Council, Landscape and Ecology Values within Stormwater Management

Urban Design Compendium - English Partners and the Housing Corporation (UK)