

DRAFT KAIPARA DESIGN GUIDE

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Part 1_Introduction

1.1 Background

1.2 Strategic Context

1.3 Purpose of Design Guide

1.4 How to Use this Document

Part 2_ Principles and Guidelines

2.1 Māori Design Principles

2.2 Landscape Planning Framework

2.3 Buildings and Streets

2.4 Sustainable Building Practices

Part 3

3.1 Monitoring and evaluation

PART 1



1.1 BACKGROUND

Many councils around New Zealand are recognising the advantage of adopting additional methods to encourage and guide development in their communities. The purpose of this is to reconcile to the greatest degree possible some of the uncertainties that many people have regarding the quality of new development.

By adopting simple design guidelines development can be delivered that offers solutions appropriate to the particular community and in doing so hopefully benefit from a faster streamlined consenting pathway.

The Kaipara District has experienced relatively fast growth in the last five years, driven mainly through rural living subdivisions and sustained growth in the Mangawhai urban and peripheral countryside areas. Design guidelines were developed for Mangawhai as an appendix of the Kaipara District Plan in 2013. These guidelines concentrate on residential subdivision and do not differentiate between urban, rural or commercial/business development. Growth and expansion continues in Mangawhai and indications are that this will ramp up over the next 10 years reigniting the need for an all-inclusive set of design guidelines to help anchor Kaipara Council's vision of sustainable growth and development.

The Kaipara District Council has recognised the importance of planning for growth and maximise the positive outcomes it can bring to the district as a whole. In response, the Council commissioned two area-specific Spatial Plans (The Spatial Plan - Key Urban Areas and the Mangawhai Structure Plan Review), and a district-wide spatial plan, The Sub-Regional Spatial Plan. These examine where and how this growth could be sustainably managed.

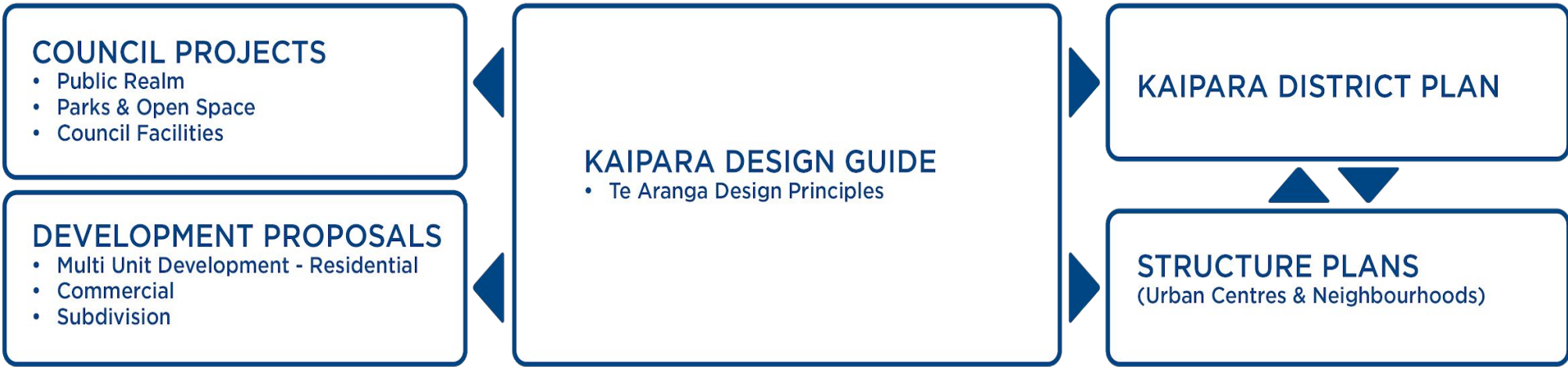
Both spatial plans were developed through extensive consultation with the people of Kaipara and in-depth investigations into the environmental conditions the district is facing now and in the future. They provide an inspirational framework for more sustainable development and conservation of Kaipara's urban and rural environments. They present a series of key design moves that embrace and stimulate the positive aspects of the place, while also setting solid foundations to improve the districts overall design quality, safety, wellbeing and resilience.

It is intended that the spatial plans will inform the upcoming review of the Kaipara District Plan and help decisions surrounding how to support and encourage positive social, cultural, economic, and environmental development.

The spatial plans provide a framework for the Council to further develop within its policies and objectives but they don't go into the design details that are also vital to inspiring quality development and creating successful places. Design details can encompass a variety of scales - from an individual building, a street, a subdivision or an entire town/settlement. Design Guidelines are a proactive means to collaborate with designers and real estate developers to guide the development process and achieve a range of enhanced design outcomes.

1.2 STRATEGIC CONTEXT

The Design Guide has no statutory legal status in the determination of resource consent applications with direct reference to the activity status in the zoning rules of the District Plan.



The Design Guide can add weight to how the a proposed development is assessed influencing the determination of a consent application as an ‘other matter’ related document under s.104C of the Resource Management Act 1991 (the RMA). Through this mechanism, the principles of the Kaipara Design Guide become ‘material matters’ in the determination of resource consent applications.

The Design Guide sets guidelines for developments of particular types (eg multi-unit housing), or on particular sites (eg within significant landscapes, or in defined heritage areas).

New developments which fall into these categories generally require a resource consent. In assessing a resource consent application, the Council will take into account the extent to which the proposal meets the relevant design guide and the relevant area-based policies.

1.3 PURPOSE OF DESIGN GUIDE

Design Guidelines define the qualities of architecture, site design, street and open space that make successful projects, and are a tool for guiding individual projects towards successful design outcomes. The goal of the design guidelines is to inspire and foster design excellence.

https://www.seattle.gov/Documents/Departments/OPCD/OngoingInitiatives/UDistrictUrbanDesign/Boards_Streetfair.pdf

The purpose of the design guide is to help facilitate the design and delivery of quality buildings and places for communities in the Kaipara District.

In a way that establishes clear expectations and parameters from an early stage in planning, between project team, project partners and key stakeholders*

So that those involved in designing and building the built environment have a shared understanding of the core design principles underpinning quality buildings and places and recognise that the process of building positive and sustainable environmental, cultural, social and economic wellbeing is a collective endeavour.

** Project team -Group provides recommendations for final outcomes.*

Project Partners - Partner in each aspect of the process including the development of alternatives and the identification of the preferred solutions.

Key stakeholders - Work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered

1.4 HOW TO USE THIS DOCUMENT

The Design Guide is formatted to reflect the steps an applicant should follow. These include_

1. **Investigation** - what can I do on my site based on the zone, topography, vegetation, streams, access, and other constraints? Consider the district plan provisions relevant to the site and
2. **Concept Design** - Develop scheme aligned with direction outlined in spatial plan and design guidance. In particular_
 - a. How does your design respond to Māori Design Principles
 - b. What are the landscape framework / context
 - c. Transect the development is occurring within
3. **Pre-Application Meeting** - Arrange a pre-application meeting with council planning staff to inform resource consent application. Gain an appreciation of what outcomes the council staff will be looking for based on the district plan zone provisions, relevant development controls, and how the Design Guide influences these outcomes further
4. **Developed Design refinement** - refine based on pre app meeting as required
5. **Lodge and obtain resource Consent**
6. **Detail Design and Tender Documentation**
7. **Building consent and other approvals**
8. **Construction and Practical Completion** - suitably skilled and qualified building specialists to undertake the works. Ensure compliance with permits obtained.
9. **Live & Adapt** - occupying your space and planting, adapting space and structures over time as ownership and/or lifestyles change - empty nesters, young families, retired. Adaptable spaces and building, such that the way in which the built-form is used to suit an ever-evolving lifestyle changes over time.

1.4 HOW TO USE THIS DOCUMENT CONT - TRANSECT PLANNING

The urban ‘transect’ mimics that of the analysis of natural habitats but replaces those natural habitats with a sequence ‘urban habitats’ of distinctive character. It represents a generalised position whereby a ‘what fits where’ approach to design is contemplated within the broader land use planning framework. The approach promotes the objectives of walkable, characterful and connected communities.

In this sense the most dense living areas are those best placed to access local services whilst the least dense fit better in the rural environment.



TRIGGERS

This diagram shows the levels of complexity of a proposal, or development / activity, comparatively to when a higher degree of specialist input may be required.

The use of panels - independent from political or private influences - can provide a degree of confidence that the options development phases of a project are outcomes-focused and leads to good design outcomes.

This costs financially to someone - and having in-house specialists and up-skilled staff can cater for the larger amount of proposals sitting at the 'lower complexity' end of the spectrum shown on this diagram.

PANEL

ENGAGE EXPERTS

REGULATORS

N/A

ACTIVITY STATUS

Low Density			Medium Density			High Density				
Non Complying Discretionary Restricted Discretionary Controlled Permitted										
Single Family Home - Large Lot			Single Family Home - Small Lot	Single Small Home - Small Lot	Duplex	Terrace Housing	Town Housing	Retirement Village Mixed Use	Papa-kainga Mixed Use	Apartment Mixed Use
Commercial Mixed Use			Commercaill Large Format Retail		Commercaill Business Park		Light Industrial		Heavy Industrial	
Pastoral Farming	Mixed use farming	Horticul-ture	Forestry	Maori Purpose land	Resi-dentail Holdings	Network utilities & infra-structure	Process-ing Ac-tivities	Mineral Ex-traction		

PART 2 - PRINCIPLES AND GUIDELINES

MĀORI DESIGN PRINCIPLES

Māori design principles are derived from a Māori worldview incorporating Māori knowledge and core Māori values. They are intended to unlock the potential of Māori knowledge and help to facilitate effective engagement with Mana Whenua. It is a holistic approach provides Mana Whenua opportunities to articulate their narratives, values and aspirations and contribute in a meaningful way to current and future environments.

LANDSCAPE PLANNING FRAMEWORK

The landscape planning framework provides an overview of the fundamental landscape processes, patterns and character that need to be identified, maintained, protected and enhanced. The landscape planning framework is an ecologically grounded approach to the design and planning of settlements that helps to ensure Kaipara's settlements holistically and sustainably respond to the unique and diverse natural and socio cultural landscapes of a place and the integrity the environment they are embedded in are maintained in perpetuity.

BUILDINGS AND STREETS

Buildings and streets provides an overview of the core features of quality buildings, streets and places for communities in the Kaipara District. Buildings and streets covers in mixed Use / Commercial / Business, high medium and low density residential developments and rural residential and rural living zones.

SUSTAINABLE BUILDING PRACTICES

Sustainable building practices outlines the key factors that need to be considered when designing, constructing, operating and deconstructing buildings.

2.1 MAORI DESIGN PRINCIPLES

Māori design principles are derived from a Māori worldview incorporating Māori wisdom and core Māori values. They are intended to unlock the potential of Māori knowledge and help to facilitate effective engagement with Mana Whenua. It is a holistic approach which provides Mana Whenua opportunities to articulate their narratives, values and aspirations and contribute in a meaningful way to current and future environments.

The Te Aranga Design Principles are derived from the core values:

Rangatiratanga - self determination

Kaitiakitanga - guardianship

Manaakitanga - hospitality

Wairuatanga - spirituality

Kōtahitanga - unity

Whānaungatanga - kinship

Mātauranga - Te Ao Māori / Māori world view

TE ARANGA DESIGN PRINCIPLES

Mana Rangatiratanga - The status of iwi and hapū as mana whenua is recognised and respected.

Whakapapa - Māori names are celebrated.

Taiao - The natural environment is protected, restored and / or enhanced.

Mauri Tū - Environmental health is protected, maintained and / or enhanced.

Mahi Toi - Iwi/hapū narratives are captured and expressed creatively and appropriately.

Tohu - Mana whenua significant sites and cultural landmarks are acknowledged.

Ahi Kā - Iwi/hapū have a living and enduring presence and are secure and valued within their rohe.

APPLICATION OF TE ARANGA DESIGN PRINCIPLES

Applying the Te Aranga Design Principles - a framework for discussion_

Kaipara Mana Whenua have a wealth of local knowledge and tikanga they are willing to share - the Māori Worldview. This knowledge can elevate development proposals to higher levels, creating unique and special buildings, neighbourhoods and places for the Kaipara community and its visitors to deepen their collective 'sense of place' in Kaipara.

These principles provide an opportunity and platform for the council and developers to positively engage with mana whenua - and for mana whenua to navigate the kōrero with the council, wider community, and developers.

Te Aranga Design Principles can be implemented in a number of Kaipara District civic and private projects such as in the design and aesthetics of papakāinga, residential subdivision, new bridges, gateways, cycle and walking paths, public squares, parks, facilities and public buildings.

- **Mana Rangatiratanga** - Is the platform to engage in working relationships with mana whenua so their values, worldviews, tikanga, cultural narratives and visual identity can be appropriately expressed in the design environment.
- **Whakapapa** - Recognises ancestral names as entry points for exploring and honouring tūpuna, historical narratives and customary practices associated with development sites. It provides the ability to enhance a sense of place connections.
- **Taiao** - Is where natural environments and significant natural landscapes are protected, restored and enhanced to levels where sustainable harvesting of kai (food), rongoa (medicine) and craft materials (flax) is possible.
- **Mauri Tū** - Is where the wider development area and all the elements and developments within the site are considered on the basis of protecting, maintaining or enhancing its environmental health. For example, for community wellbeing, the quality of wai (water), whenua (land), ngahere (forest) and āngi (air) are actively monitored.
- **Mahi Toi** - Is when ancestral names, local tohu and iwi narratives are creatively reinscribed into the design environment, including: landscape; architecture; interior design and public art. It is encouraged that iwi / hapū mandated design professionals and artists are appropriately engaged in such processes.
- **Tohu** - Acknowledges a Māori worldview of the wider significance of tohu / landmarks and their ability to support a process whereby significant sites can be identified, managed, protected, enhanced and celebrated, reinforcing a sense of place and identity within the community.
- **Ahi Ka** - Acknowledges the post Treaty of Waitangi settlement environment where iwi living presences include customary, cultural and commercial dimensions, such as the development of papakāinga or karakia (blessings) of sites and places. Resumption of kaitiaki (guardianship / stewardship) roles are encouraged.

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EXAMPLES OF HOW AND WHERE TE ARANGA DESIGN PRINCIPLES CAN BE INTEGRATED

The Dargaville Spatial Plan has developed some examples where Te Aranga Principles can be applied to Dargaville.

 **Mana Rangatiratanga**

 **Whakapapa**

 **Taiao**

 **Mauri Tū**

 **Mahi Toi**

 **Tohu**

 **Ahi Kā**



EXAMPLES OF HOW AND WHERE TE
ARANGA DESIGN PRINCIPLES CAN BE
INTEGRATED CONT.

Mana Rangatiratanga

- Mana whenua working in partnership with Kaipara District Council.
- Recognition of all groups holding Mana Whenua over project areas.
- Kanohi ki te kanohi - In person, face to face.

Whakapapa

- Apply dual naming to Dargaville to reinstate the town’s traditional Māori placename.
- Present and promote dual naming for signage and location names.
- Reinstate or rename places of significance.
- Potential for incorporating key narratives of place into design and design elements.

Taiao

- Streamside planting of Wairoa, Awakino and Kaihu waterways to improve water quality and ecological connectivity.
- Native planting is incorporated into streetscapes, parks and reserves.

Mauri Tū

- Productive soils are recognised and protected.
- Design to recognise and provide for manaakitanga of environment and all visitors and users.

Mahi Toi

- All sites of significance are recognised and protected through the district plan, including significant view-shafts, neighbouring properties and adjacent landholdings.

Tohu

- Investment in artistic representation on sites of cultural significance.
- Create cultural markers at the entrance to town or settlements by local artists.

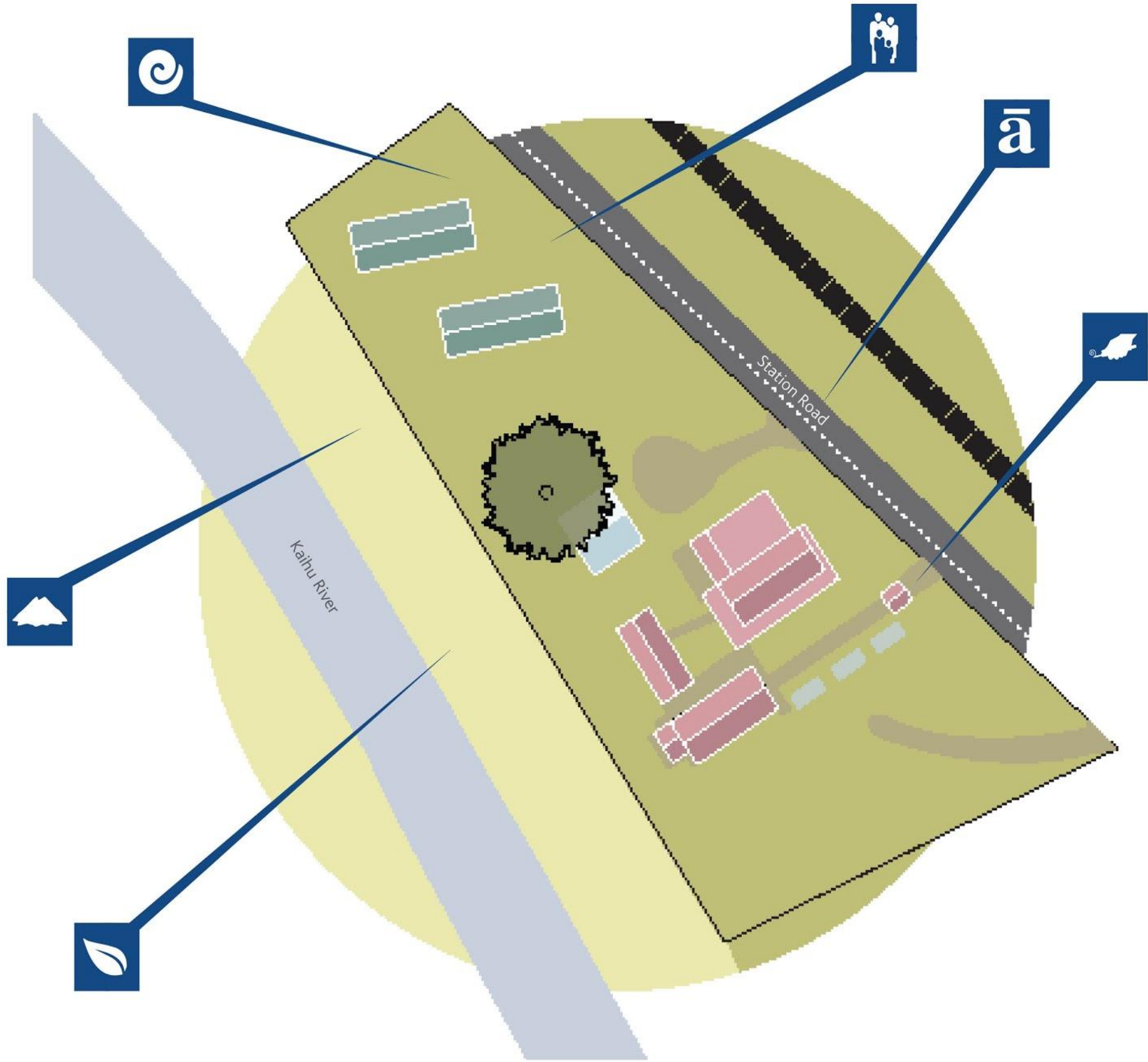
Ahi Kā

- Information centre and cultural highlight historical and living presence of mana whenua in this rohe.
- Employment opportunities for local mana whenua.
- Upgraded public toilets to encourage greater use of public space for locals and visitors.
- Papakāinga housing is recognised and provided for.

EXAMPLES OF HOW AND WHERE TE ARANGA DESIGN PRINCIPLES CAN BE INTEGRATED

The Houhanga Marae has developed some examples where Te Aranga Principles can be applied to Dargaville.

-  Mana Rangatiratanga
-  Whakapapa
-  Taiao
-  Mauri Tū
-  Mahi Toi
-  Tohu
-  Ahi Kā



EXAMPLES OF HOW AND WHERE TE
ARANGA DESIGN PRINCIPLES CAN BE
INTEGRATED CONT.

Mana Rangatiratanga

- Mana whenua working with autonomy on their land.

Whakapapa

- Rename Station Road to reflect the traditional / cultural narrative of Te Houhanga marae.

Taiao

- Produce Masterplan that assumes worst case scenario of flood modelling and how to stage potential adaptation measures to make the marae buildings more resilient and protected from climate events.
- Design promotes appropriate interaction with the Kaihu River.

Mauri Tū

- Net zero energy - passive design and solar energy for lighting, space heating, water heating and appliances.
- Net zero water - water sensitive design, water harvesting and filtration and ecological wastewater systems.
- Productive landscapes - e.g. Mara Rongoa, Mara Kai, Pā Harakeke (medicine, food, fibre).
- Shared / community food systems.

Mahi Toi

- Support for local iwi artists to present a unique local body of work.
- Mana Whenua narratives to be creatively expressed.
- Te Reo Māori is an integrated element within design and design elements.

Tohu

- Develop mana whenua interpretive signage.
- Take stock of Maōri land plots and ensure adjacent land uses are zoned for compatibility .

Ahi Kā

- Design that allows for iwi protocols to occur.
- Mana Whenua able to express kaitiaki role.

2.2 LANDSCAPE PLANNING FRAMEWORK

The landscape planning framework provides an overview of the fundamental landscape processes, patterns and character that need to be identified, maintained, protected and enhanced.

The landscape planning framework is an ecologically grounded approach to the design and planning of settlements. This helps to ensure Kaipara's settlements holistically and sustainably respond to the unique and diverse natural and sociocultural landscapes.

Through this framework, the integrity of the environment Kaipara's settlements are embedded in is maintained over generations.

DESIGN PRINCIPLES

Design with and for Nature and Natural Systems - Identify, maintain, protect and where required, enhance critical and vulnerable landscape features such as wetlands, floodplains, and steep and erodible slopes.

Design with Water Catchments - Designing and planning at the scale of the water catchment to ensure the integration of water, ecology and land use.

Respond to Existing Landscape Character - Identify, maintain, protect and where appropriate, enhance the existing character of a place, including protecting and designing around special natural and cultural features of the site, such as notable vegetation, ridges, rocks, view lines, edges and boundaries. The design and placement of building(s) should respond sensitively to existing topography and landforms, particularly ridgelines.

Design for Climate Change - Where required, respond and where possible, design and plan for the effects of climate change, particularly with regards to coastal erosion and inundation.

Develop Live, Work, Play, Learn, Environments - Design communities and places that universally allow people to walk and cycle for all of their daily needs.

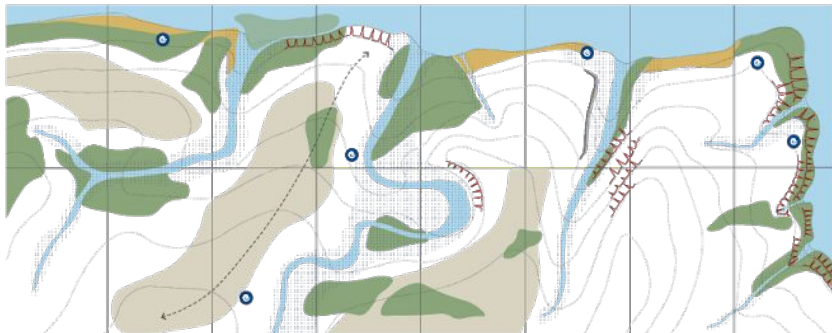
PROCESS

The following methodology outlines the key steps for planning and designing a site that is responsive to the underlying patterns, processes, and character of the Kaipara landscape.

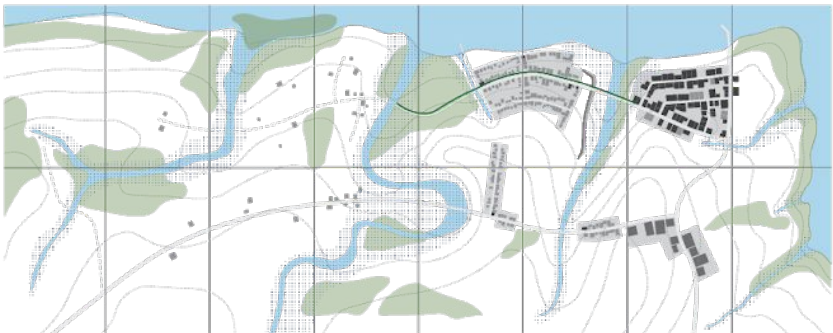
STEP 1 - CREATE A BASE PLAN



STEP 2 - IDENTIFY CRITICAL LANDSCAPE PATTERNS



STEP 3 - IDENTIFY CORE INFRASTRUCTURE



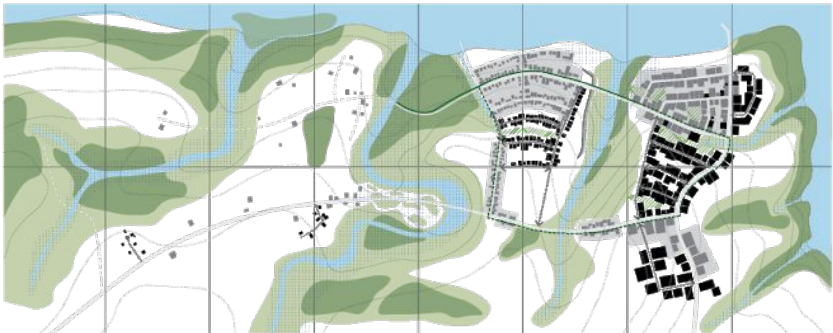
STEP 4 - MAP POTENTIAL ECOLOGICAL NETWORKS



STEP 5 - MAP POTENTIAL LINKAGES, DEVELOPMENT BLOCKS + OPEN SPACES



STEP 6 - MAP DEVELOPMENT TYPOLOGIES



STEP 1 - CREATE A BASE PLAN

Create a base map identifying key landscape features including coastal / river edge, contours, main roads, built-up areas, existing areas of vegetation, sites of cultural significance, and key infrastructure such as streets, bridges and stopbanks.

KEY

- Main roads

Local roads

Unsealed roads

Site of cultural significance

Stopbank

Existing cycle routes
- Streams and waterways

Beaches

Rural land

Significant natural areas

Existing development



STEP 2 - IDENTIFY CRITICAL LANDSCAPE PATTERNS

Map the landscape features critical to ensuring Kaipara’s natural environment is healthy and regenerative in perpetuity. These landscape features include ridge line, gullies and overland flow paths, waterways and water bodies, flood plains, steep and erodible slopes, existing areas of vegetation, and highly fertile soils.

KEY

- Streams and waterways

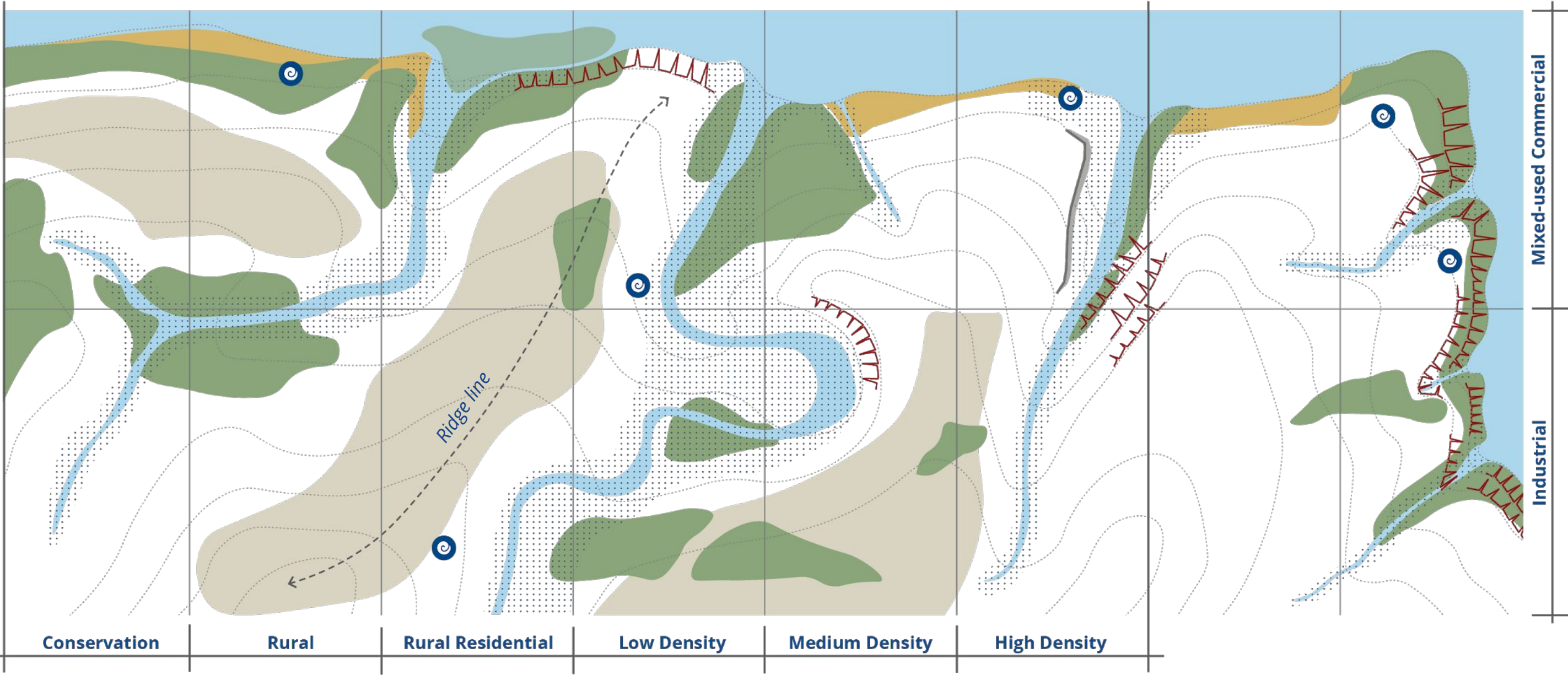
Beaches

Significant natural areas

LUC 1-3
- Flood plains

Steep terrain + erodible slopes

Site of cultural significance

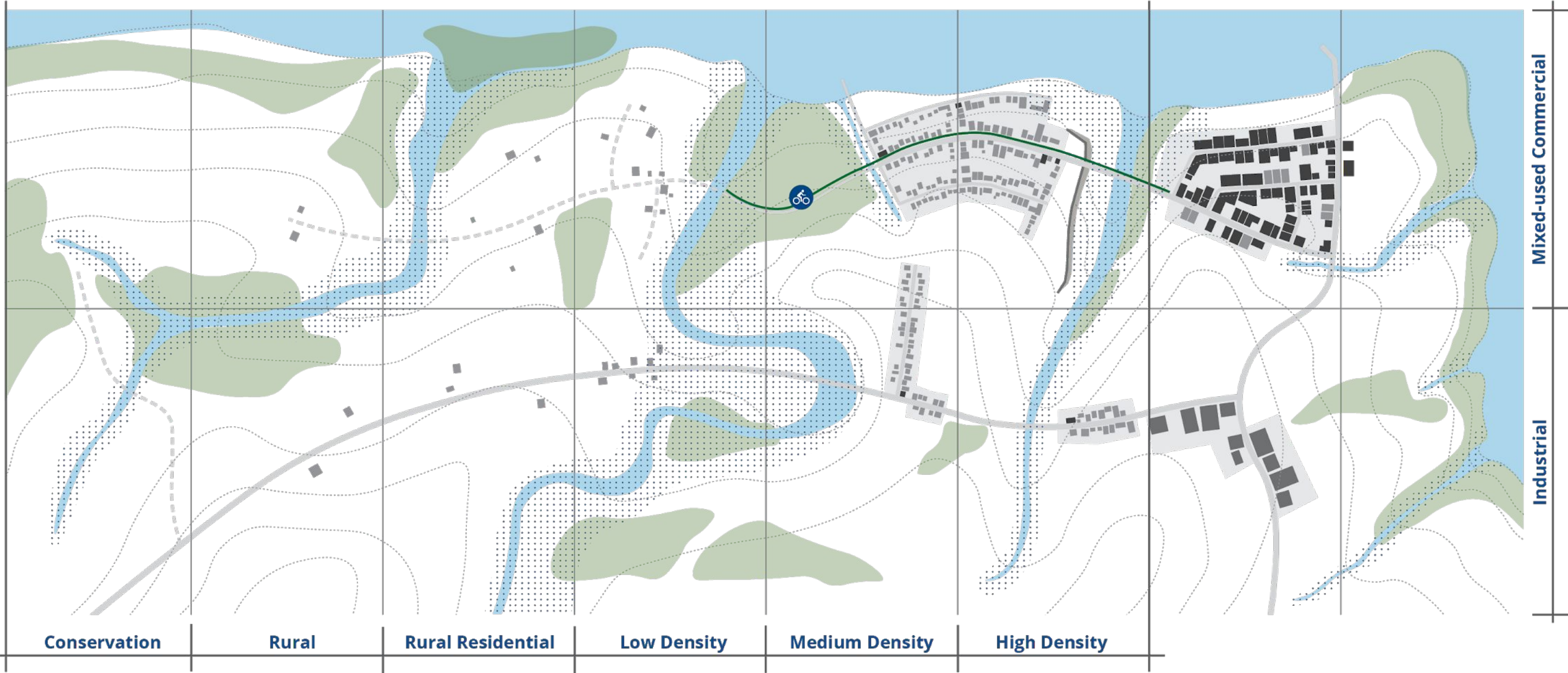


STEP 3 - IDENTIFY CORE INFRASTRUCTURE

Map the core infrastructure that creates the conditions for settlement, development, economic activities and transport. These include main roads, built-up areas, dominant land uses, stormwater, drinking water, wastewater, land drainage and flood protection, parks and open spaces, public transport, community facilities, and waste management.

KEY

- Main roads
- Local roads
- Unsealed roads
- Stopbank
- Existing cycle routes
- Mixed-use development
- Industrial
- Residential
- Floodplains

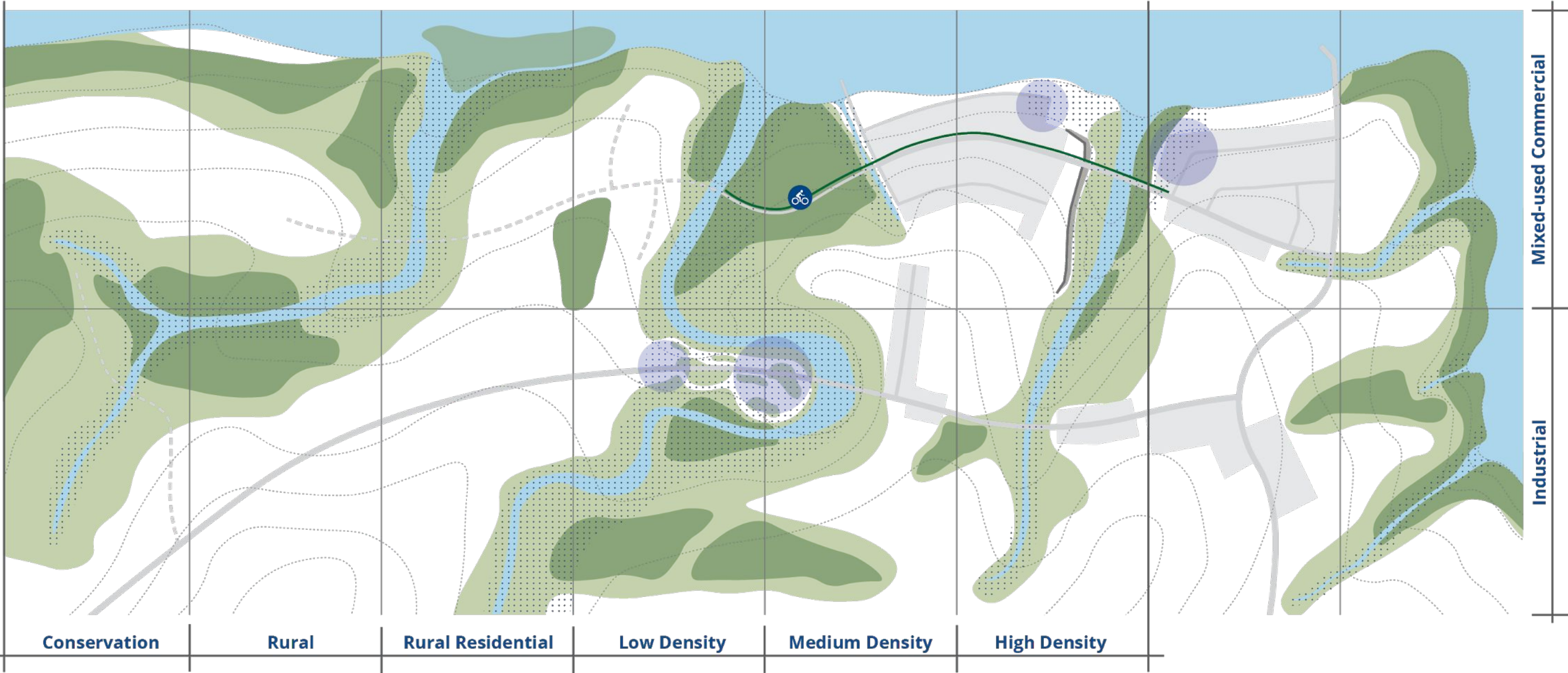


STEP 4 - MAP POTENTIAL ECOLOGICAL NETWORKS

Design an ecological network of forests and wetlands that captures the core features mapped in the second step and identify core infrastructure that is compromised and/or vulnerable through this process - for example, flooding.

KEY

- Main roads
- Local roads
- Unsealed roads
- Stopbank
- Existing cycle routes
- Development + infrastructure within floodplains
- Significant natural areas
- Potential ecological networks
- Extent of existing development
- Floodplains



STEP 5a - MAP POTENTIAL DEVELOPMENT BLOCKS AND CONNECTIONS

Map the areas outside of the potential ecological networks which are more suitable for development.

KEY

Main roads

Local roads

Unsealed roads

Stopbank

Existing cycle routes

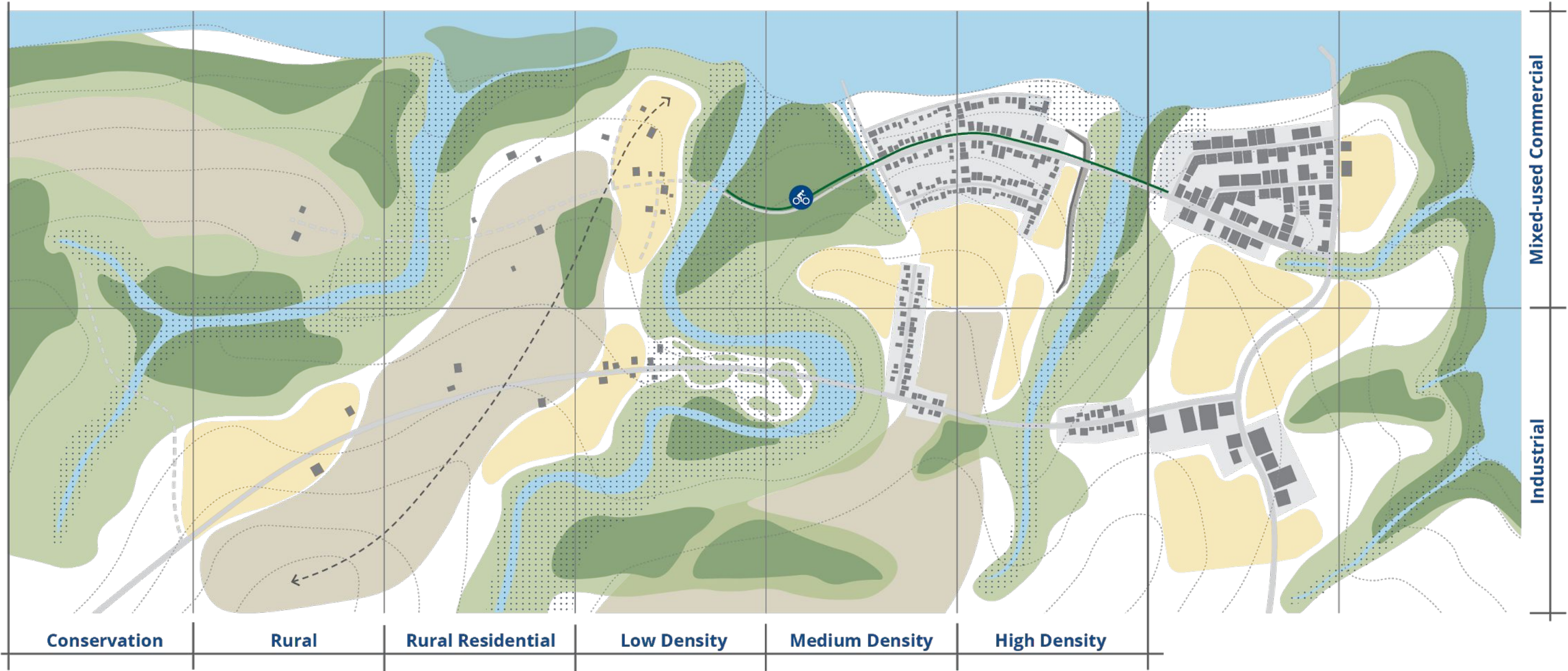
Areas suitable for development

Significant natural areas

Potential ecological networks

Extent of existing development

Floodplains



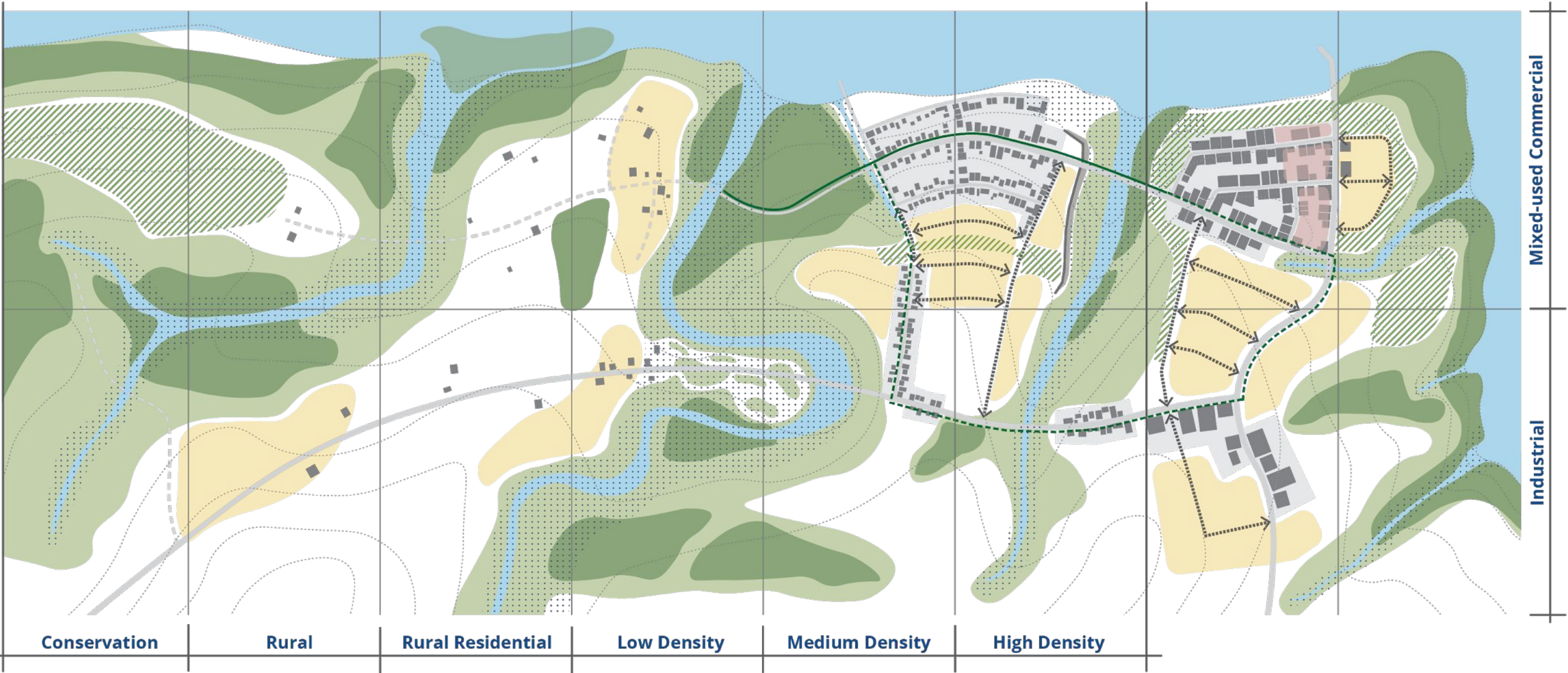
STEP 5b - MAP POTENTIAL OPEN SPACE NETWORKS

Identify connections through the potential development blocks and into the surrounding street and path network in a way that contributes to the creation of an integrated street and path network.

Note that connections should be identified first in mixed-use commercial, high and medium density housing connections and brownfield developments.

KEY

- Main roads
- Local roads
- Unsealed roads
- Stopbank
- Existing cycle routes
- Future road connections
- Future cycle routes
- Areas suitable for development
- Significant natural areas
- Potential ecological networks
- Existing development
- Areas suitable for urban intensification
- Floodplains
- Open space networks



STEP 6 - SPATIAL / STRUCTURE PLAN

Develop a final plan that clearly identifies existing and potential ecological networks, core infrastructure, key connections and areas for development as the basis for identifying suitable building and street typologies - outlined in the following section.

KEY

- Main roads
- Local roads
- Unsealed roads
- Stopbank
- Cycle routes
- Open space networks
- Significant natural areas
- Potential ecological networks
- Existing development
- Proposed development



2.3 BUILDINGS AND STREETS

This section provides an overview of the core features of quality buildings, streets and places for communities in the Kaipara District. It covers Mixed Use / Commercial / Business, High Medium and Low Density residential developments and Rural Residential and Rural Living zones.

DESIGN PRINCIPLES

Design for the Human Scale - Neighbourhoods are walkable. Public spaces, particularly the spaces between buildings, relate to the character and scale of the pedestrian.

Design Well-connected Communities - Kaipara towns, villages and settlements are interconnected, connected together, and to the wider landscape, through a network of walkways, cycleways and safe streets. Street networks are permeable, legible, accessible, safe and inviting to be in.

Integrate Different Uses - Mix and integrate uses throughout neighbourhoods and within buildings to help create vibrant and walkable live, work, play learn environments.

Sensitive Intensification - Intensify communities one transect at a time to improve people's transportation choices (i.e walking or driving), one's ability to age in one place and the community's ability to support retail and commercial uses within walking distance. The unique local identity is maintained and/or enhanced within the design and aesthetics of the townscape / streetscape or residential neighbourhood.

Design for People of All Ages and Abilities - Design universally accessible buildings and places for all without the need for adaptation or specialised design.

Revitalisation - Maintain, enhance and where appropriate, celebrate Kaipara's unique natural, cultural and built heritage, conservation and landscapes, whilst reinforcing the town's distinctive sense of place and community.

Adaptability and Celebration - Adaptable places and spaces are provided for community and cultural activation, including activities such as community events, markets, and cultural or seasonal celebrations.

2.3 DEVELOPMENT TRANSECTS_
URBAN TYPOLOGIES



MIXED USE COMMERCIAL

*Town Centre - urban core
commercial, retail, living (serviced)*

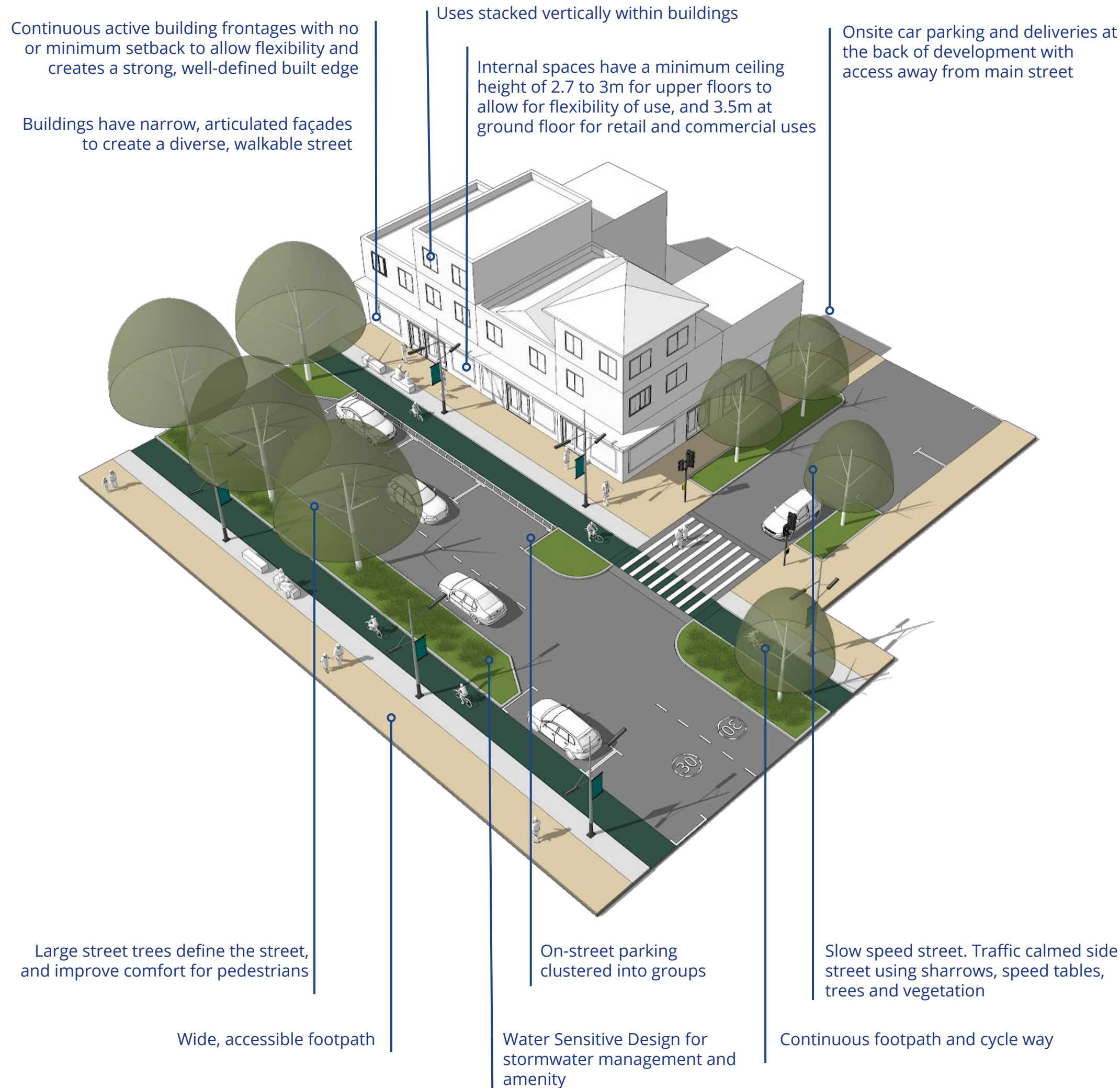
Provides a wide range of activities such as residential, leisure, commercial, tourist, cultural, community and civic centres. Height opportunities within the centre will facilitate increased intensification, including office and residential at upper floors.

Desired Outcomes

- Diversity of uses including community facilities and living opportunities will be encouraged.
- Buildings placed adjacent to the footpath will help define and create the street.
- Encourage wider footpaths and provide for convenient but well-integrated parking opportunities.
- Provide attractive shop frontages and façades that add to a sense of vitality and character.
- Retain a human scale and incorporate street trees and other landscape measures where appropriate.
- Manage vehicle speeds to prioritise the pedestrian environment and safety within the centre.

Supporting Infrastructure

- Fully serviced through reticulated infrastructure - water supply, wastewater, and stormwater.
- Public roads created through subdivision must meet council urban road standards, with traffic calming design solutions as a focus.



MIXED USE COMMERCIAL

Town Centre - urban commercial, retail, living (serviced)

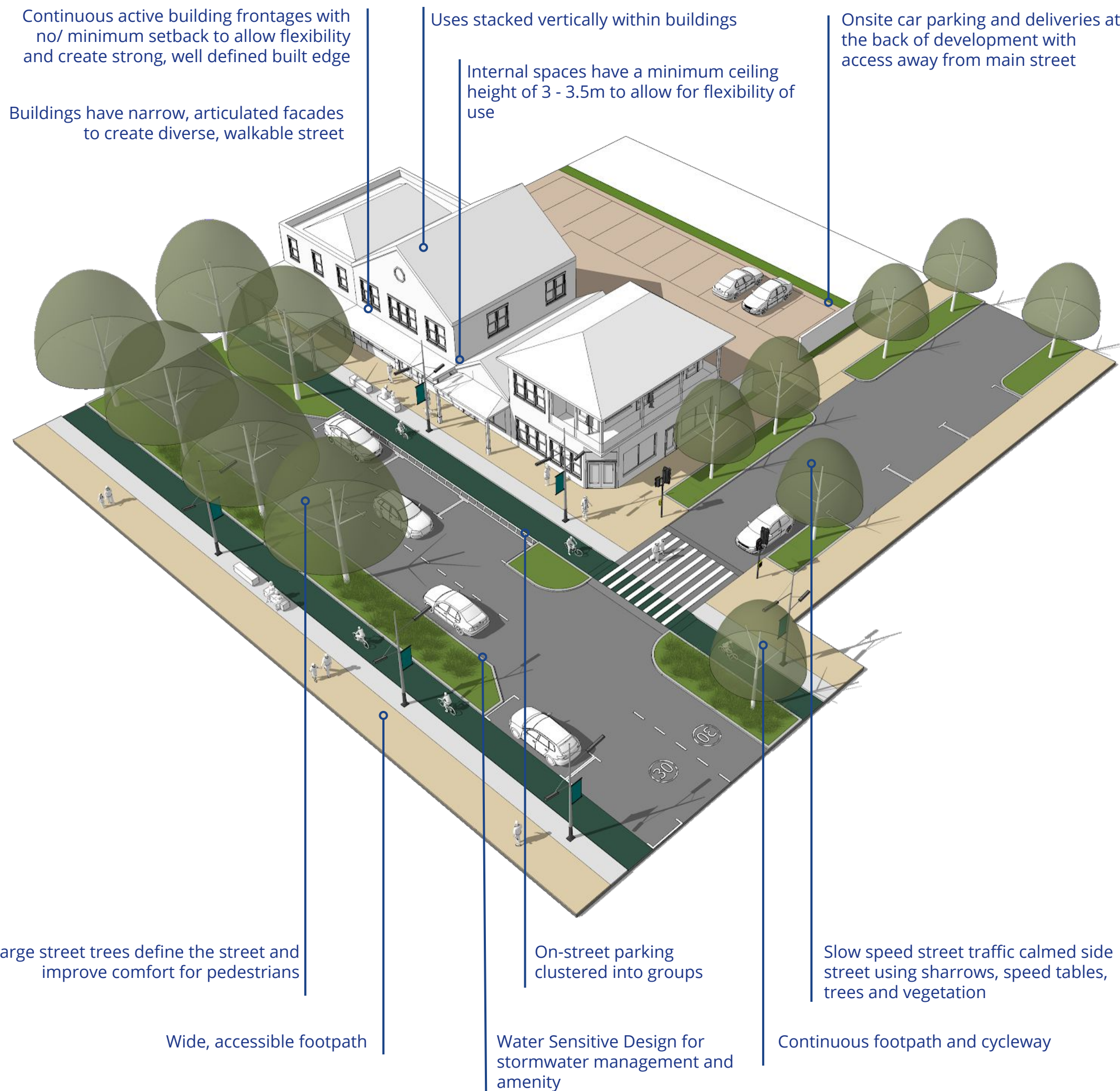
Provides a wide range of activities such as residential, leisure, commercial, tourist, cultural, community and civic centres. Height opportunities within the centre will facilitate increased intensification, including office and residential at upper floors.

Desired Outcomes

- Encourage a diversity of uses including community facilities and living opportunities.
- Position buildings adjacent to the footpath to define and create the street.
- Encourage wider footpaths and provide for convenient but well integrated parking opportunities.
- Provide attractive shop frontages and facades that add to a sense of vitality and character.
- Retain a human scale and incorporate street trees and other landscape measures where appropriate.
- Manage vehicle speeds to prioritise the pedestrian environment and safety within the centre.

Supporting Infrastructure

- Fully serviced through reticulated infrastructure - water supply, wastewater, and stormwater
- Public roads created through subdivision must meet council urban road standards, with traffic calming design solutions as a focus.



INDUSTRY

Large-footprint buildings, service yard areas, heavy vehicle access (serviced)

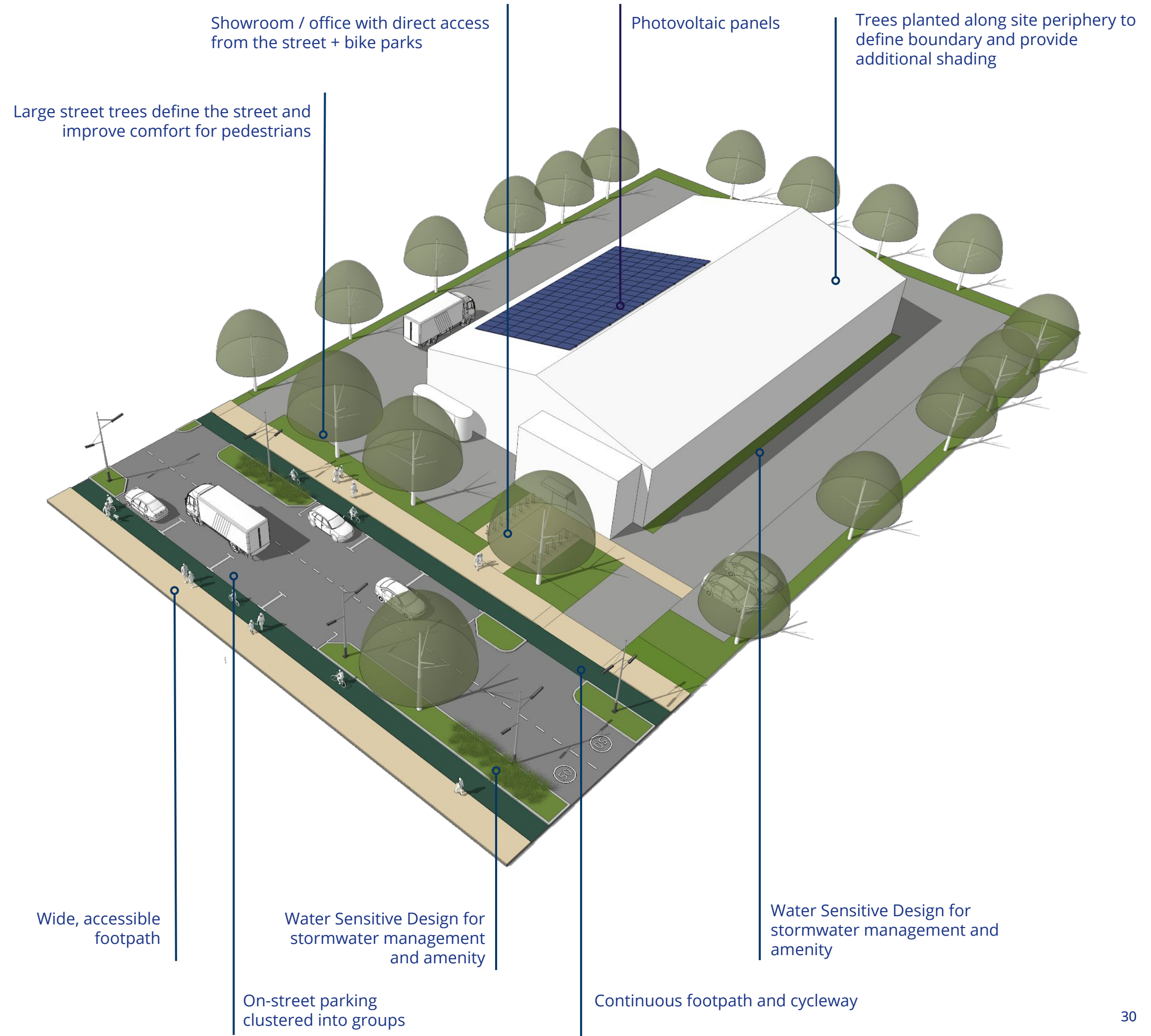
Industrial zones provide for either heavy or light industrial activity. Heavy industry primarily contains sites large enough to accommodate large-scale industrial activities and may produce objectionable odour, dust and noise emissions. The zone is typically located within proximity of key freight routes, provides onsite parking and separate trade vehicle access.

Desired Outcomes

- Efficient site planning that effectively handles visitor (if appropriate) and trade vehicle access and circulation.
- Clear relationship to the street with any office or showroom element clearly visible and directly accessible.
- Mitigate the negative impacts of large, hard surface areas through the use of landscape elements and permeable surfaces.
- Consider boundary treatments to lessen visual and potentially acoustic nuisance to neighbours.
- Energy saving infrastructure is utilised.
- Polluted stormwater runoff is treated through water sensitive design.

Supporting Infrastructure

- Fully serviced through reticulated infrastructure - water supply, wastewater, and stormwater
- Public roads must meet council urban road standards, with heavy vehicles needs balanced with traffic calming design solutions as a focus.



LIGHT INDUSTRY

Mixed size footprint buildings, service yard areas, heavy vehicle access, includes warehousing and office spaces (serviced)

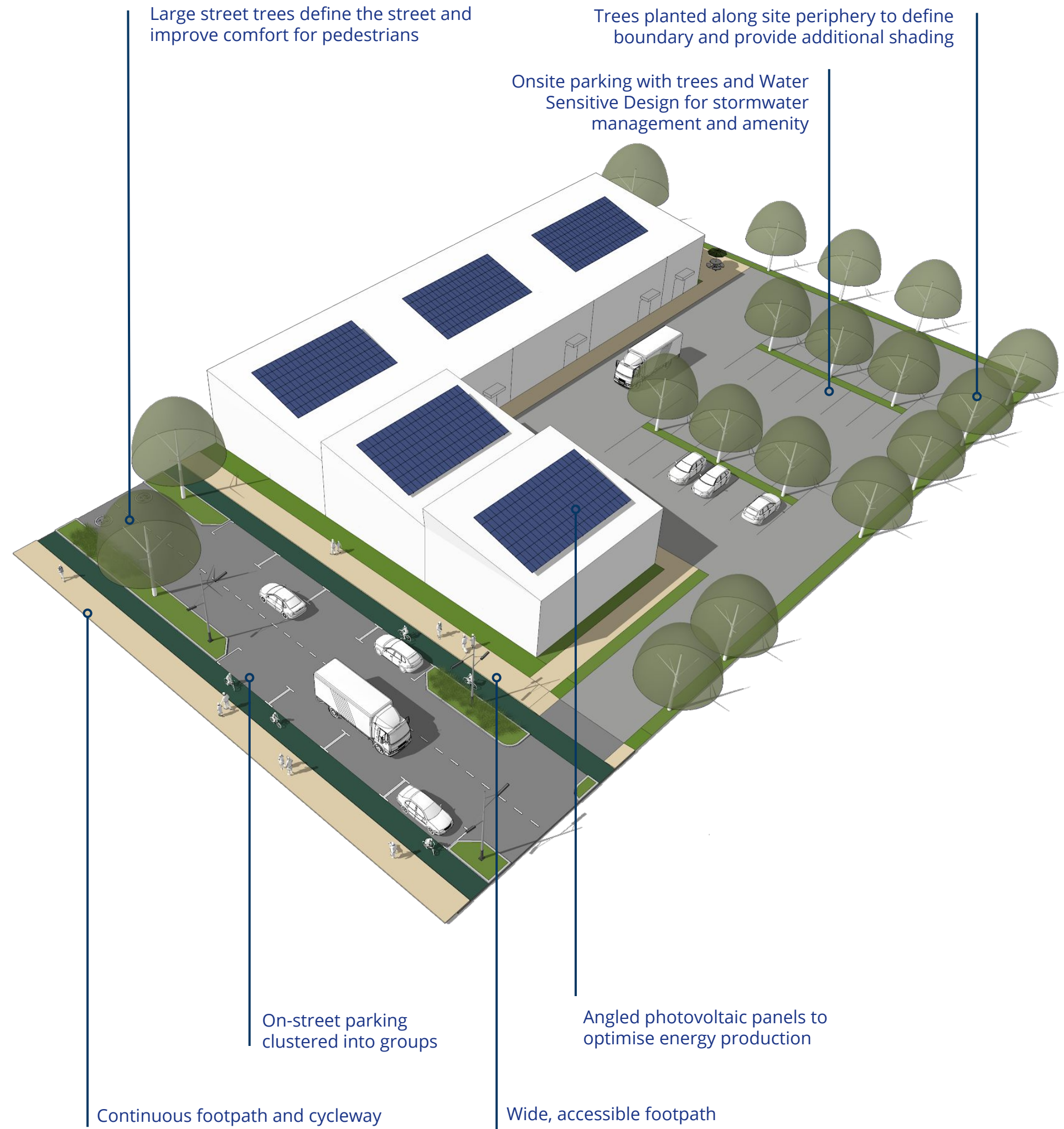
Light industry activities include production, manufacturing, logistics, storage, transport and distribution activities. The zone is typically located within proximity of key freight routes and provides onsite parking and combined visitor and trade vehicle access.

Desired Outcomes

- Efficient site planning that effectively handles visitor access, parking and circulation.
- Clear relationship to the street with any office or showroom element clearly visible and directly accessible.
- Mitigate the negative impacts of large hard surface areas through the use of landscape elements and permeable surfaces.
- Consider boundary treatments to lessen visual and potentially acoustic nuisance to neighbours.
- Energy saving infrastructure is utilised.
- Polluted stormwater runoff is treated through water sensitive design.

Supporting Infrastructure

- Fully serviced through reticulated infrastructure - water supply, wastewater, and stormwater
- Public roads must meet council urban road standards, with heavy vehicles needs balanced with traffic calming design solutions as a focus.



RESIDENTIAL / HOUSING TYPOLOGIES



Rural & Rural Residential - consists of sparsely settled lands in open or a cultivated state. In these areas it is important to respect the character of the landscape and plan to harmonise with the established character. This can be achieved by considerably positioning or clustering development and promoting planting that is enhancing and restorative.

Low Density Residential - consists of low density residential areas that are not serviced by water supply. Planting is naturalistic and setbacks are relatively deep. Blocks may be large and the roads irregular to accommodate natural conditions.

Low Density Residential Urban - consists of low density residential areas on serviced sites. More typically suburban in character, these sites may also feature the development of minor units.

Medium Density Residential - consists of sites where further subdivision or more intensive development is contemplated. Building types will remain predominantly detached or duplex housing, maintaining a strong relationship to the street.

High Density Residential - consists of multi-unit sites that may have a wide range of building types including detached, duplex, and rowhouses. Low rise, walk-up apartment developments may also occur.

RURAL LIVING

Standalone sites - rural production activities present (self-serviced)

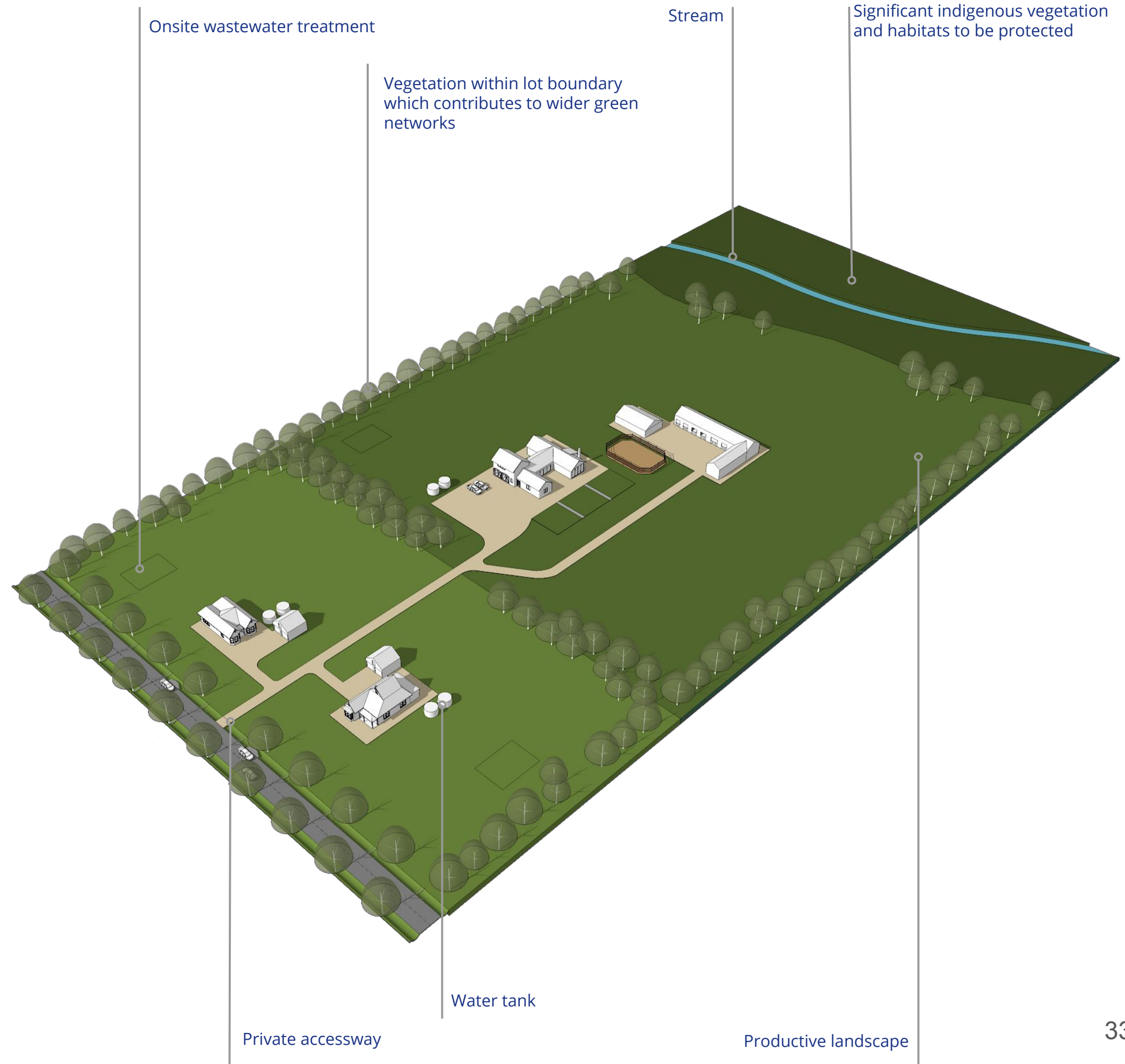
The Rural Living Zone applies to rural and coastal landscapes. The zone limits lot sizes and/or development to avoid adverse effects on water and land and to maintain rural and coastal character. Non-residential uses of a scale and intensity that serve the local population are provided for.

Desired Outcomes

- Rural character and amenity is maintained.
- Areas of significant indigenous vegetation and significant habitats of indigenous fauna are protected.
- Transportation corridors are planned and reserved in coordination with land use.
- A range of appropriate allotment sizes in character with the surrounding rural environment are provided.
- More innovative development and integrated management approaches resulting in better environmental outcomes.

Supporting Infrastructure

- Generally self-serviced through onsite septic tanks (wastewater) and water tank supply (potable water and firefighting).
- Private roads are narrow and should be limited in extent and visual appearance.
- Public roads created through subdivision must meet council's rural road standards. Generally no footpaths available, narrow carriageway and ideally, sealed roads (not gravel) where servicing rural production and post-harvest activities.



Rural Residential Zone refers to small rural and coastal settlements. Variable lots sizes are permitted to provide diversity and design flexibility. Includes commercial and social infrastructure to support and service residents.

Desired Outcomes

- The characteristic modest scale of rural buildings and ancillary structures are maintained.
- Extra potable and firefighting water storage tanks are installed to help mitigate unforeseen emergencies.
- Dwellings are oriented to the sun and sited to provide shelter from prevailing winds.
- Activities of daily living are within walking distance of most dwellings.
- Public gathering spaces are safe, equitable and support community identity.

Supporting Infrastructure

- Generally self-serviced through onsite septic tanks (wastewater) and water tank supply (potable water and firefighting).
- Private roads are narrow and should be limited in extent and visual appearance.
- Public roads created through subdivision must meet council's rural road standards. Generally no footpaths available, narrow carriageway and ideally, sealed roads (not gravel) due to higher levels of traffic in these areas.



LOW DENSITY

Large lots or settlements (self-serviced)

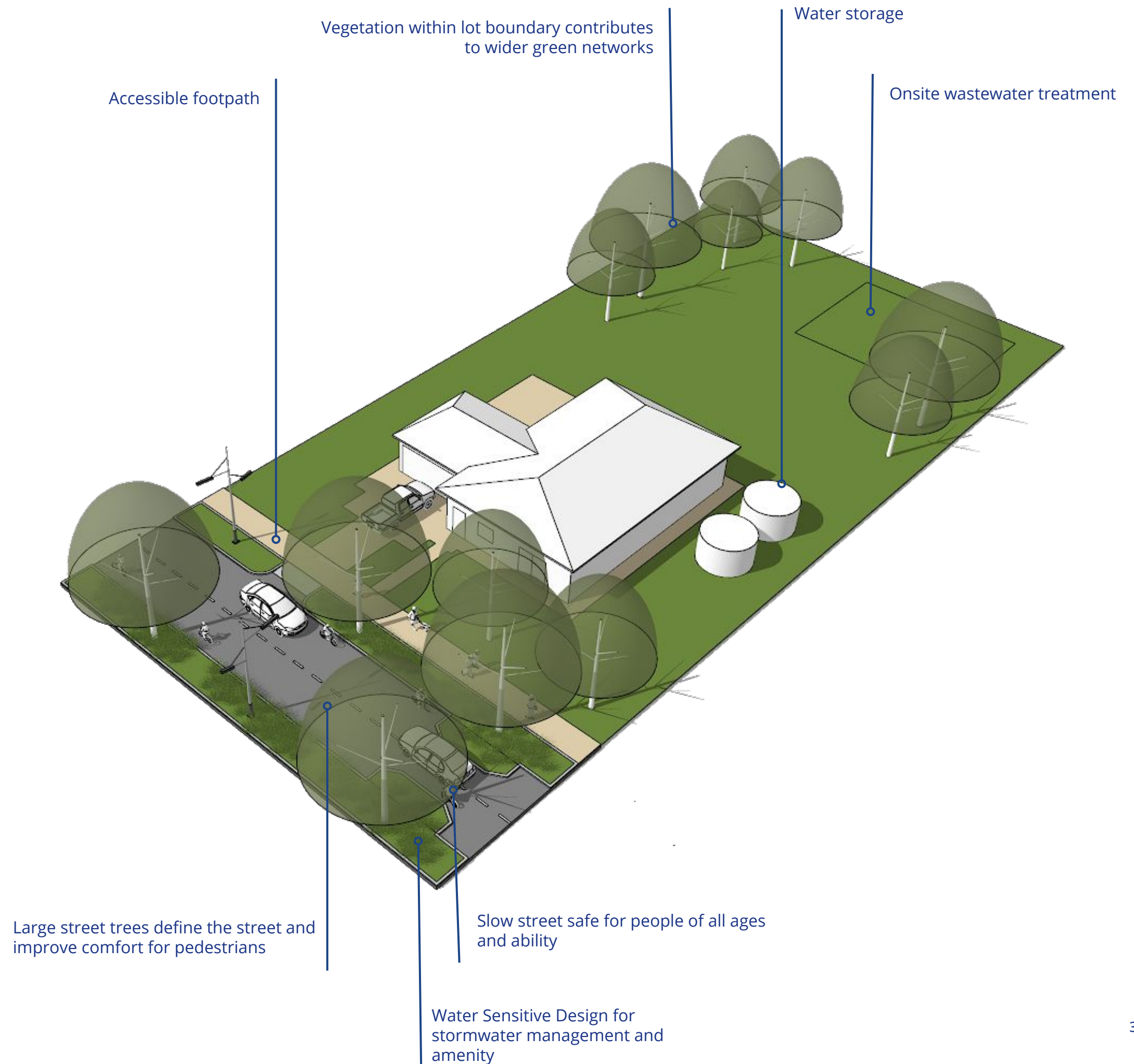
Purpose of low density housing is to provide residential development while maintaining and enhancing the amenity values of established residential neighbourhoods. Dwellings will typically be detached and sites clustered to contain development, preserve open space and protect productive soils.

Desired Outcomes

- Enable a form of low density development that contributes to a connected movement network.
- Contributes to the landscape character of the area.
- Positions buildings to maintain a relationship to the public realm, albeit set further back on the Lot.
- Encourage a built form that is relative to the lot size and consists of primary and secondary building masses.
- Position water tanks and outbuildings in a sympathetic manner to avoid adverse visual effects.

Supporting Infrastructure

- Untreated site detention tanks possible, a fully serviced site is preferred. Extra water tank supply (potable water and firefighting) recommended.
- Public roads are slow speed environments.



LOW DENSITY

Residential urban (serviced)

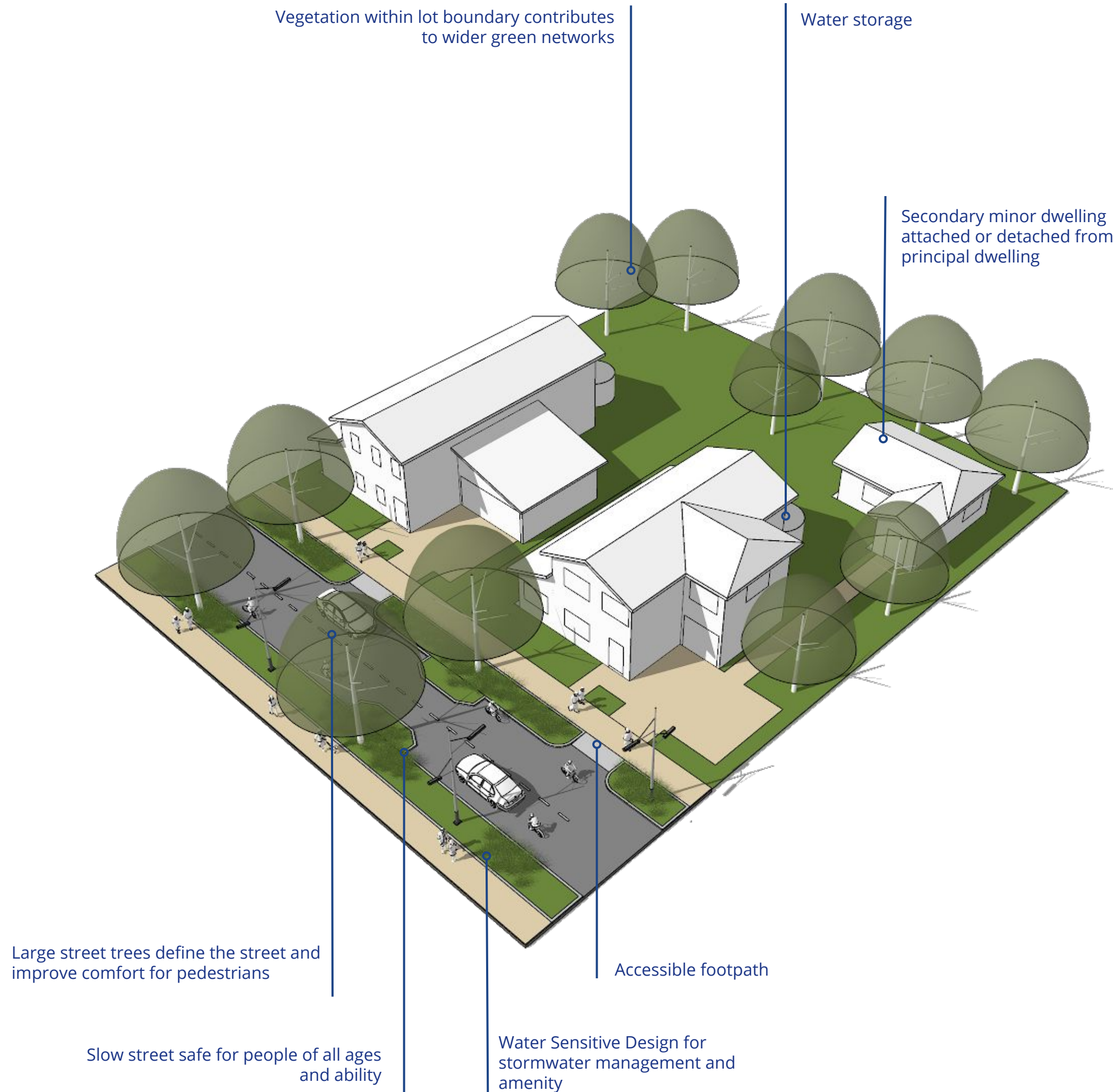
The zone consists of existing large lot residential and enables residential intensification through site redevelopment, accommodating larger dwellings or the addition of a minor dwelling.

Desired Outcomes

- Encourage more intensive development of one and two storey buildings that maintain a good relationship to the street.
- Manage the effects of building massing and provide for well positioned and private outdoor living areas.
- Enable some more intensive use of the site through the development of minor dwellings if appropriately planned.
- Positively manage and design for onsite car parking, including the potential visual effects of garages to the streetscape.

Supporting Infrastructure

- Untreated site detention tank possible, fully serviced site is preferred. Extra water tank supply (potable water and firefighting) possible.
- Public roads are slow speed environments, providing high amenity and safety conditions.



MEDIUM DENSITY

Residential Urban (serviced)

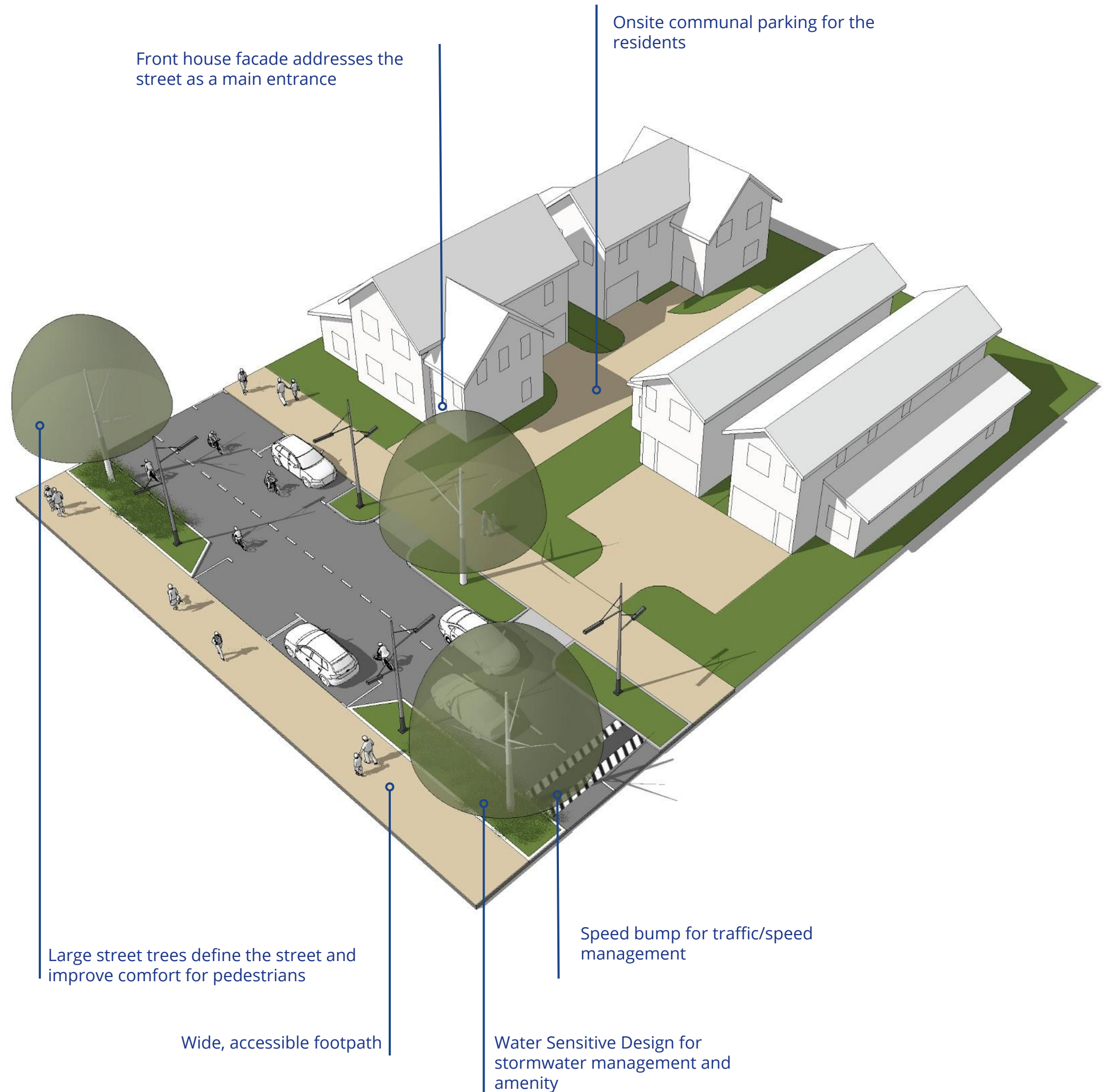
This zone removes restrictions on density to enable housing supply and choice. It plays a key role in minimising urban sprawl and increasing housing supply. The zone supports limited non-residential activities to enhance residential amenity.

Desired Outcomes

- Allow for more intensive development of sites comprising detached and duplex building types.
- Manage the effects of building massing and provide for well-positioned and private outdoor living areas.
- Positively manage and design for onsite car parking, including the potential visual effects of garages to the streetscape.
- Maintain a good relationship with the street including good quality boundary treatments.

Supporting Infrastructure

- Generally fully serviced.
- Public roads are slow speed environments, providing high amenity and safety conditions.
- Enables 'walkable communities' with the focus being on locating land-use in close proximity to destinations - schools, village centres, and play spaces.



HIGH DENSITY

Residential (serviced)

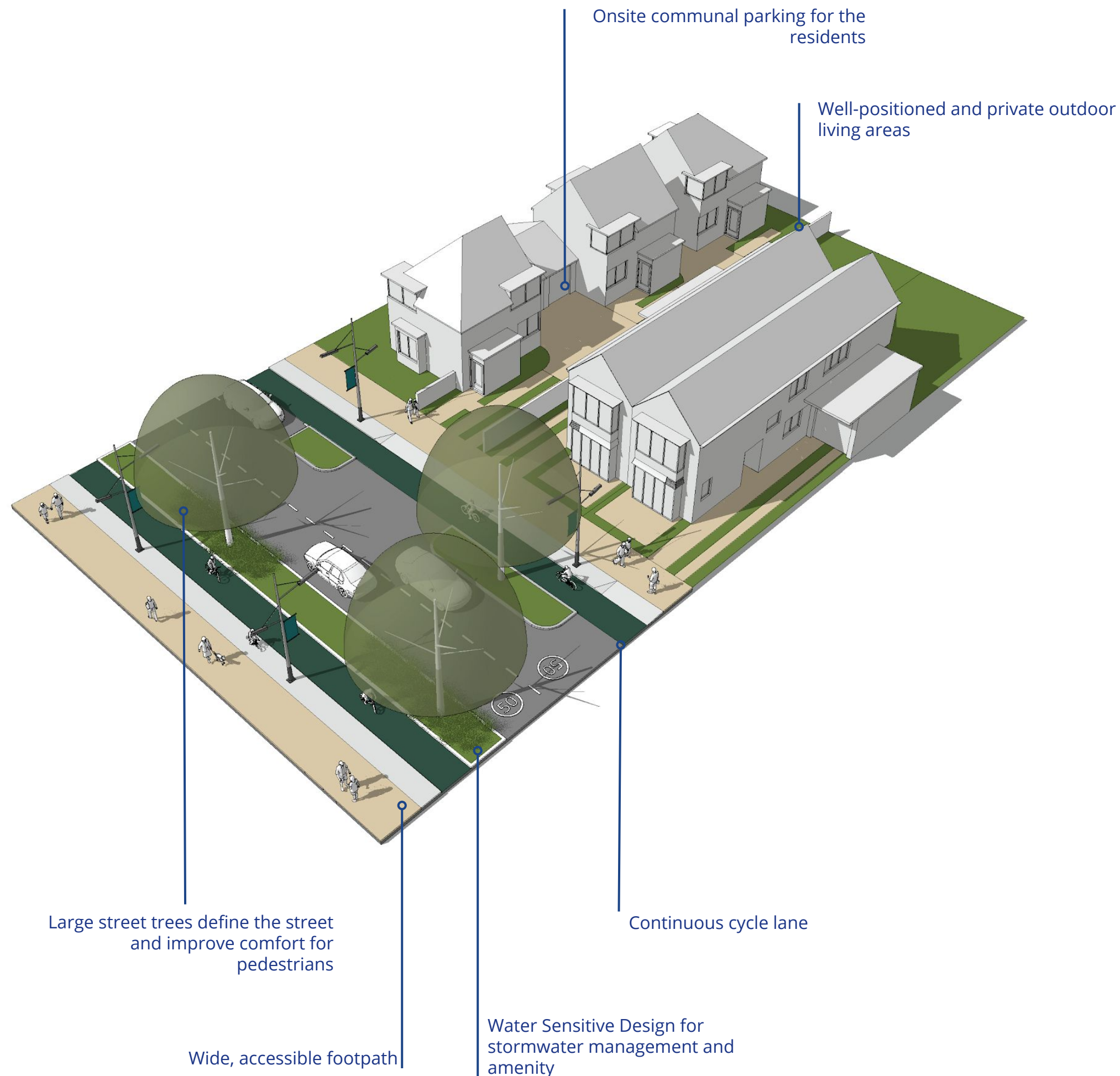
High-density zones act as transitional areas within proximity to town centres with accessible public transport, cycle and walkways. This zone ensures greater diversity of housing supply, supports the function of town centres and diverts residents from the use of private transport.

Desired Outcomes

- Allow for more intensive development of sites comprising detached, duplex, terraced housing and low-rise apartment building types.
- Manage the effects of building massing and provide for well-positioned and private outdoor living areas.
- Positively manage and design for onsite car parking, including the potential visual effects of garages to the streetscape.
- Maintain a good relationship with the street including good quality boundary treatments.

Supporting Infrastructure

- Generally fully serviced.
- Public roads are slow speed environments providing high amenity and safety conditions, plus addition of dedicated cycleways.
- Enables 'walkable communities' with the focus being on locating land-use in close proximity to destinations - schools, village centres, and play spaces.



2.4 SUSTAINABLE BUILDING PRACTICES

Sustainable Building Practices outlines the key factors that need to be considered when designing, constructing, operating and deconstructing buildings.

DESIGN PRINCIPLES

Passive Design - Design buildings and spaces that are responsive to the prevailing climatic conditions with consideration of orientation, access to sun, glazing, thermal mass, natural ventilation and installation.

Responsible Water Use - The intent of this principle is to encourage projects to treat water like a precious resource, minimising waste and the use of potable water, while avoiding downstream impacts and pollution.

Energy and Carbon Reduction - The intent of this principle is to treat energy as a precious resource and minimise energy-related carbon emissions that contribute to climate change.

Healthy Interior Environment - The intent of this principle is to promote good indoor air quality and a healthy interior environment for all occupants.

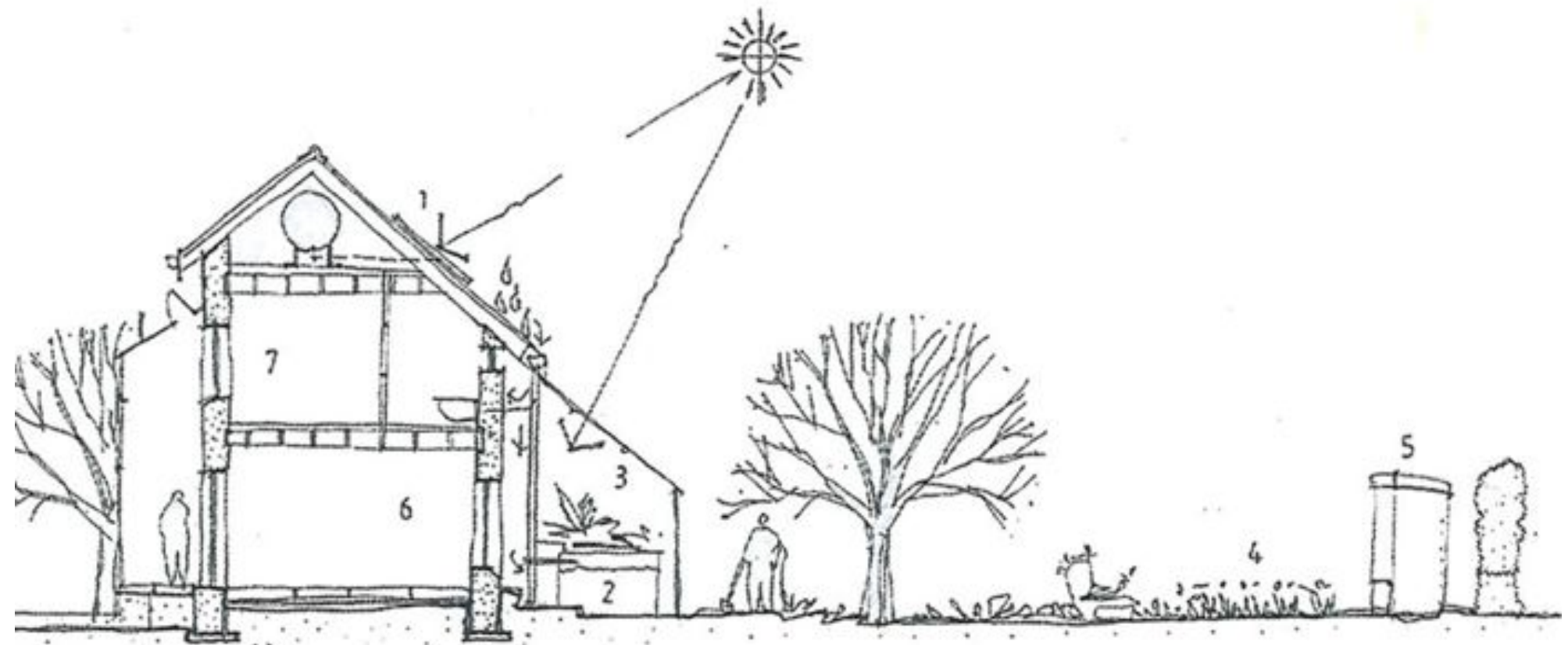
Responsible Materials - The intent of this principle is to set a baseline for transparency, sustainable extraction, support of local industry and waste diversion for all projects.

Universal Access - The intent of this principle is to allow equitable access by creating barrier-free environments that enhance social interaction. This includes access to fresh air, sunlight and natural waterways, while providing protection from any negative impacts resulting from development.

Flexibility in Design - Design buildings and spaces that are flexible and allow for a range of uses to occur over time.

PASSIVE DESIGN

Passive design describes design strategies that allow a building to respond to local climate and site conditions to maximise building users' comfort and health while minimising energy use.



TYPICAL DWELLING SECTION.

- 1 solar panels for domestic hot water
- 2 rain water collection
- 3 greenhouses
- 4 vegetables
- 5 compost
- 6 adobe walls
- 7 double glazing to windows

For more information, see:

<https://www.nzgbc.org.nz/GreenStar>

<http://www.level.org.nz/passive-design>

<https://living-future.org/lbc/>

<https://www.smarterhomes.org.nz/>

Source: James Lunday TBC

PASSIVE DESIGN

Building Orientation

Buildings should be oriented north and/or designed in a way that captures light and warmth from the sun. Consideration should be made to seasonal variations of the sun's path, as well as prevailing winds, for shelter and natural ventilation.

Glazing

Glazing is required to allow light and heat into a building. Glazing and glazing units (frames) should be designed to admit light while controlling heat gain and heat loss. The Window Energy Efficiency Rating System (WEERS) is a useful 6-star rating programme that compares the thermal performance of windows in buildings.

In order to balance solar gain with insulation, on average, no more than 40% of a building should be glazed.

Thermal Mass

Thermal mass works by absorbing heat and reradiating it as temperatures drop. By utilising the thermal mass of a heavyweight material, temperature fluctuations can be reduced, resulting in a more constant indoor temperature.

The ideal material is:

- Dense and heavy, so it can absorb and store significant amounts of heat.
- A reasonably good heat conductor (heat has to be able to flow in and out).
- Has a dark surface, a textured surface or both (helping it absorb and reradiate heat).

Insulation

Inadequate insulation and air leakage are the main causes of heat loss in homes. Insulating the ceiling, under the floor, walls and windows creates a secure thermal envelope and forms the barrier between heated and unheated spaces.

Check for brands that have the Environmental Choice N.Z licence.

Environmental Choice New Zealand (ECNZ) is an environmental labelling programme which has been created to help businesses and consumers find products and services that ease the burden on the environment.

Natural Ventilation

Effective ventilation is necessary for temperature control and air quality. Creating an indoor environment where there is no damp or mould requires an effective combination of ventilation and heating.

Natural ventilation is driven by pressure differences between one part of a building and another, or pressure differences between the inside and outside.

Natural ventilation is generally achieved through:

- Wind-driven (or wind-induced) cross ventilation

or

- Buoyancy-driven stack ventilation

https://www.designingbuildings.co.uk/wiki/Natural_ventilation_of_buildings

WATER

Water in sustainable building practices refers to the conservation and efficient management of all water resources. This can be achieved by re- using alternative sources of water, such as untreated / filtered water that does not need to be up to drinking standards i.e for toilet flushing.

For Māori, water is the essence of all life, akin to the blood of Papatuanuku (Earth mother) who supports all people, plants and wildlife.

Design should acknowledge water as a taonga and outwardly celebrate and respect it as a life-affirming and precious natural resource.

Drinking Water_

Drinking water, also known as potable water, is water that is safe to drink and for use in food preparation. All potable water in Aotearoa must meet the Drinking Water Standards of New Zealand 2005. Typically supplied by Local Authorities through a reticulated service, it can also be managed onsite through rainwater collection or piped from other sources - such as onsite streams or bores.

Rainwater and Greywater Harvesting_

Rural areas commonly harvest rainwater for all water needs. Stored rainwater can be filtered and used as drinking water. To conserve this fresh water it is also useful to harvest greywater which comes from baths, sinks and showers. This water can be recycled and reused for watering the garden or flushing toilets. Reusing greywater for flushing toilets can save up to 50% of domestic water use.

Stormwater_

Stormwater is water that originates from rain, snow or ice melt. Stormwater can soak into the soil (infiltrate), be stored on the land surface in ponds and puddles, evaporate, or runoff. Most runoff is conveyed directly to nearby streams, rivers, or other water bodies (surface water) without treatment.

Wastewater_

Any used water that goes down sinks and drains is considered wastewater. Because the waste component contains many bacteria and viruses that could be harmful to human health, it is important that it is kept separate from the drinking water network. This is in accordance with the Health Act 1956.

WATER

Drinking Water_

Rainwater can be collected and stored in a variety of tanks, then filtered and UV disinfected before supplying potable water that meet the Drinking Water Standards of New Zealand 2005, to all water fixtures.

Reducing drinking water footprint can be achieved through changes of behaviour and the installation of water saving taps, fixtures and appliances.

Rainwater and Greywater Harvesting_

Using rainwater can:

- Reduce costs for users on a metered water supply.
- Reduce demand on mains water supplies.
- Provide an emergency supply.
- Provide an independent supply for watering the garden in times of drought.
- Reduce demand on stormwater disposal systems.

Various tank options are available to suit building and site conditions.

Accessibility to the tank and optimal rainwater harvesting capacity are two equally important considerations when selecting a site location for tanks.

Stormwater_

Water Sensitive Design (WSD) is an interdisciplinary design approach, which considers stormwater management in parallel with the ecology of a site, best practice in urban design, and community values.

Stormwater runoff can be reduced and filtered by:

- Using permeable paving stones for hard surface areas.
- Considering the locations of all existing below-ground and above-ground services.
- Planting rain gardens and utilising plants appropriate to treat contaminated stormwater.
- Installing a green roof as part of a new building design.
- Monitoring and evaluating WSD practices early in the design process for continual improvement.

Wastewater_

From a traditional Māori perspective, polluted water needs to pass through the earth to be purified and to have its mauri, or essence, restored.

Options for onsite disposal can be used when there is no mains sewerage available or if an eco-solution is preferred. The Living Machine process system is a self-sufficient water treatment system. It relies on a phyto-purification system that mimics the natural purification method seen alongside river banks and wetlands.

Additionally, consider various styles of sustainable home plumbing services and appliances to minimise waste water.

<https://www.mfe.govt.nz/sites/default/files/wastewater-mgmt-jun03%20%28full%29.pdf>

MATERIALS

Building materials have an environmental impact at every step of the building process.

Appropriate selection of materials can ensure efficient use, low environmental impact and minimising of waste generated. This will result in improvements to the cost-effectiveness, energy efficiency and, ultimately, the comfort of a building.

Embodied Energy

Embodied energy is the total energy required for the extraction, processing, manufacture and delivery of building materials to the building site.

Buildings should be designed, and materials selected, to balance embodied energy with factors such as climate, availability of materials and transport costs.

The Durability of Building Materials

Durability and maintenance requirements of building materials should be considered together across the expected service life of a building.

Materials that require more maintenance may turn out to be preferable if their original manufacturing produces very few greenhouse gases, such as timber.

Examples - recycled steel, bamboo, precast concrete, reclaimed or recycled wood and earth.

Use of Locally Sourced Materials

The source of materials needs to be considered to keep transport costs and resultant CO2 emissions to a minimum. In particular, heavy and bulky materials should be sourced locally where possible.

Choosing local materials not only reduces the building's energy footprint, it can lead to a more vernacular architectural design style that reflects the uniqueness of the Kaipara District.

Use of Recycled / Upcycled Materials_

Sourcing recycled materials can influence the design of the building, creating unique qualities they may not have been achieved through standard purchasing behavior. It is also a good way to avoid the Materials Petal Red List, which contains the worst materials prevalent in the building industry.

Toxicity_

The Living Building Challenge 'Materials Petal Red List' of materials and chemicals provides a comprehensive list of products that should be avoided. <https://living-future.org/declare/declare-about/red-list/>

Avoiding Waste_

Reducing or eliminating the production of waste during design, construction, operation, and end of life is vital to conserve natural resources and minimise waste sent to landfills.

Explore ways to integrate waste back into either an industrial loop or a natural nutrient loop, such as donating clean materials to organisations like 'Habitat for Humanity' or using excavated soils on site.

ENERGY

Consider energy in a holistic manner_ use less energy and reduce consumption.

There are many different ways to reduce your household and neighbourhood energy use, ranging from simple behavioural adjustments to extensive home improvements. The two major motives for conserving energy are to save on utility bills and protect the environment.

Conservation

Energy conservation is important and beneficial for many reasons. It can save money, increase property value, and protect the environment, all through simple energy-saving measures.

Following sustainable building practice with scrupulous attention to the siting of buildings, choices of building materials, insulation/thermal mass and renewable energy sources for electricity production, will all assist in the long-term reduction of energy use.

- Install energy-efficient windows
- Weatherise buildings by sealing air leaks
- Insulation of attics, ceilings, floors and walls
- Low energy appliances
- Replace light bulbs - LED Lights use 25% - 80% less electricity and last longer than traditional bulbs

Production_

Remote area power systems can be used to meet the electricity needs of an individual property or group of properties, by generating electricity close to where it will be used and using sustainable energy sources such as sun, water, wind and biowaste. The low density rural and coastal nature of the Kaipara District offers a number of renewable energy opportunities. For example:

- Solar Panels
The three main types of solar panels are; monocrystalline, polycrystalline and thin film. Choice of panel depends on the size of roof available. Panels with higher efficiency produce more power per m².
- Micro-Hydro
Hydroelectricity systems use the force of running water to turn turbine blades, which spin a shaft connected to a generator. If there is access to a stream or waterway, micro-hydro can be a reliable and economic way to generate off-grid electricity.
- Micro Digester
Micro digesters produce biogas using own biomass resources (waste) from farms, where livestock manure is the main substrate. The gas can be used to run machinery directly to replace mineral diesel or can be used to generate heat and electricity.

ADAPTIVE REUSE / SHARED USES

Adaptive reuse refers to the alteration, upgrade and renovation of an existing building for a new mix of uses.

Adaptive reuse projects provide an excellent opportunity for mixing retail, commercial, and residential spaces, as many older buildings are built of high quality materials and have generous floor-to-ceiling heights.

Retrofitting Existing Structures

Renovation, retrofit, and refurbishment of existing buildings represent an opportunity to upgrade the energy performance of any buildings assets for its ongoing life.

Adaptability

The design of any building and the materials selection should consider the future use or reuse of the building and use materials that facilitate adaptation or future replacement.

Designing for Reuse and Disassembly

The concept surrounding design for ‘disassembly, reuse, and recycling’ is when buildings and products are designed intentionally for material recovery, value retention, and meaningful and flexible next use.

Creative Infill

Infill development encourages a more efficient investment in infrastructure because it encourages growth in designated growth areas where there is existing infrastructure already in place.

Residential infill development can expand homeownership, mixed-use development, and increase property tax revenue and property values.

Shared Use Facilities

Buildings designed for specific uses/single purpose are often latent spaces sitting idle for much of the buildings life. Office and school buildings are typically only occupied between nine and ten hours per day, five days a week. Considering a flexible approach to a buildings use during its design is an effective strategy to future-proof its lifespan.

ADAPTIVE REUSE / SHARED USES

Retrofitting Existing Structures

- Retrofit involves modifications and taking advantage of the situation to improve energy efficiency or decrease energy demand.
- Energy-efficiency retrofits can reduce the operational costs, particularly in older buildings, as well as help to attract tenants and gain a market edge.

Adaptability

Simple Strategies

- Flexibility, or enabling minor shifts in space planning;
- Convertibility, or allowing for changes in use within the building; and
- Expandability (alternatively shrinkability), or facilitating additions to the quantity of space in a building.

Designing for Reuse and Disassembly

- Design Strategy_ Before finalising design, document data outlining what products are proposed in the building, what they are made of and how they can be safely reintegrated into a supply chain for reuse.
- Structural Strategy_ Consider building systems that combine the ceiling, hollow installation, and subfloor into one prefabricated panelised system. This will help in the future if the building needs to be relocated or changed as the panels can be pulled apart and reconfigured, or disassembled for reuse.
- Careful Material Choice - When specifying materials, consider their toxic legacy—are they high quality? Robust? Easily reusable or recyclable? For example glues should be avoided.

- Construction Strategy_ The two most important things for architects to bear in mind when they are designing is both component disassembly and material disassembly. Component logistics need to be a driving part of the design to create a truly sustainable building.

A New Zealand example of Designing for Disassembly' has been developed by Victoria University of Wellington PhD candidate Ged Finch. He has been developing an X-Frame structural frame solution for waste-free buildings. The X-frame is a self-braced, interlocking wood design for building structures, which clips together, eliminating the need for single-use fixings. <https://www.wgtn.ac.nz/architecture/research/current-phd-research/ged-finch>

ADAPTIVE REUSE / SHARED USES

Creative Infill

When planning an infill development, consider:

- Moving an existing house forward or back to create a better relationship to a newly created site and adjacent houses.
- After subdivision of the site and construction, the existing house should meet the same design standards of the neighbouring new housing.
- Historic preservation can also be implemented as a form of infill development to provide usable and attractive buildings on existing developed land.

- Adaptive reuse of historically important buildings and sites can offer economic development opportunities and cultivate the growth of heritage/cultural tourism.

Shared Use Facilities

Applying a shared use model to the occupation and use of buildings / facilities provides opportunities to:

- Develop communal resources;
- Increase social cohesion;
- Improve community gains; and
- Reactivate built environments to promote the growth of healthy and vibrant neighbourhoods.

This model reduces the need for urban expansion into productive greenfield areas and may well be the first phase in a larger movement toward a sharing economy, boosting sustainability and a greater commitment to improving overall quality of life.

Using local schools for community night classes is an example of an easily accessible shared use facility.

SITE DESIGN

Ecology in the context of sustainable buildings practices refers to the landscape in and around a building.

The planting and vegetation of a site should draw on and reflect the ecological history of the area.

Habitat

Ensure the design and layout of the building protects and enhances the rich ecology and habitat of the natural environment, by;

- Identifying any natural habitats on the site
- Where possible, avoid building on important habitat sites
- Protect and use existing mature trees or bush, particularly natives, as features for the development (see Part 2.2: Landscape Planning Framework)
- Planting deciduous tree species are useful during summer months for shade and winter to allow light into dwellings.

Productive Landscapes_

Food_ Use yard space more efficiently by diversifying the structure, layout and contents of garden areas - horizontal and vertical edible gardens can help to save on space. Planting fruit trees, vegetable gardens and even introducing beehives will provide a sustainable food source while improving biodiversity within the neighbourhood.

Recycling food scraps through composting is a simple and sustainable way to reduce waste and return nutrients to the garden.

Forest Gardens_ Are planted gardens in strata to mimic a woodland ecosystem. Strata growing maximises space, encourages moisture and nitrogen retention, and provides shade, shelter and bee habitats. The basic design is made up of seven layers: canopy trees, shrubs, perennial vegetables and herbs, root crops, ground covers and vines/climbers.

The practice emphasises perennial, low-maintenance crops that leverage natural nutrient inputs, drainage patterns and climate to achieve a self-sustaining, food-producing ecosystem.

Forest gardens can be planted in small urban backyards or larger communal garden areas.

Rongoā Māori / Medicine_

Planting rongoa species which are endemic to the area is a way to restore and enhance the taiao back into the natural environment and provide an holistic and sustainable resource back into the landscape. Acknowledgement of Māori values and cultural practices will add benefit for the whole community.

PART 3 - MONITORING AND EVALUATION

MONITORING AND EVALUATING SUCCESS

*Monitoring of performance
measures during early
implementation.*

*Review and monitoring based on the
“policy review cycle”*

Policy review cycle approach based on ‘problem identification’ and ‘consideration of options’ for on-going policy improvements.

Timeframes for review - it will take some time to get the guidelines adopted and used so that learnings can be drawn from how council and developers are applying the guidelines.

Monitoring the design outcomes of completed developments will give the council opportunity to assess the effectiveness of the urban design guidelines and reassess the appropriateness and effectiveness of the urban design controls.

Evaluation of the design outcomes will show council if there is need to make changes and/or improvements to the urban design guideline process. Further work on the way in which outcomes are measured is required during the consultation phase for the Design Guide. Measures could focus, for example, on what performance standards (or indicators) could be identified early on in the guidelines to guide this future monitoring and performance evaluation?

A shortfall with urban design guides, generally, is that they are often not monitored and evaluated once they are incorporated into council processes. It is important that the council recognises the need to reflect on ‘lessons learned’ and feed into on-going improvements and refinements that arise overtime to ensure the guidelines are achieving their purpose and are improving design outcomes in Kaipara.