

# SECTION 7A: GREENFIELD RESIDENTIAL AREAS

The Plan Change G: Aokautere Urban Growth Decision points have been incorporated into the Operative District Plan and are identified by red text.

## CONTENTS

<b>7A.1</b>	<b>Introduction</b>	<b>1</b>
<b>7A.2</b>	<b>Resource Management Issues</b>	<b>1</b>
<b>7A.3</b>	<b>Objectives and Policies</b>	<b>2</b>
<b>7A.4</b>	<b>Methods</b>	<b>12</b>
<b>7A.5</b>	<b>Residential Zone</b>	<b>14</b>
7A.5.1	<i>Rules: Controlled Activities</i>	14
R7A.5.1.1	Controlled Activities	14
R7A.5.1.2	Performance Standards for Controlled Activities	14
7A.5.2	<i>Rules: Restricted Discretionary Activities</i>	14
R7A.5.2.1	Restricted Discretionary Activities	14
R7A.5.2.2	Performance Standards for Restricted Discretionary Activity	15
R7A.5.2.3	Assessment Criteria for Restricted Discretionary Activity:	26
R7A.5.2.4	Flood Prone Overlay in the Mātangi Residential Area	30
7A.5.3	<i>Rules: Discretionary Activities</i>	31
R7A.5.3.1	Discretionary Activities	31
7A.5.4	<i>Rules: Notification</i>	31
R7A.5.4.1	Notification	31
7A.5.5	<i>Rules: Non-Complying Activities</i>	31
7A.5.6	<i>RULES: NOTIFICATION</i>	31
<b>Map 7A.1</b>	<b>Whakarongo Structure Plan</b>	<b>33</b>



<b>Map 7A.2</b>	<b>Kikiwhenua Residential Area Structure Plan</b>	<b>34</b>
<b>Map 7A.3</b>	<b>Mātangi Residential Area Structure Plan</b>	<b>34</b>
<b>Maps 7A.4 – 7A.4D1 – 14</b>	<b>Aokautere Structure Plan</b>	<b>36</b>

# 7A. GREENFIELD RESIDENTIAL AREAS

## 7A.1 Introduction

Subdivision is a process to enable the separate ownership of land and the registration of interests in land. Subdivision of land is defined by the Resource Management Act 1991.

This section enables greenfield development within:

- The Whakarongo Residential Area (Map 7A1)
- The Kikiwhenua Residential Area (Map 7A.2)
- The Mātangi Residential Area (Map 7A.3)
- **The Aokautere Greenfield Residential Area (Map 7A.4, 7A.4A, 7A.4B, 7A.4C, 7A.4D)**

These areas were identified for residential growth in the Palmerston North City Development Strategy 2017.

The provisions within this section require well designed, attractive and functional communities within the Greenfield Residential Areas. The Structure Plans for each Greenfield Residential Area will direct subdivision and provides for neighbourhood centres and public open spaces. A mix of activities and densities are provided for which will assist with achieving a variety of living choices and diverse communities.

## 7A.2 Resource Management Issues

The following resource management issues were identified with regard to subdivision within the Greenfield Residential Areas and apply in addition to the overarching issues identified in Section 7.2:

1. The need for subdivision to create a pleasant, attractive and safe residential neighbourhood.
2. The need to ensure that appropriate mitigation measures are put in place to support residential development in areas affected by natural hazards.
3. The risk of uncoordinated residential development.
4. The need for connectivity between staged development and adjacent urban neighbourhoods.
5. The need to cater for an aging population and changing housing demand through a variety of housing forms and densities.
6. The importance for well-located and accessible local services and community facilities within the neighbourhood centre.
7. The need for high-quality and coordinated streetscapes and public open space.
8. The effects of residential development on sites of significance to Rangitāne o Manawatū.
9. The effects of residential development on stormwater quantity and quality.
10. The effects of development on the Manawatu Drainage Scheme.
11. **The effects of residential development within the Aokautere Greenfield Residential**

Area on the natural environment including gully networks and landform, landscapes, and indigenous biodiversity and ecological values.

## 7A.3 Objectives and Policies

### Introduction

This section contains specific objectives and policies for the Greenfield Residential Areas that apply, in addition to the overarching objectives and policies in Section 7.3. These provisions recognise the importance of well-planned and coordinated greenfield residential growth in the City.

### OBJECTIVE 1

**Subdivision and development in the Greenfield Residential Areas occurs in a coordinated and integrated manner.**

### POLICIES

- 1.1 To ensure that subdivision and development proceeds in a manner that provides for a logical, planned and integrated extension of the urban boundary within the Greenfield Residential Areas that have been specifically identified as suitable for that purpose and that achieves high quality urban design outcomes.
- 1.2 To ensure that subdivision and development is undertaken in general accordance with the area's relevant Structure Plan including setting aside at the earliest stage of subdivision those areas identified in the Structure Plan as public open space.
- 1.3 To require a Comprehensive Development Plan at each stage of development to ensure that the subdivision design, layout and servicing is in general accordance with the Structure Plan and does not restrict future development opportunities.
- 1.4 **Within the Aokautere Structure Plan Area ensure adequate provision of essential services to a level and within a timeframe that will enable development that is appropriate to its location and intended use.**
- 1.5 To ensure that all new lots have safe and adequate vehicle access from the roading network.
- 1.6 To require a safe interconnected transport network that provides a variety of routes for walking, cycling, passenger transport and motor vehicles.
- 1.7 To control the use of cul-de-sacs within the local roading network.
- 1.8 To provide for the installation of pressure sewer systems in Pressure Sewer Areas.

#### **Explanation**

*Subdivision and development within each Greenfield Residential Area is guided by a Structure Plan, which identifies where infrastructure, services, public open space and neighbourhood facilities should be located.*

### OBJECTIVE 2

**Subdivision and development in the Greenfield Residential Areas create a high-quality and diverse living environment.**

### POLICIES

- 2.1 To ensure subdivision and development meets the reasonable needs of future users whilst achieving the following design principles:

#### Palmerston North City Council District Plan

- Street design contributes to attractive and safe neighbourhoods
  - Housing diversity and variety is achieved
  - Visual dominance is avoided
  - Allotments are shaped and designed to enable dwellings with good solar access and sufficient outdoor amenity and sunny private outdoor space
  - Convenient and safe access for residents is provided to nearby public open spaces, neighbourhood centre and public transportation routes
  - Intended building scale and form contributes to a distinctive sense of place that complements other subdivisions or developments
  - Takes advantage of connections and significant views to the wider landscape
  - The natural characteristics and contours of the site are worked with
  - Safe walking and cycling is facilitated
  - A high degree of connectivity within the local roading network is provided, and
  - Crime Prevention Through Environmental Design (CPTED) ensures all streets and public spaces are overlooked or visible from adjacent activities.
- 2.2 To enhance and restore the natural features of the site, through sensitive integration of stormwater design.
- 2.3 To enhance the amenities of the natural and built environment following earthworks by requiring that road berms, new allotments, and public open spaces are formed, landscaped and planted to a level commensurate with the intended use and consistent with delivering a coordinated and coherent streetscape.
- 2.4 To ensure public open spaces meet the needs of the community by ensuring that these areas:
- are of a high quality
  - have sufficient road frontage so that users are visible to the general public for safety reasons
  - are located so that they are easily accessible to the general public, and
  - have a terrain and are of a type and size that is useable for a number of active and passive recreation activities.
- 2.5 To ensure neighbourhood centres meet the needs of the community by ensuring **they**:
- **have** sufficient road frontage so that users are visible to the public
  - **are** located to ensure ready access by all users,
  - **are** designed to create a high-quality environment and community focal point, **and**
  - **are of a type and scale compatible with any relevant Structure Plan.**
- 2.6 To control the development of land near roads and the railway line to ensure noise from transport infrastructure does not cause adverse effects on the amenity of noise sensitive activities, and that subdivision design prevents adverse impacts on the efficient use of roads and railway lines.
- 2.7 To ensure that subdivision in the Kikiwhenua Residential Area:
- Responds positively to and minimizes adverse effects on identified waahi tapu sites
  - Facilitates pedestrian and cycle connections to the Longburn Shared Pathway and

Palmerston North City Council District Plan  
Manawatu Bridle Track

- Ensures any significant areas, such as Kikiwhenua, urupa, and current Rangitāne owned land are protected and safe public access to those areas are facilitated
- Creates a high amenity interface between the Kikiwhenua Residential Area, Pioneer Highway, Mangaone Stream, and Te Wanaka Road
- Public open space design is site specific, responding to vegetation and cultural significance.

2.8 In addition to Policy 1.2 subdivision in the Mātangi Residential Area shall be in general accordance with the following Structure Plan design principles:

- Stormwater and Flooding
  - Avoid any more than minor adverse effects on the Manawatu Drainage Scheme
  - Flooding risk on adjoining residential properties shall not be exacerbated.
  - Water Sensitive Design either within the street network or within the reserve are provided.
  - Design of the stormwater detention pond positively contributes to visual amenity and ecological values whilst achieving hydraulic neutrality.
  - Supplementing flows within Whiskey Creek with stormwater or groundwater discharges.
- Open Space and Reserves
  - The design provides for:
    - Ecological restoration of the ephemeral tributary of Whiskey Creek.
    - A dry formal equipped play area and a flat open space for informal recreation.
    - Consultation outcomes with Rangitāne o Manawatū in relation to the design and preparation of Management Plan for the reserve regarding whanau ora values.
- Gas Pipeline
  - Appropriate setbacks of buildings from the natural gas pipeline are provided and the pipeline is located within a public service corridor.
- Streets and Linkages
  - To provide safe transport access to Benmore Avenue/ Meadowbrook Drive intersection and a left in/left out access to Rangitikei Line.
  - All streets shall interconnect with no cul-de-sacs.
  - The cycle and pedestrian links shown on the Structure Plan are provided.
  - Street design and planting shall be in accordance with the Council Engineering standards for appropriate road hierarchy.
- Subdivision Design and Integration
  - For lots adjoining existing Meadowbrook Drive properties:
    - The subdivision design shall maximise alignment with existing lot boundaries for Nos. 7 to 31 Meadowbrook Drive.
    - A 1 storey height standard shall apply.

#### Palmerston North City Council District Plan

- A positive city edge is achieved by ensuring all lots adjoining the reserve enable dwellings fronting the reserve.
- Layout of the multi-unit housing area will achieve active frontages to road 1 and the flood plain reserve.
- Lots enabling dwellings fronting streets.
- The street and block layout provides for a fine grain walkable block structure and a predominant generally orthogonal street alignment as shown on the Structure Plan (Map 7A.3).
- The location, dimensions, and size of lots shall provide for a mix of conventional suburban lots, multi-unit residential development, open space, recreation, and commercial activities that is generally consistent with mix of housing density and uses shown on the Structure Plan (Map 7A.3).
- Typology and Density
  - Medium Density Housing is provided for in the location shown on the Structure Plan, allowing for development up to 11m in height while ensuring reasonable sunlight access to adjacent properties is maintained.
  - Commercial activities are provided for in accordance with the Structure Plan (Map 7A.3) that provide:
    - A positive relationship to the reserve and attenuation area
    - Amenities and services for the local neighbourhood
    - An active frontage at the street edge.

- 2.9 Subdivision and land development in the Mātangi Residential Area that is not generally in accordance with the Structure Plan design principles identified in Policy 2.8 shall achieve the following:
- The same or similar level of connectivity into, out of and within the Mātangi Residential Area.
  - The same or similar street hierarchy and layout.
  - The opportunity for commercial activities is maintained.
  - Stormwater detention, which does not compromise the delivery of other Structure Plan features.
  - A positive active edge to the Conservation and Amenity Area and vegetated edge to Rangitikei Line / State Highway 3.
  - A mix of housing types and densities.

### OBJECTIVE 3

---

**Subdivision and development in the Greenfield Residential Areas occurs in a manner that recognises the risk and effects of natural hazards.**

---

### POLICIES

- 3.1 To control the subdivision of land that is affected by natural hazards and to ensure that any necessary mitigation measures are in place prior to development.
- 3.2 To improve land utilisation to safeguard people, property and the environment from the adverse effects of unstable land by ensuring that:
- Disturbance to the natural land form, existing vegetation and habitats, natural

## Palmerston North City Council District Plan

drainage and significant natural features is minimised.

- Each lot is designed in a manner that ensures:
  - (i) technically appropriate building platforms exist
  - (ii) foundations are designed and implemented to mitigate risk associated with subsurface conditions
  - (iii) sites are identified where roading and access is suitable for its intended use/activities.
- Earthworks are to be designed and constructed to:
  - (i) provide safe and adequate building platforms and foundation for roads and services
  - (ii) provide for the adequate control of stormwater
  - (iii) prevent erosion and instability
  - (iv) remain safe and stable for the duration of the intended land use
  - (v) not necessarily rely on artificial or human-built structures for stability; and where such structures are employed these shall remain safe and stable for the duration of the intended land use
  - (vi) avoid contamination of groundwater and surface water
  - (vii) avoid or mitigate the diversion of ground water flows.
- Earthworks and the re-contouring of land are to be the subject of specific design by a chartered professional engineer experienced in soil mechanics or geotechnical matters and shall take into account the predicted improvements to soil slope and stability which will be achieved and the impact on existing vegetation and landscape values.
- Earthworks and development in the Aokautere Greenfield Residential Area avoid adverse effects on the gully network.

3.3 To restrict development or require additional geotechnical investigations prior to the future use of land where appropriate.

3.4 To require subdivision in the areas identified within the Aokautere Greenfield Residential Area to be carried out in a manner which ensures that:

- an assessment has been completed by an accredited Chartered Professional Engineer experienced in soil mechanics or geotechnical matters confirming the land is suitable for development and there are technically appropriate building platforms;
- any measures required to implement recommendations from any technical report to achieve land stability (including setbacks from areas of geotechnical risk), and/or manage other natural hazards are implemented prior to issuing s224 certificates; and
- there will be no new or exacerbated natural hazards due the proposed subdivision or development.



## OBJECTIVE 4

**Stormwater management in the Greenfield Residential Areas is carried out in an integrated manner and, within the Aokautere Greenfield Residential Area, avoids more than minor adverse effects on the environment.**

### POLICIES

- 4.1 To have stormwater management measures in place in advance of residential development.
- 4.2 To demonstrate an integrated approach to the provision of stormwater management that recognises the capacity of existing systems and natural drainage patterns.
- 4.3 To **require** the use of Water Sensitive Design wherever appropriate.
- 4.4 To ensure stormwater management contributes to the recreational and visual amenity of the development **and the surrounding area**.
- 4.5 To ensure the design of stormwater infrastructure and management of stormwater runoff from the Kikiwhenua Residential Area avoids or substantially mitigates adverse effects on people, property (including the development potential of surrounding land for future urban growth), infrastructure and the natural environment, and utilises where reasonably practicable the Mangaone Stream Catchment for discharge of runoff.
- 4.6 To design and manage development and stormwater infrastructure in the Aokautere Greenfield Residential Area to avoid more than minor adverse effects of stormwater discharges on the gully network, including its associated landscape, amenity, cultural and indigenous biodiversity values.
- 4.7 To ensure stormwater infrastructure in the Aokautere Greenfield Residential Area is designed to meet the following requirements, as demonstrated through a Stormwater Management Plan provided as part of a Comprehensive Development Plan:
  - Control stormwater runoff to historic pre-residential development conditions to minimise flood and erosion risk.
  - Incorporate capacity to accommodate climate change in accordance with the Palmerston North City Council Engineering Standards for Land Development;
  - Control post development peak flows such that:
    - i. they match the pre-residential development erosion threshold exceedance cumulative effective work index in the Aokautere Church Stream, Moonshine Valley Reserve Stream, and Tutukiwi Reserve Stream as shown on the Aokautere Structure Plan; and
    - ii. post development peak flows do not exceed pre-residential development levels for the 50% through to 1% AEP design storm events.
  - Achieve treatment of the 90th percentile rainfall volume from impervious developed areas through a stormwater treatment device or multi-device system.
  - Provide a perimeter stormwater swale and associated utility corridor along the gully edges in a manner consistent with Policies 4.10 and 4.11, and in general accordance with the Aokautere Structure Plan (Map 7A.4).
  - Provide stormwater detention ponds in a manner consistent with the Aokautere Structure Plan and Policy 5.1B.
- 4.8 To manage stormwater and water quality in the Aokautere Greenfield Residential Area the design of subdivision and development:

## Palmerston North City Council District Plan

- Effectively integrates water sensitive design for management of run-off quantity and quality
- Provides stormwater facilities to mitigate flood and erosion risk while also utilising open space in a manner which creates a high level of amenity
- Avoids overland discharges down the gully slopes
- Minimises impervious surfaces to reduce stormwater run-off
- Retains historic pre-residential development hydrological conditions as far as practicable
- Avoids or mitigates adverse effects on people, property, infrastructure and the natural environment.

4.9 When land is subdivided or developed for residential use in the Aokautere Greenfield Residential Area a perimeter stormwater swale must be established in the locations shown on the Aokautere Structure Plan (Map 7A.4) where a residential property is adjacent to a gully edge. The swale must be designed, located and constructed:

- in general accordance with Figure 7A.1;
- to intercept, collect and convey overland flows from adjacent residential properties and any contributing flows from upstream catchments;
- taking into account any site-specific geotechnical advice;
- to convey stormwater flows to identified discharge points and to protect gully slopes from erosion;
- to accommodate the 1% AEP flows, with capacity to accommodate climate change in accordance with the Palmerston North City Council Engineering Standards for Land Development;
- to enable continuous access and maintenance;
- to minimise the trimming or removal of indigenous vegetation to avoid loss, damage, or disruption to the high scenic, amenity and indigenous biodiversity values associated with the gully network.

4.10 The stormwater swale required by Policy 4.9 must either:

- be vested in Council; or
- be located within a residential lot, in which case:
  - a. it must be located within a utility corridor as shown in Figure 7A.1; and
  - b. a consent notice recording the existence of the utility corridor and the following requirements for use and management of the specified area must be imposed on the title at the time of subdivision to ensure the ongoing functionality of the swales:
    - i. no structures, including fences, shall be constructed or placed;
    - ii. no planting, landscaping or earthworks may be undertaken;
    - iii. no other activities or actions that obstruct or impact on the operation or maintenance of the swale may be undertaken;
    - iv. the Council must be provided with unrestricted access to maintain and manage the swale

CROSS-SECTION EXAMPLES - STORM WATER SWALE

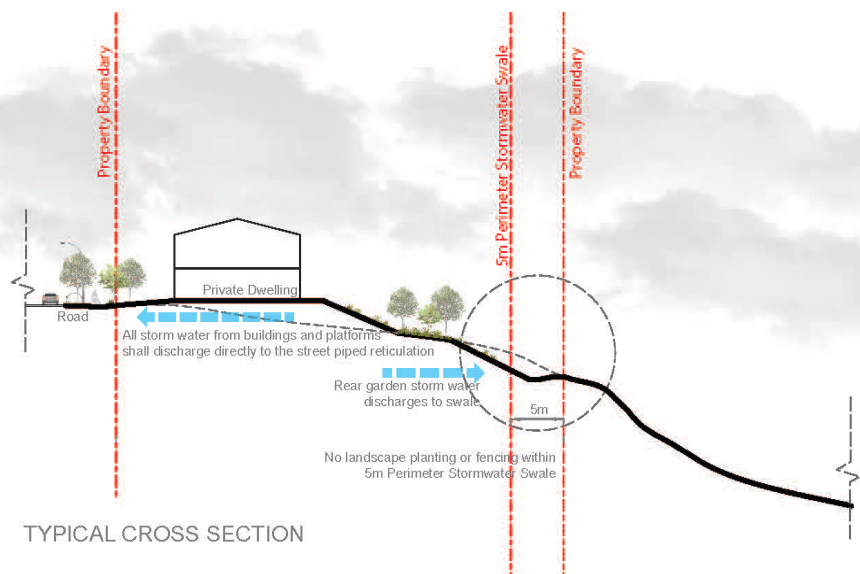
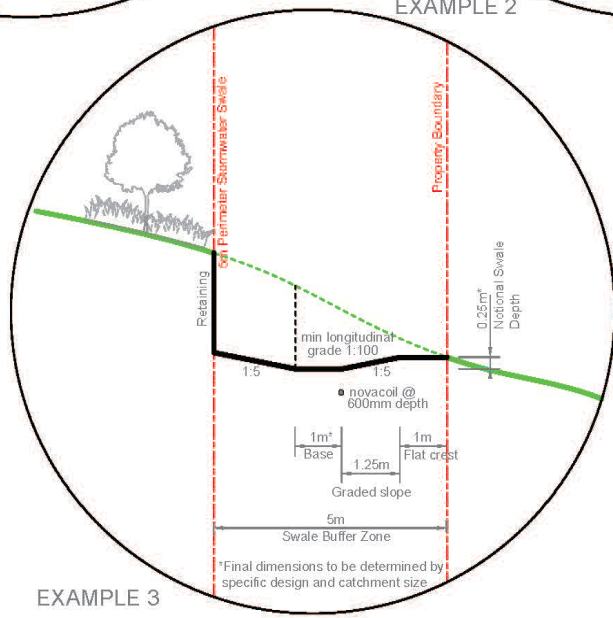
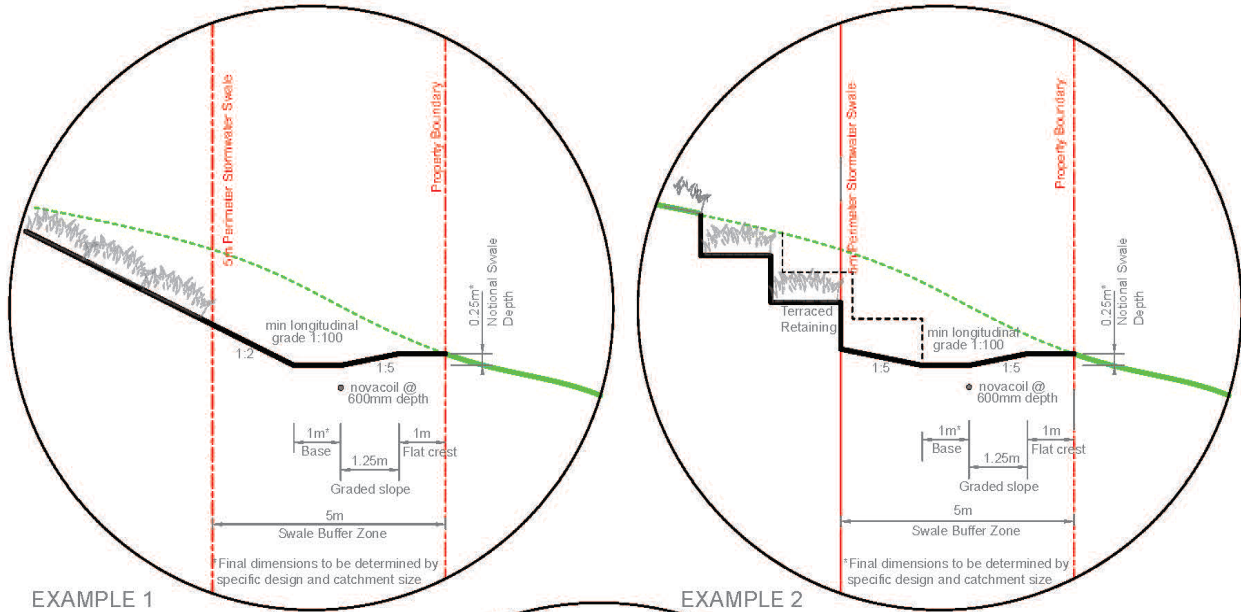


Figure 7A.1

**OBJECTIVE 5**

**Subdivision in the Aokautere Greenfield Residential Area provides for comprehensively designed development incorporating a range of residential areas with high-quality and diverse living environments with a mix of housing densities, which are integrated with surrounding communities, landscape and natural gully systems, and supported by a local centre capable of meeting the day to day needs of the immediate neighbourhood**

**POLICIES**

- 5.1 To ensure subdivision layout and design includes the fixed Structure Plan elements (which are identified on Maps 7A.4, 7A.4A, 7A.4B, 7A.4C and 7A.4D) in the manner shown on the Aokautere Structure Plan. Fixed Structure Plan elements must be in general accordance with Aokautere Structure Plan.
- 5.1A To ensure subdivision layout and design provides for the Aokautere Structure Plan elements that are not fixed. The elements must be provided in a manner that is consistent with the Aokautere Structure Plan but their location, extent and design may vary from that shown on the Structure Plan, provided the development outcomes in the objectives and policies in Sections 7, 7A, 10, 11.10 and 15.5 are met.
- 5.1B Stormwater detention ponds must be provided and should generally be located as shown on the Aokautere Structure Plan. If an alternative location or design is proposed for a stormwater detention pond, it must:
- be resilient to the effects of climate change and avoid increasing natural hazard risks on people, property or the environment;
  - reflect any geotechnical constraints and be sited in accordance with geotechnical advice;
  - avoid ecologically sensitive areas, including areas of indigenous vegetation and wetlands;
  - take into account safety in design, including through construction, operation and decommissioning;
  - provide for ease of access and ongoing maintenance;
  - manage adverse effects on visual amenity; and
  - meet the stormwater management requirements in Policy 4.7.
- 5.2 To ensure subdivision does not occur without an approved Comprehensive Development Plan.
- 5.3 To ensure subdivision layout and development in the Aokautere Greenfield Residential Area:
- Provides neighbourhoods with regular lot patterns and with a sufficient range of lot sizes to encourage diversity in the types of houses to be built
  - Achieves a housing density of 25 dwellings per hectare or denser in the Medium Density Village Area
  - Reflects the intended neighbourhood character shown on the Aokautere Structure Plan (Map 7A.4B)
  - Varies lot size and housing density to reflect the proximity of amenities including open spaces and any Local Business Zone

#### Palmerston North City Council District Plan

- Contributes to the achievement of any identified residential yield requirements over time.
- 5.4 To ensure subdivision and development within the Aokautere Greenfield Residential Area:
- Makes Aokautere's elevated and incised terrain visible and accessible to the public, including through:
    - streets that provide views of the gullies and the wider landscape,
    - public access to a network of cycleways and recreational trails; and
    - linear access to the gully reserves with residential lots on one side only.
  - Varies the arrangement of streets, lots and dwellings in response to gullies, plateaus and promontories
  - Minimises the number of rear lots
  - Retains natural or near-natural contours;
  - Forms an accessible and permeable urban block structure to maximise connectivity and provide road access from two directions for most households.
  - Ensures that development on the promontories:
    - a. Clusters lots to and arranges buildings and roads to:
      - i. frame views of the gully reserves;
      - ii. create well-defined communal spaces at the plateau ends.
      - iii. provide safe, attractive cul-de-sac terminations; and
      - iv. provide legible and integrated public access to recreational trails.
- 5.5 To ensure a neighbourhood centre is located in the area identified on the Aokautere Structure Plan and developed in general accordance with the Aokautere Neighbourhood Centre Precinct Plan (Map 7A.3C).
- 5.6 To ensure the capacity, efficiency, and performance of the wider transport network is not compromised.
- 5.7 To ensure that the design and layout of any subdivision and development provides for the transport networks identified on the Aokautere Structure Plan in a manner which:
- Delivers a safe, legible and efficient movement network which conforms to the One Network Framework and is consistent with the street layout, street hierarchy, street types (Map 7A.4D) and street cross-sections (Map 7A.4D1-15) in the Aokautere Structure Plan.
  - Avoids or minimises adverse effects on the safe and efficient operation, maintenance and access to network utilities and the transport network
  - Encourages active travel modes and provides for circuits of varying length for walking, jogging and cycling.
  - Provides Urban Connector roads with sufficient width and horizontal and vertical alignments to safely accommodate bus routes and facilitate convenient bus stops, including to facilitate access to the Aokautere Neighbourhood Centre.
- 5.8 Avoid subdivision and development occurring in advance of the completion of the transport network upgrades identified in Table 7A.1 and 7A.2, that are necessary to provide for a safe and efficient transport network, unless it can be demonstrated that there is sufficient existing capacity in the transport network to accommodate the

Palmerston North City Council District Plan  
predicted traffic volumes.

- 5.9 To avoid subdivision and development where significant adverse effects on the transport network are likely to occur.
- 5.10 To provide high-quality physical connections to open space, waterways, existing biodiversity corridors and natural gully systems.
- 5.11 In the Aokautere Greenfield Residential Area the Primary Stormwater Elements required to service the residential development (inclusive of all stages and contributing flows from the upstream catchment, where relevant) must be installed and operational before any dwellings are constructed or placed on the site. This requirement shall be secured by a consent notice registered on the titles of all relevant lots.

## OBJECTIVE 6

**The indigenous biodiversity, natural values and ecological function of the gully system and natural features in the Aokautere Greenfield Residential Area are maintained and protected from inappropriate subdivision, use and development**

## POLICIES

- 6.1 To minimise the trimming or removal of indigenous vegetation to avoid loss, damage, or disruption to the high scenic, amenity and indigenous biodiversity values associated with the gully network.
- 6.2 To avoid adverse effects of subdivision and development on the gully network, including on its associated landscape, amenity, cultural and indigenous biodiversity values, other areas of indigenous biodiversity and wetlands in Aokautere.
- 6.3 To ensure that any measures used to manage the risks of natural hazards do not have significant adverse effects on the natural environment.
- 6.4 To ensure subdivision and development contribute to the maintenance, protection, restoration, and enhancement of natural features, indigenous biodiversity and water quality.
- 6.5 To provide for the long-term protection of the gully features by requiring the gullies identified on the Aokautere Structure Plan to be vested in Council for conservation and amenity, and/or stormwater management purposes. Vesting must occur at the earliest opportunity and, as a minimum, a gully must be vested when it:
  - (a) Will receive stormwater from the development; or
  - (b) Will be contiguous with the land to be developed; or
  - (c) Is intended to accommodate stormwater infrastructure that is to be constructed and maintained by the Council.
- 6.6 To require subdivision to create conservation lots for the protection of areas of significant indigenous biodiversity and wetlands.
- 6.7 To require consent notices recording the existence of any conservation lots, and any related restrictions on use of the specified area to be imposed on titles at the time of subdivision.

## 7A.4 Methods

### General

The principal methods used to implement the policies are District Plan Rules and the following Greenfield Structure Plans:

#### Palmerston North City Council District Plan

- The Whakarongo Structure Plan (Map 7A.1)
- The Kikiwhenua Structure Plan (Map 7A.2)
- The Mātangi Residential Area (Map 7A.3)
- **The Aokautere Structure Plan (Map 7A.4 – 7A.4G)**

In some cases, reliance on the provisions of the statute itself will cause policies to be implemented. For instance, Section 106 of the RMA in respect of refusal of consent or the imposition of conditions in respect of natural hazards, and Section 220 in respect of the imposition of certain subdivision conditions.

Council has prepared a document “Engineering Standards for Land Development” which illustrates good subdivision engineering practice and is useful in the control of subdivision. It provides sound technical standards which, where appropriate, can be incorporated by reference in conditions of consent.

To inform development in accordance with the Aokautere Structure Plan, Council has prepared the Aokautere Masterplan, which includes the Stormwater Management Strategy. While the Masterplan has no statutory weight it can, and will, be taken into account by Council and other decision-makers when considering proposals under the District Plan and should inform applications within the Aokautere Greenfield Residential Area. The Stormwater Management Strategy is intended to provide context for the development of Stormwater Management Plans and assist with implementing the stormwater management approach for the Aokautere Greenfield Residential Area set out in Policies 4.7 to 4.11.

## 7A.5 Residential Zone

### Introduction

This section contains specific rules and assessment criteria for the Greenfield Residential Areas and governs subdivision in that area. These provisions recognise the importance of achieving a logical, planned and integrated urban form that achieves high quality urban design outcomes.

### 7A.5.1 RULES: CONTROLLED ACTIVITIES

#### R7A.5.1.1 Controlled Activities

1. Any subdivision in a Greenfield Residential Area for the purpose of accommodating any network utility is a Controlled Activity in respect of:
  - a. The size, shape and arrangement of the lot and access.
  - b. Those matters described in Sections 108 and 220 of the Resource Management Act 1991, provided the network utility concerned is a Permitted Activity or a resource consent has been granted.

#### R7A.5.1.2 Performance Standards for Controlled Activities

##### (a) Lot Size

The maximum area of an allotment for a network utility shall not exceed 200m<sup>2</sup>.

##### (b) Balance lot size

The balance lot(s) must not result in any increase in non-conformity with any permitted activity standard for the Residential Zone.

##### (c) Access

Provision is made for the safe, efficient and convenient access for vehicles to access the roading network.

##### (d) Servicing

New essential services are located in public service corridors that are vested with Council.

### 7A.5.2 RULES: RESTRICTED DISCRETIONARY ACTIVITIES

#### R7A.5.2.1 Restricted Discretionary Activities

1. Any subdivision in a Greenfield Residential Area which is not a Controlled Activity, and any cross lease, company lease or unit title subdivision creating allotments requiring vehicular or foot access to a road listed in 20.6.1.6 of the Land Transport Section as a State Highway or a Limited Access Road is a Restricted Discretionary Activity with regard to:
  - a. The size, shape and arrangement of roads, public open spaces, lots, cross lease and company lease areas, units and access
  - b. Those matters described in Sections 108 and 220 of the Resource Management Act 1991
  - c. **Subdivision and development design and layout provisions for local services and public open space** in general accordance with the relevant Structure Plan for the area
  - d. Urban design



Palmerston North City Council District Plan

- e. Landscaping
- f. Noise attenuation and management
- g. Enhancement and management of surface water flows and overland flow paths
- h. Integration of essential services
- i. Natural hazards
- j. Future development opportunities
- k. Visual amenity
- l. Effects on the capacity of Council infrastructure
- m. Safe and efficient operation of the roading network
- n. Available capacity in the intersections identified in Table 7A.1 and 7A.2.
- o. Connectivity
- p. Outdoor/on-site amenity
- q. Infrastructure and physical resources of regional or national importance
- r. Hydraulic Neutrality with regards to stormwater runoff.
- s. Effects of earthworks within the Aokautere Structure Plan area
- t. Effects on the gully network within the Aokautere Structure Plan area
- u. Effects on cultural values within the Aokautere Structure Plan area
- v. Within the Aokautere Structure Plan area the extent to which the subdivision and development is in general accordance with the Aokautere Structure Plan
- w. Stormwater management in the Aokautere Structure Plan area

**NOTE TO PLAN USERS R7A.5.2.1.1(r)**

*For the purposes of the Kikiwhenua Residential Area hydraulic neutrality means limiting peak stormwater runoff rates to no greater than pre-development levels for a site*

**NOTE TO PLAN USERS R7A.5.2.1 AND R7A5.2.2**

*Rule R7A.5.2.1 and R7A.5.2.2 applies to all zones within the Aokautere Greenfield Residential Area shown on the Aokautere Structure Plan Map7A.4.*

*For the purposes of the Aokautere Greenfield Residential Area 'hydraulic neutrality' means limiting peak stormwater runoff rates (allowing for climate change) to no greater than would have occurred at historic pre-residential development levels (assuming historic rainfall data, i.e. without adjustments for climate change) for a site (circa the year 2000).*

*Map 10A maps land within the Aokautere Structure Plan Area which has been classified as either Developable or Limited Developable Land according to the corresponding slope stability hazard. The plotted 20 degree and 30 degree lines represent the position of a 20 degree and 30 degree slope set back, relative to the toe or base of the gully slope, accounting for projected future downcutting of stream beds (i.e. the predicted 100 year elevation of the stream bed). The extent of predicted downcutting can be obtained from the Technical Memorandum Stream Erosion Assessment Summary, GHD, dated 22 June 2023 which forms part of the updated Aokautere Stormwater Management Strategy.*

**R7A.5.2.2 Performance Standards for Restricted Discretionary Activity**

**(a) Comprehensive Development Plan**

## Palmerston North City Council District Plan

All activities under R7A.5.2.1 must provide (as part of the resource consent application) a Comprehensive Development Plan that details how the design, layout and servicing of the Residential Area is in general accordance with the area's relevant Greenfield Structure Plan. The Comprehensive Development Plan must consider and address the following:

- (i) total area of the development
- (ii) total number of allotments to be developed
- (iii) programme and time frame from development, including the staging of development in the Residential Area
- (iv) the proposed mix of residential, commercial and recreational activities
- (v) the need for any land use consents for development within the Aokautere Residential Area, and how those consents will be applied for concurrently with the subdivision activity or have been approved prior to lodgement of the Comprehensive Development Plan.
- (vi) primary and secondary road layouts and pavement widths, including details of how these are in general accordance with the relevant Greenfield Structure Plan
- (vii) streetscape including the location and type of street trees and other proposed planting, with preferential selection of locally sourced native species within the Aokautere Greenfield Residential Area
- (viii) design, shape and location of public open space within the development, including how these are to be managed in the future, including any landscaping or planting corridors
- (ix) location of natural watercourses, how these will be incorporated into the subdivision design and managed in the future, and their potential to be integrated into an innovative and/or low-impact stormwater design
- (x) proposed walkways and cycleways
- (xi) facilities for people with disabilities or special needs, such as shared walkways and disabled parking
- (xii) infrastructural network servicing requirements, including how the proposed infrastructure will provide for future staged development of the Residential Area
- (xiii) within the Aokautere Structure Plan area a Stormwater Management Plan for the entire development (inclusive of all stages and contributing flows from upstream catchments, where relevant) in accordance with R7A.5.2.2(e) and R7A.5.2.2(f).
- (xiv) within the Aokautere Structure Plan area the location of gullies, wetlands and significant natural features and how they will be protected from effects of subdivision, earthworks and development
- (xv) within the Aokautere Structure Plan Area (Map 7A.4) how the subdivision proposal provides for the establishment, maintenance and protection of the perimeter stormwater swale, and the associated utility corridor required by Policy 4.10 and 4.11
- (xvi) the intended staging and timing for the vesting of any land and/or assets within the Aokautere Structure Plan area for infrastructure or conservation and amenity purposes.
- (xvii) a report from one or more accredited Chartered Professional Engineers, experienced in soil mechanics, geotechnical engineering or land contamination, as determined relevant by Council, identifying geo-physical features and characteristics of the land, including potential erosion, falling debris, subsidence,

## Palmerston North City Council District Plan

slippage, alluvium or likely presence of hazardous contaminants, and the likely risks that those features or characteristics present for the land, adjoining land, or any structure likely to be constructed on the land. This report must also contain or be accompanied by:

- any recommendations as to the design and construction of foundations that are appropriate to mitigate any characteristic or feature identified;
- an assessment on how fill should be placed onto the land based on sub-surface conditions;
- recommendations of the setback for buildings from areas of high natural hazard risk,
- any recommendations for development of Developable Land in the Aokautere Structure Plan area (Map 10.1A) having regard to:
  - a walk over inspection of the site and the surrounding land and assessment of local topography;
  - inspection of aerial photographs taken at various times to provide insight into the local geomorphology and evidence of any previous instability or filling;
  - review of geological data (maps, bulletins)
  - enquiry after local information about observed instability or settlement of the ground;
  - investigation of existing data about the soil and rock profile (look for nearby exposures) or performance of simple subsurface investigation;
  - examination of the soil profile to confirm if the soil is in-situ and not colluvium or fill;
  - examination of existing survey records for evidence of slippage or erosion;
  - consideration of any other geotechnical constraints or hazards which could affect the site, including the effect of future stream erosion and downcutting in the gullies; and
  - an opinion stated by a geotechnical specialist as to the stability and suitability of the land for development, including specifying setbacks if required.
- any recommendations for development of Limited Development Land in the Aokautere Structure Plan area (Map 10.1A) having regard to the matters identified above, and in addition:
  - topographic survey (if not already available);
  - a description of the geology and geomorphology of the area;
  - definition of the nature and continuity of the strata over the whole area of land which is proposed to be developed (buildings, access and services) and to a depth below which slipping is most unlikely, by means of test pit and/or drilling and/or augering (unless existing exposures are adequate);
  - assessment of the relative strength and the sensitivity of the soil in each stratum in which, or interface on which, sliding is possible; and
  - assessment of likely groundwater levels and piezometric pressures in the strata during extreme infiltration conditions.
- within the Aokautere Structure Plan Area, an assessment of whether there are

areas of uncontrolled fill on the site and if so, recommendations as to development of the land having regard to:

- a description of the geology and geomorphology of the area.
  - review of historic information such as aerial photos, anecdotal reports or other records;
  - definition of the nature and continuity of the strata over the whole area of land which is proposed to be developed (buildings, access and services). The depth, spatial extent, strength, variability, and material(s) should all be identified and where possible, quantified. Fill materials should be assessed by means of test pit and/or drilling and/or augering;
  - assessment of the relative strength of the fill material and the underlying stratum by means of borehole standard penetration tests, cone penetration tests or scala penetrometers (for shallow soil profiles);
  - assessment of likely groundwater levels and the effects of fluctuating or changing groundwater;
  - an opinion stated by a geotechnical specialist as to the suitability of the land for development, along with recommendations on any mitigation work or foundations that are required; and
  - consideration of any other geotechnical constraints or hazards which could affect the site.
- within the Aokautere Structure Plan Area any recommendations as to whether specific design options, engineering methods and/or foundation designs are required in certain areas to mitigate against the risk of geotechnical constraints or hazards, and to locate and design any essential services, including stormwater detention ponds and the stormwater perimeter swale required by Policy 4.10 and 4.11
  - any recommendations as to the necessary remediation of contaminated land;
  - a copy of any site investigations including bore logs; and
  - a certificate from the engineer or other qualified person confirming that the analysis undertaken is in accordance with professional standards, appropriate to the risks identified and of sufficient quality in order to be relied upon as a comprehensive hazard assessment.

(xviii) within the Aokautere Structure Plan Area an earthworks plan identifying any restructuring of land, earthworks, or other works to create land with improved slope and soil stability necessary to enable the development of house sites, essential services, and access ways in the Aokautere Structure Plan Area. The earthworks plan must provide for management of archaeological discoveries including how tangata whenua involvement and cultural monitoring will be accommodated. The earthworks plan shall also have regard to how:

- adverse effects on the gully network will be avoided;
- any other adverse effects arising from the proposed works will be avoided, remedied, or mitigated; and
- the proposed works avoid, remedy, or mitigate any land stability natural hazard.

(xix) a report from a hydraulic engineer identifying the characteristics of the land including potential avulsion or inundation and the likely risks that those features or characteristics present for the land and its future use. This report must also contain

## Palmerston North City Council District Plan

any recommendation as to the location, design and construction of foundations that are appropriate to mitigate any characteristic or feature identified. A copy of any site investigations including bore logs must accompany the report. The report must also demonstrate how the proposed Water Sensitive Design measures will ensure hydraulic neutrality is achieved and ensure that there is no increase in stormwater effects on surrounding areas.

In the Mātangi Residential Area, in addition to the above report, the application shall also provide a Comprehensive Flood Management Plan that demonstrates the cumulative flood effects of all stages of the development of the Mātangi Residential Area and shall assess compliance with Performance Standard R7A.5.2.2(g) and shall include:

- A modelling assessment using the latest base version of the Taonui Basin Model in accordance with its historic conventions and methodology except where extended or improved on.
- Validation of the base model for the flood analysis to ensure that it reasonably matches results from the Taonui model.
- Confirmation that the most up to date LiDAR input data was used within the model.
- A modelling assessment of the performance of the Benmore Avenue stopbank system which reflects the current top levels.
- A modelling assessment of the flood conditions associated with the 50 year and 200 year ARI events.
- Comprehensive reporting on all flood modelling work relating to the subdivision area including supply of digital and model geometries, results and differencing data;
- Confirmation that all necessary approvals have been obtained from the Regional Council.

(xx) an urban design statement from a registered architect, landscape architect, or qualified urban designer to explain how the proposed subdivision design relates to the site, its surroundings, and how it creates a high amenity living environment, sense of place, and contributes positively to the local neighbourhood. The urban design statement shall include:

- a context analysis describing how the planning anticipates staged development and/or future growth, including how the development relates to neighbouring sites and areas;
- **in the Aokautere Greenfield Residential Area, how the proposed subdivision design creates lots, building platforms and provides screening through landscaping to address adverse effects from visual intrusion of buildings and structures on existing residential dwellings in the Moonshine Valley;**
- the rationale for site planning and design decisions; and
- how the planning and design of the proposed subdivision relates to the relevant objectives and policies of the District Plan.

(xxi) how the proposed road layout and design ensures connectivity to property **and** roads that have been developed or have the potential to be developed in the future. Design matters must explain how the proposal provides for network connectivity to achieve:

- increased number and choice of travel routes for all types of users; and

Palmerston North City Council District Plan

- improved access to public transport, cycling and walking networks and access to existing roading networks.
- (xxii) Whether approval is required from external agencies, including the New Zealand Transport Agency, Horizons Regional Council, and the Department of Conservation, and what progress has been made in securing the approvals, where relevant.

**Explanation**

*The above is not a prescriptive list of requirements, but an indication of the range of matters that may be relevant. Relevance will depend on site characteristics including the context of streets, connections and adjoining activity, and the scale and type of development to be covered by the Comprehensive Development Plan.*

*These issues will be considered to the extent that they are relevant in each situation. The degree of emphasis given to each will depend on specific context, with the intention of achieving a well-planning, coordinated outcome that satisfies the Greenfield Residential Area Objectives.*

*The extent of documentation required will be that necessary to describe the planning and design intention and demonstrate that the relevant issues are addressed by the Comprehensive Development Plan. That will vary from subdivision to subdivision depending on the type of development, prominence of the site and the size of the area covered. It might include, but will not necessarily be limited to:*

1. *Context plan, describing the development in the context of neighbouring sites and the residential area as a whole, showing the arrangement of lots, activities, public open spaces, and landscape planting*
2. *Site and context analysis which identifies important existing conditions*
3. *Indication of the intended activities and their location, and the location and type of visual and physical connections between residential lots and public open spaces including streets.*
4. *Design rationale, which provides the reasoning the intended approach and describes how the relevant issues identified have been responded to.*

*There is no one optimal way of scoping or presenting the information for a Comprehensive Development Plan. The amount of information and type of approach will relate to the size and complexity of the project. Confirmation of relevant issues and precise information requirements should be discussed with the PNCC consents team early in the Comprehensive Development Plan formulation process.*

**(b) Essential services**

- (i) All essential services must be available for connection within 30 metres of the nearest point of the land being subdivided.
- (ii) All new lots must have sewer, stormwater and water supply services that are connected to essential services, including innovative/low impact stormwater designs as provided under the requirements for a Comprehensive Development Plan in R7A.5.2.2 and subject to the assessment criteria in R7A.5.2.3(a)(xii).
- (iii) All new essential services proposed in a subdivision must be located in public service corridors and vested in Council where practical.
- (iv) Wastewater in Pressure Sewer Areas shall be reticulated with a Pressure Sewer System.
  - For the purposes of R7A.5.2.2(b)(iii), the boundary kit and the pressure sewer pipe network located in public service corridors must be installed at the time of subdivision and vested to Council.
- (v) **In the Aokautere Greenfield Residential Area the Primary Stormwater Elements required to service the proposed development are installed and operational before any dwellings are constructed or placed on the site.**
- (vi) **In the Aokautere Greenfield Residential Area a perimeter stormwater swale and associated utility corridor in accordance with Policy 4.10 and Policy 4.11 is**

provided on the gully edge locations identified on the Aokautere Structure Plan (Map 7A.4).

### **Explanation**

The Kikiwhenua Residential Area has been defined as a Pressure Sewer Area under the Palmerston North City Council Pressure Sewer System Policy. Pressure Sewer Systems are required in certain areas where there are geotechnical and technical constraints to wastewater servicing. The design, supply, and installation of the Pressure Sewer System must meet Council's Engineering Standards for Land Development

### **(c) Existing Buildings**

Where any land proposed to be subdivided contains existing buildings there must be no increase in the degree of non-conformity with any Permitted Activity standard for the Residential Zone (or relevant underlying zone at the time of subdivision).

### **(d) Lot Size and Density**

- (i) Unless otherwise specified below, any subdivision within a Greenfield Residential Area must have an average lot size of 500m<sup>2</sup>- 550m<sup>2</sup>.
- (ii) In the Aokautere Greenfield Residential Area the average lot size of lots available for residential purposes must be at least 600m<sup>2</sup> and any lots over 1000m<sup>2</sup> shall be assumed to have an area of 600m<sup>2</sup> for the purposes of calculating the average lot area.
- (iii) No single lot shall be less than 350m<sup>2</sup>, except in the Aokautere Greenfield Residential Area where (iv) applies.
- (iv) In the Aokautere Greenfield Residential Area, no single lot shall be:
  - Less than 400m<sup>2</sup> of contiguous developable land where the Suburban Low Density Areas shown on the Aokautere Structure Plan (Map7A.4B) apply
  - Less than 150m<sup>2</sup> where the Medium Density Village Areas or Medium Density Clusters shown on the Aokautere Structure Plan (Map 7A.4B) apply.
- (v) No single lot shall exceed 1000m<sup>2</sup> (excluding balance lots), except in the Medium Density Village Area shown on the Aokautere Structure Plan (Map 7A.4B), where no maximum lot size applies.
- (vi) Any subdivision in the Mātangi Residential Area must have an average lot size of 400m<sup>2</sup> to 500m<sup>2</sup>, other than subdivision in the identified multi-unit housing area (Map7A.3) where the developed density shall be lots of no more than 400m<sup>2</sup>, with the average lot size being no more than 300m<sup>2</sup>.
- (vii) In calculating the lot sizes in (i) to (v) above, the following exceptions apply:
  - no balance lot, public open space lot, neighbourhood centre, or road parcel shall be included; and
  - the lot sizes shall be exclusive of the acoustic setbacks required by the provisions of R10.6.1.5(e)(i) and (ii); and
  - in the Mātangi Residential Area, the maximum size specified in (iv) does not apply to neighbourhood centre lots and lots to be developed for multi-unit housing development.
- (viii) Within the Medium Density Village Area shown on the Aokautere Structure Plan (Map 7A.4B), the average minimum number of dwellings shall be 25 per hectare net.

### **Explanation**

Council is seeking a variety of lot sizes in any subdivision. This will provide future residents with a greater

*choice to cater for their specific housing needs, rather than a uniform provision of lots in greenfield locations.*

**(e) Cul-de-sacs**

- (i) Cul-de-sacs shall be a maximum length of 100m unless otherwise shown on the area's relevant Structure Plan and in the Aokautere Structure Plan Area, must serve a maximum of 20 dwellings.
- (ii) Cul-de-sacs in the Kikiwhenua Residential Area and Aokautere Greenfield Residential Area shall include a minimum of a 10m wide straight public open space walking link connecting the cul-de-sac bulb with an adjacent road or reserve unless otherwise shown on the area's relevant Structure Plan.

**Explanation**

*Council is seeking control over the length and use of cul-de-sacs in an endeavour to ensure street connectivity is achieved and disjointed communities are avoided with a range of transport modes available to residents.*

**(f) Water Sensitive Design in the Kikiwhenua Residential Area and Mātangi Residential Area**

- (i) A Stormwater Management Plan must be prepared by a suitably qualified stormwater design consultant with experience in Water Sensitive Design concepts and elements. The Stormwater Management Plan must address the following:
  - a site-specific assessment of the likely changes in stormwater quantities created by the development for the 2-year, 5-year, 10-year, 20 year, 50-year and 100 year ARI events with storm durations appropriate for the relevant receiving system using the HIRDS database, taking into account climate change effects;
  - assessment of all internal stormwater infrastructure and how it will interact with the existing drainage system;
  - how the development will hydraulically relate to its surrounding environs, including assessment of overland flow paths and potential flood impacts;
  - how the stormwater management system will ensure that any changes in runoff from the site will be addressed;
  - Reduction in peak flow discharges by flow attenuation;
  - Reduction in discharge volumes by infiltration, soakage or other means appropriate for the site (i.e., the first 5 or 10mm of daily rainfall runoff from impervious areas may need to be retained on site in certain circumstances);
  - The ability to use Water Sensitive Design to address stormwater runoff quality aspects; and
  - assessment on the impact of development (including new infrastructure) on the existing stopbanks and what mitigation may be required so as to not exacerbate the risk of piping failure

**NOTE TO PLAN USERS R7A.5.2.1.1(q)**

*Plan users are advised to check the Engineering Standards for Land Development to ensure the current model for taking into account climate change effects is used when preparing a Stormwater Management Plan.*

**(g) Flood Management in the Mātangi Residential Area**

- (i) Any subdivision consent application within the Mātangi Residential Area (Map 7A.3) shall show through modelling that following the development of all stages of the Mātangi Residential Area:



Palmerston North City Council District Plan

- flood levels within the nearby Residential Zone will be reduced or remain unchanged.
  - flood levels within Rural Zone, will not increase by more than 50mm.
- (ii) All lots, excluding balance lots, within the Mātangi Residential Area shall have ground levels to suit construction of conventional modern 'on grade' dwellings that have floor levels achieving a reasonable freeboard, above the 0.5% AEP (1 in 200 years) flood level (with flood levels and reasonable freeboard as determined by Horizons Regional Council).

**(h) Water Sensitive Design in the Aokautere Greenfield Residential Area**

- (i) A Stormwater Management Plan for the entire development (inclusive of all stages) and incorporating any contributing flows from the upstream catchment, where relevant has been prepared by a suitably qualified stormwater design consultant with experience in Water Sensitive Design concepts and elements. The Stormwater Management Plan must address:
- the likely changes in hydrology in the catchment as a result of the development;
  - the likely changes in stormwater quantities created by the development for the 50%, 20%, 10%, 5%, 2% and 1% AEP events, with design storms as specified in the Palmerston North City Council Engineering Standards for Land Development, taking into account climate change effects and the provision of stormwater reticulation to accommodate stormwater flows;
  - an assessment of the potential effects of stormwater (velocity, depth, flood extent, erosion) on the receiving environment, including people, property, and infrastructure;
  - an assessment of potential effects of stormwater management measures on the stability of the Aokautere Church Stream and Moonshine Valley Reserve Stream, and any other existing, permanent or ephemeral watercourses located in the Aokautere Greenfield Residential Area and proposed mitigation measures;
  - an assessment of the potential effects of stormwater management measures on land stability and liquefaction hazard and any proposed mitigation;
  - how overland discharge down the gully slopes will be avoided, with all run-off discharge into the gullies provided through controlled pipe outlets, with appropriate erosion control and energy mitigation measures;
  - how the stormwater management measures interact and integrate with the downstream Primary Stormwater Elements
  - how the stormwater management system provides stormwater detention so as to achieve hydraulic neutrality and mitigate flood and erosion risk;
  - how the design and management of stormwater addresses the matters in Policy 4.7;
  - how the design and layout of stormwater infrastructure is in general accordance with the Aokautere Structure Plan and incorporates the perimeter stormwater swale referred to in Policy 4.9 and 4.10;
  - how Water Sensitive Design and other initiatives will be used to manage water quality through low impact design principles, including roadside bioretention facilities (rain gardens) connecting to the stormwater reticulation network;
  - how stormwater management measures comply with any resource consents held by the Council for stormwater at a regional or district level; and

- the intended staging and timing of the provision and vesting and/or upgrading and replacement of infrastructure assets so as to ensure efficient, functional and sustainable delivery of stormwater infrastructure.

**(i) Transport Network Requirements for Aokautere Structure Plan**

For subdivision and development within the Aokautere Structure Plan Area, the transport network upgrades listed in Table 7A.1:

- are operational before the proposed subdivision and development commences, or
- are not operational, but a transport assessment has been prepared by a suitably qualified person experienced in traffic engineering and transport planning that:
  - Assesses the current level of service for the intersections identified in Table 7A.1; and
  - Predicts whether the traffic generated by the proposed development will exceed a capacity threshold for one or more of the intersections identified in Column 1 of Table 7A.1 and determines that none of the capacity thresholds in Column 2 of Table 7A.1 are exceeded; and
  - Describes any consultation undertaken with the relevant road controlling authority regarding the proposal and the outcomes of this consultation.

*Explanation*  
Where the transport assessment predicts that any or all of the capacity thresholds in Table 7A.1 will be exceeded, the activity will be a non-complying activity under Rule R7A.5.5

<b>Table 7A.1: Transport Network upgrades for the Aokautere Structure Plan Area - Summerhill Drive/Ruapehu Drive and State Highway 57</b>		
<b>Intersection</b>	<b>Capacity threshold</b>	<b>Required upgrade once the capacity threshold has been exceeded</b>
Aokautere Drive		
Intersection of Summerhill Drive/Ruapehu Drive/Mountain View Road	The threshold for intersection upgrades is whichever is first of: <ol style="list-style-type: none"> <li>A forecast level of service D or worse for the overall intersection, or</li> <li>A forecast level of service F for an individual turning movement.</li> </ol>	Traffic signals
Intersection of SH57 Old West Road/Aokautere Drive/Summerhill Drive	The threshold for intersection upgrades is whichever is first of: <ol style="list-style-type: none"> <li>A forecast level of service D or worse for the overall intersection, or</li> <li>A forecast level of service F for an individual turning movement.</li> </ol>	Either: (a) Signals or roundabout with safe provision for active modes, or (b) an alternative treatment, agreed with Waka Kotahi NZ Transport Agency, that achieves efficient intersection performance with safe provision for active modes.
Intersection of SH57 Aokautere Drive/Pacific Drive	The threshold for intersection upgrades is whichever is first of: <ol style="list-style-type: none"> <li>A forecast level of service D or worse for the overall intersection, or</li> <li>A forecast level of service F for an individual turning movement.</li> </ol>	Either: (a) Signals or roundabout with safe provision for active modes, or (b) an alternative treatment, agreed with Waka Kotahi NZ Transport Agency, that achieves efficient intersection performance with safe provision for active modes.

Intersection of SH57 Aokautere Drive/Ruapehu Drive	The threshold for intersection upgrades is whichever is first of: a. A forecast level of service D or worse for the overall intersection, or b. A forecast level of service F for an individual turning movement.	Either: (a) Signals or roundabout with safe provision for active modes, or (b) an alternative treatment, agreed with Waka Kotahi NZ Transport Agency, that achieves efficient intersection performance with safe provision for active modes.
Intersection of SH57 Aokautere Drive/Johnstone Drive	The threshold for intersection upgrades is whichever is first of: a. A forecast level of service D or worse for the overall intersection, or b. A forecast level of service F for an individual turning movement.	Either: (a) Signals or roundabout with safe provision for active modes, or (b) an alternative treatment, agreed with Waka Kotahi NZ Transport Agency, that achieves efficient intersection performance with safe provision for active modes.

The forecast level of service should be assessed for the weekday peak hour traffic periods.  
The level of service should be assessed in accordance with Austroads Guide to Traffic Management Part 3 2020 Table 7.2, page 71.

**Table 7A.2: Transport Network upgrades for the Aokautere Structure Plan Area – Local roads**

Intersection	Capacity threshold	Required upgrade once the capacity threshold has been exceeded
Pacific Drive		
Intersection of Pacific Drive/Abby Road	The threshold for intersection upgrades is whichever is first of: a. A forecast level of service D or worse for the overall intersection, or b. A forecast level of service E for an individual turning movement.	Signals or roundabout with safe provision for active modes.
Intersection of Pacific Drive/Johnstone Drive	The threshold for intersection upgrades is whichever is first of: a. A forecast level of service D or worse for the overall intersection, or b. A forecast level of service E for an individual turning movement.	Signals or roundabout with safe provision for active modes.
Intersection of Pacific Drive /Activity Street A (Map 7A.4D)	The threshold for intersection upgrades is whichever is first of: a. A forecast level of service D or worse for the overall intersection, or b. A forecast level of service E for an individual turning movement.	Signals or roundabout with safe provision for active modes.
Intersection of Pacific Drive /Urban Connector F (Map 7A.4D)	The threshold for intersection upgrades is whichever is first of: a. A forecast level of service D or worse for the overall intersection, or b. A forecast level of service E for an individual turning movement.	Signals or roundabout with safe provision for active modes.

The forecast level of service should be assessed for the weekday peak hour traffic periods.  
The level of service should be assessed in accordance with Austroads Guide to Traffic Management Part 3 2020 Table 7.2, page 71.

In determining whether to grant consent and what conditions to impose, if any, the Council will, in addition to the City View objectives in Section 2, and the objectives and policies of Sections 7 and 7A, assess any application in terms of the following:

**R7A.5.2.3 Assessment Criteria for Restricted Discretionary Activity:****(a) Subdivision design and layout within a Greenfield Residential Area**

- (i) The extent to which the design and layout of the subdivision is in general accordance with the area's relevant Structure Plan, including how the proposal contributes to the overall design principles for the area.
- (ii) The extent to which a range of lot sizes has been provided that enable the provision of a diverse range (or variety) of housing development options.
- (iii) How the proposed subdivision relates to adjoining sites and areas and whether it enables future subdivision of adjoining lots by providing for the necessary street connections.
- (iv) The extent to which houses front toward major roads and entrances to the city.
- (v) The extent to which the proposed subdivision ensures that sufficient connection and connectivity is achieved that provides for a range of transport means and minimises the need for cul-de-sacs and rights of way.
- (vi) The extent to which the orientation of lots in the subdivision ensures sufficient solar access is available to the outdoor living area of future dwellings.
- (vii) How integrated public open space has been provided in the design of the subdivision.
- (viii) The continuity and coherence of street trees, public open space landscaping, and the extent to which they have been integrated into the design and layout of the subdivision and the wider neighbourhood environment.
- (ix) The extent to which street trees have been provided at an appropriate scale in relation to the size and significance of the related street and contributes to a distinctive sense of place within the streetscape.
- (x) The extent to which Water Sensitive Design is integrated where appropriate and geo-technically possible and is designed in a way that contributes to the recreational and visual amenity of the development.
- (xi) The extent to which proposed stormwater detention measures ensure hydraulic neutrality is achieved and that there is no increase in stormwater effects on surrounding areas.
- (xii) The degree to which the subdivision provides for the integration of essential services into the existing city network in a manner which is orderly and efficient and that facilitates future development and capacity requirements.
- (xiii) The extent to which Council has the ability to maintain and access infrastructure and services in the future.
- (xiv) The extent to which natural hazard risks are identified and the effects are avoided or mitigated.
- (xv) The extent to which subdivision considers and implements the findings of the geotechnical reports to address land stability issues and recommended mitigation measures.
- (xvi) The effect any earthworks will have on natural hazard risk and/or land stability, including effects on overland flow paths, and sedimentation..
- (xvii) The extent to which landscape planting along road corridors shown on the area's relevant Structure Plan is provided for in a way that delivers a coordinated and coherent streetscape.

Palmerston North City Council District Plan

- (xviii) The extent to which the design of the proposed subdivision facilitates the creation of high quality attractive public open spaces, including streetscapes.
- (xix) The extent to which earthworks will affect adjoining properties and result in adverse visual amenity and how these effects are managed.
- (xx) Whether any adverse effects of the subdivision on the safe and efficient operation of the roading network can be effectively managed.
- (xxi) The degree to which the location and design of access onto the State Highway network, Limited Access Road or Restricted Access Road adversely affects the safe and efficient operation of the roading network, taking into account the long term operation of the adjacent road.
- (xxii) To have particular regard to the safety of cyclists and pedestrians.

**(b) Subdivision design and layout within the Whakarongo Residential Area**

- (i) The extent to which the subdivision and proposed street layout integrates with Whakarongo School.
- (ii) The extent to which the proposal provides for the establishment and maintenance of landscape setbacks adjacent to Napier Road and Stoney Creek Road, as outlined on the Whakarongo Structure Plan (Map 7A.1).
- (iii) The degree to which landscape planting along road corridors shown on the Whakarongo Structure Plan (Map 7A.1) is provided for in a way that delivers a coordinated and coherent streetscape.
- (iv) The extent to which flood hazard avoidance or mitigation is provided to ensure the protection of residential development in a 0.2% Annual Exceedance Probability stormwater event and to ensure the hydraulic neutrality of the residential area.

**(c) Subdivision design and layout within the Kikiwhenua Residential Area**

- (i) Whether an archaeological assessment of the site has been undertaken by a suitably qualified archaeologist.
- (ii) Whether archaeological discovery protocol have been prepared and approved by a suitable authority representing Rangitāne o Manawatū.
- (iii) Whether a cultural monitoring plan has been prepared and approved by a suitable authority representing Rangitāne o Manawatū.
- (iv) The extent to which subdivision layout and design recognises and represents the connection that Rangitāne o Manawatū have with their rohe.
- (v) The extent to which physical and visual connections are created between the following sites:
  - The subdivision
  - Kikiwhenua
  - Urupa
  - Awapuni Lagoon
  - Mangaone Stream
  - Rangitāne-o Manawatū owned land in the area
- (vi) The extent to which Kikiwhenua, Awapuni Pa, and associated urupa are retained and recognised within the subdivision.
- (vii) The extent to which subdivision layout enable the retention of mature tree stock

Palmerston North City Council District Plan

and shelterbelts as established street trees.

- (viii) The extent to which a clear hierarchy of primary, secondary, and tertiary roads provides legible way-finding throughout the site and encourages walking and cycling along key cultural connections.
- (ix) The extent to which the subdivision positively fronts onto Pioneer Highway, Te Wanaka Road and the Awapuni Lagoon area.
- (x) The extent to which the site connects to the Longburn Shared Pathway, Mangaone Stream Shared Pathway, and the Manawatu River Bridle Track.
- (xi) The extent to which road corridors are designed to provide areas for pervious pavements and swales to reduce total runoff and peak flows.
- (xii) Whether on site detention ponds are designed such that the outlet reduces the peak flow to pre-development flow rates for return events up to the 50 year ARI rainfall event, and the spillway passes the 100 year ARI rainfall event at pre-development flow rates.
- (xiii) Whether stormwater detention areas utilise gravity flow paths and avoid the need for pumping stations.
- (xiv) Whether properties fronting onto Pioneer Highway are serviced by a laneway.
- (xv) The extent to which noise setback areas identified in the Kikiwhenua Structure Plan (Map 7A.2) incorporate high quality landscaping and Water Sensitive Design.
- (xvi) The availability of a suitable consent notice for allotments within the Kikiwhenua Residential Area to identify the requirement and management of on-property equipment for the area's Pressure Sewer System.
- (xvii) The extent to which the development of a community facility and small park, and a play area for young children are provided for.
- (xviii) Whether safe and appropriate treatments are in place that have been certified by the relevant road controlling authorities at the intersection of Te Wanaka Road and State Highway 56 prior to any subdivision within the Kikiwhenua Residential Area.
- (xix) The extent to which a traffic impact assessment for the Kikiwhenua Residential Area has been undertaken by a suitably qualified traffic engineer as determined by the relevant road controlling authorities. Without limiting other matters, the traffic impact assessment shall include:
  - An assessment of whether and when a full upgrade of the intersection of Te Wanaka Road and State Highway 56 should be provided to meet the needs of current and further land use; and
  - An assessment of what construction traffic mitigations are required.
- (xx) Whether the proposed stormwater approach will achieve hydraulic neutrality up to the 1% Annual Exceedance Probability (AEP) rainfall event, in comparison to the predevelopment land use, in accordance with the methods and requirements of the Engineering Standards for Land Development.

(d) **Subdivision design and layout within the Mātangi Residential Area**

- (i) The extent to which the design and layout avoids adverse effects on the Manawatu Drainage Scheme and flood risk in the locality.
- (ii) The extent to which the design and layout provides for restoration of the ephemeral tributary of Whiskey Creek as recreational reserve with quality recreational links.
- (iii) The extent to which the design and layout provides appropriate setbacks of buildings from the natural gas pipeline that traverses part of the area and locates the pipeline within a public service corridor.

#### Palmerston North City Council District Plan

- (iv) The extent to which the design and layout provides for vehicle access to both Benmore Avenue and Rangitikei Line.
- (v) The extent to which lot boundaries are consistent with the existing residential lots in Meadowbrook Drive where the lots abut those properties.

#### (e) Subdivision design and layout within the Aokautere Residential Area

- (i) How the subdivision proposal responds to the matters in Policies 5.3, 5.4, 5.5, 5.8, 5.9, 5.13 and 5.14.
- (ii) How the subdivided allotments are of a size and shape which achieves the scale, density and type of development provided for in the Aokautere Structure Plan.
- (iii) How a clear hierarchy of roads provides legible wayfinding throughout the site, with roading positively fronting the gully network and walking and cycling is provided along key connections.
- (iv) The extent to which significant adverse effects on the transport network have been avoided.
- (v) The extent of compliance with the transport network requirements for the Aokautere Structure Plan set out in R7A 5.2.2(i).
- (vi) Whether the traffic generated by the proposed development will exceed a capacity threshold in Column 2 of Table 7A.2 at the intersections identified in Column 1 of Table 7A.2.
- (vii) How the subdivision and proposed street layout integrates with the Aokautere Neighborhood Centre.
- (viii) How the proposed stormwater approach achieves hydraulic neutrality to pre-residential development levels through detention facilities and Water Sensitive Design and mitigates flood and erosion risk
- (ix) How unattenuated discharge of stormwater flows into the gullies has been avoided.
- (x) How direct discharge of overland stormwater flows onto gully slopes has been avoided.
- (xi) The availability of a suitable consent notice to prevent residential development until the Primary Stormwater Elements are in place to service all stages of the development and/or to record any restrictions arising under R7A5.2.2(g).
- (xii) How the subdivision proposal recognises and protects the gully network and existing 'green corridor' plantings, indigenous vegetation and bush remnants, neighbourhood and drainage reserves, and wetlands.
- (xiii) Whether the perimeter stormwater swale and associated utility corridor required under Policy 4.9 and 4.10 is provided for within the development, and the availability of a suitable consent notice to identify and record the restrictions on use and development, where the swale is located with individual lot boundaries.
- (xiv) Whether the subdivision implements the findings of any technical reports to address land stability, uncontrolled fill and natural hazards including any recommended avoidance or mitigation measures.
- (xv) Whether the location and scale of earthworks adversely affects the gully network.
- (xvi) How the subdivision design creates lots, building platforms and provides screening through landscaping, to address adverse effects from visual intrusion of buildings on existing residential dwellings in the Moonshine Valley.

**Explanation**

*Subdivision within Greenfield\_Residential Areas is a Restricted Discretionary Activity to ensure that development achieves high environmental outcomes. When rezoning large areas of land for future residential use, it is important that the staged development over time contributes to a well thought out layout and interconnected suburb. The provisions of this rule will ensure that development is integrated with the wider residential area, that connection between stages is maintained and provided for, and the development is consistent with the provisions of the area's relevant Structure Plan.*

**NOTE TO PLAN USERS: R7A.5.2.2 and R7A.5.2.3**

1. All subdivisions must supply a Comprehensive Development Plan as required by R7A.5.2.2 of the District Plan.
2. Any subdivision and development that is located on any object or site of Cultural Heritage Value, as listed in Section 17 of the District Plan, must also comply with R17.8.1.
3. Additional consents may be required from Horizons Regional Council for activities including land disturbance and vegetation clearance. Plan users are encouraged to contact Horizons directly for information about the Horizons One Plan requirements.
4. All subdivisions must comply with the National Environmental Standard for Assessing and Managing Contaminants in Soil.
5. Council requires, where appropriate, the approval of the relevant road controlling authority (New Zealand Transport Agency or Palmerston North City Council) before approving a subdivision consent application.
6. It is advised that the applicant contact the appropriate power, telecommunications and gas companies to determine the feasibility of connecting to their services.
7. Plan users are advised to check the Engineering Standards for Land Development to ensure the current model for taking into account climate change effects is used when preparing a Stormwater Management Plan.

**R7A.5.2.4 Flood Prone Overlay in the Mātangi Residential Area**

- (a) Despite anything to the contrary in this District Plan, the Flood Prone Overlay shown on the Planning Maps (and associated rules in Chapter 22 of the District Plan) do not apply to subdivision and development within the Mātangi Residential Area in the following circumstances:
- (i) Earthworks are completed for the purpose of achieving flood hazard avoidance in respect of the entire Mātangi Residential Area shown in Map 7A.3 and in accordance with the Resource Management Act 1991, including any applicable conditions of consent, rules, or regulations; and
  - (ii) A suitably qualified and experienced engineer with skills in geotechnical assessment acceptable to council provides a certification in accordance with the following: that earthworks within the Mātangi Residential Area and in respect of the site of the proposed subdivision have been soundly designed and constructed to completion such that there is a minimal risk of their failure; and
  - (iii) A registered surveyor provides correct and true 'as built' plans in respect of the earthworks completed for the purpose of achieving flood hazard avoidance and to inform certification of the works; and
  - (iv) A suitably qualified and experienced stormwater engineer skilled in flood management and mitigation acceptable to council provides a certification in accordance with the following: that earthworks within the Mātangi Residential Area and in respect of the site of the proposed subdivision have been completed and as a consequence of their completion, flood control measures are in place that provide protection from the current 0.5% annual exceedance probability (1 in 200 year) flood event such that:
    - a provision of freeboard over predicted flood levels is provided;
    - final ground levels are suitable for development and no further earthworks are required for the subdivision in relation to flood risk;



#### Palmerston North City Council District Plan

- final ground levels do not impede current drainage from neighbouring existing properties;
- the earthworks do not worsen or exacerbate flooding on adjacent properties; and
- flood modelling has been completed to demonstrate the above conditions have been met.

### **7A.5.3 RULES: DISCRETIONARY ACTIVITIES**

#### **7A.5.3.1 Discretionary Activities**

- (i) Any activity which does not comply with the Performance Standards for Controlled Activities and is not otherwise specified as a Restricted Discretionary Activity is a Discretionary Activity.
- (ii) Any activity in the Aokautere Greenfield Residential Area which does not comply with the Performance Standards for the Restricted Discretionary Activity Rule R7A.5.2.1 and is not otherwise a Non-Complying Activity is a Discretionary Activity.

### **7A.5.4 RULES: NOTIFICATION**

#### **7A.5.4.1 Notification**

- (i) Public notification is precluded for applications under R7A.5.2.1.
- (ii) Subject to the exception in (iii) and (iv), limited notification is precluded for applications under R7A.5.2.1.
- (iii) Waka Kotahi New Zealand Transport Agency must be given limited notification of an application under R7A.5.2.1 **unless written approval has already been provided.**
- (iv) The owners of 120 – 131 Benmore Avenue and 1 – 5 Meadowbrook Drive may be given limited notification of an application under R7A.5.2.1

### **7A.5.5 RULES: NON-COMPLYING ACTIVITIES**

#### **7A.5.5.1 Non-complying activities in Aokautere Greenfield Residential Area**

The following activities are Non-Complying Activities in the Aokautere Greenfield Residential Area:

- (i) Any subdivision that does not comply with one or more of the relevant standards and terms in R7A.5.2.2(b)(v), (b)(vi) or(d),
- (ii) Any subdivision that does not satisfy R7A.5.2.2 (i)(a) and either the transport assessment required by R7A.5.2.2 (i)(b) has not been undertaken or the assessment required by R7A.5.2.2 (i)(b)(ii) predicts that a capacity threshold for one or more of the intersections identified in Table 7A.1 will be exceeded.

#### **7A.5.5.2 Non-complying activities in the Kikiwhenua Residential Area**

- (i) Any subdivision within the Kikiwhenua Residential Area to which R7A.5.2.4 applies is a non-complying activity.
- (ii) Any application for consent to such a subdivision shall be publicly notified.
- (iii) This rule ceases to have effect when R7A.5.2.4 ceases to have effect.

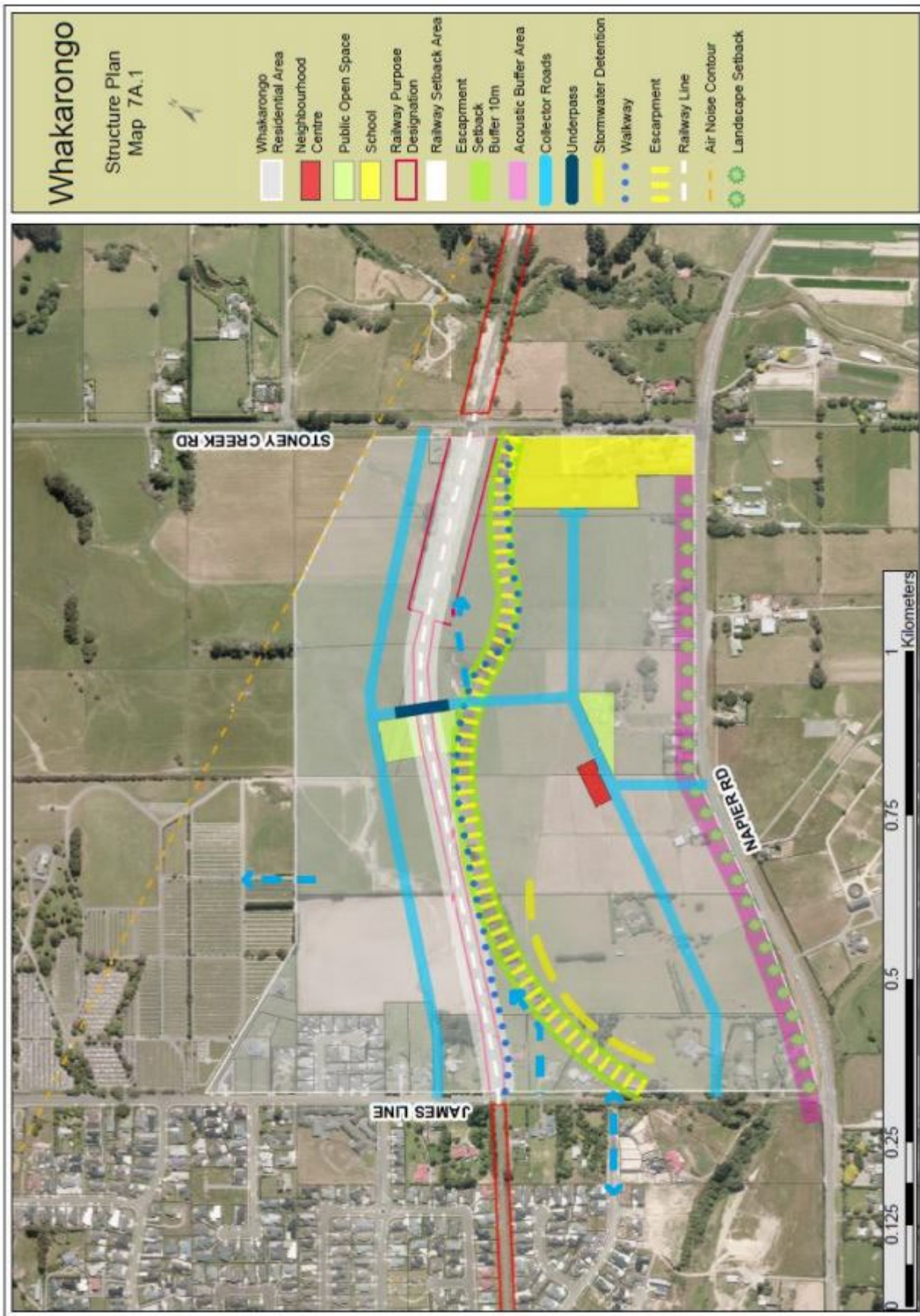
### **7A.5.6 RULES: NOTIFICATION**

#### **7A.5.6.1 Notification**

Palmerston North City Council District Plan

- (i) Waka Kotahi New Zealand Transport Agency must be given limited notification of an application under R7A.5.5.1 unless written approval has already been provided

## Map 7A.1 Whakarongo Structure Plan

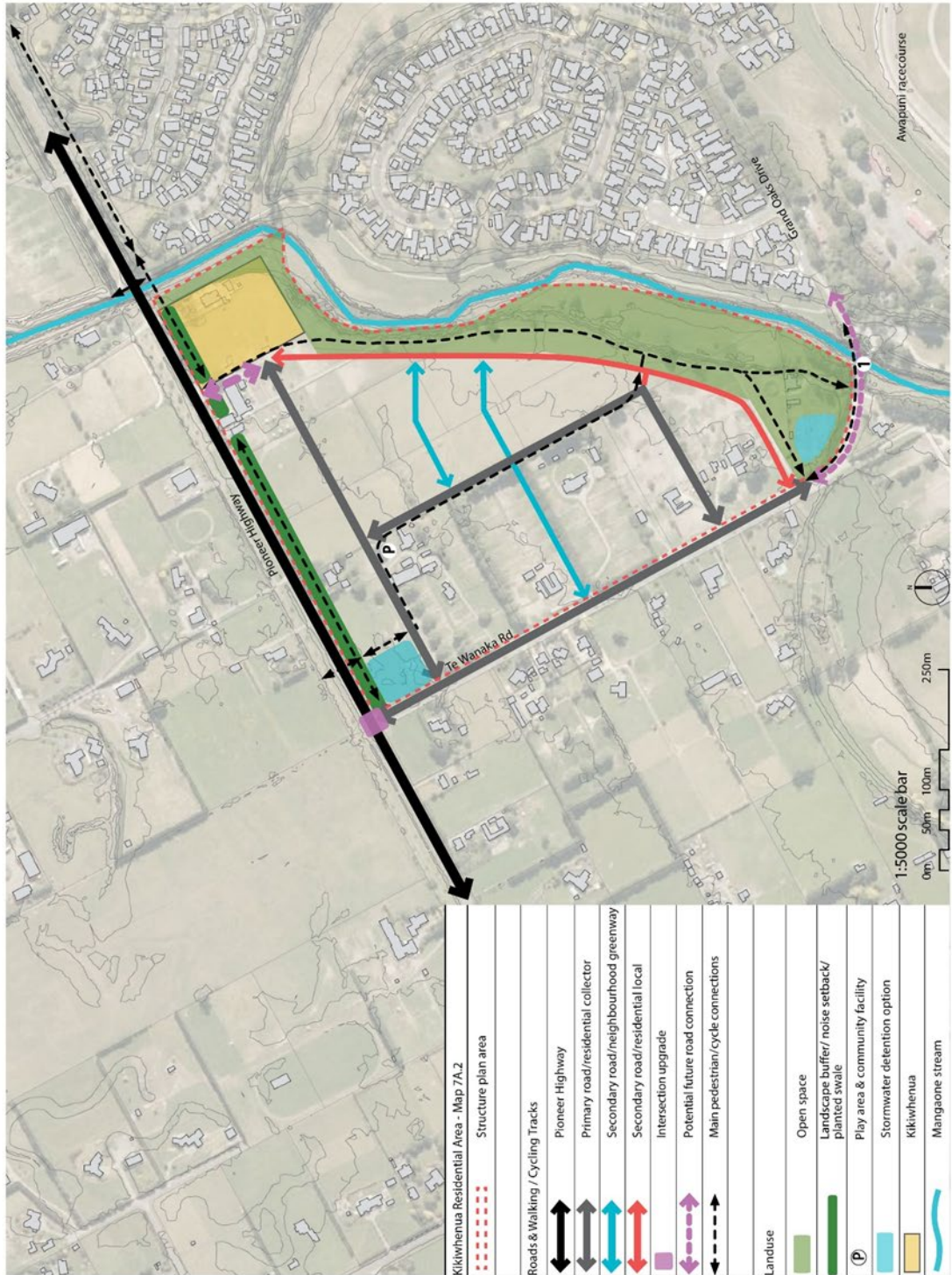


# Map 7A.2 Kikiwhenua Residential Area Structure Plan

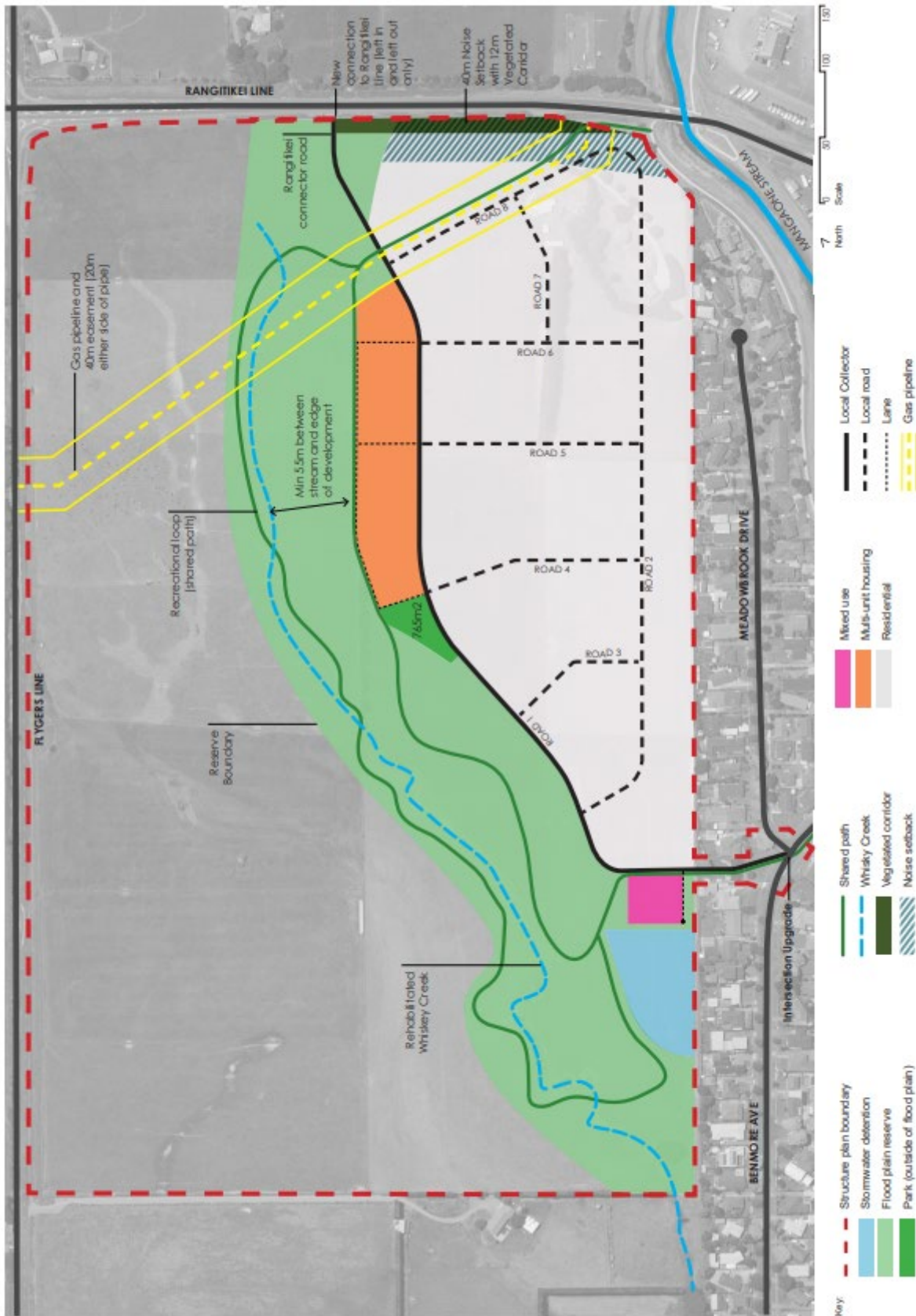
## Kikiwhenua Residential Area

### Structure Plan

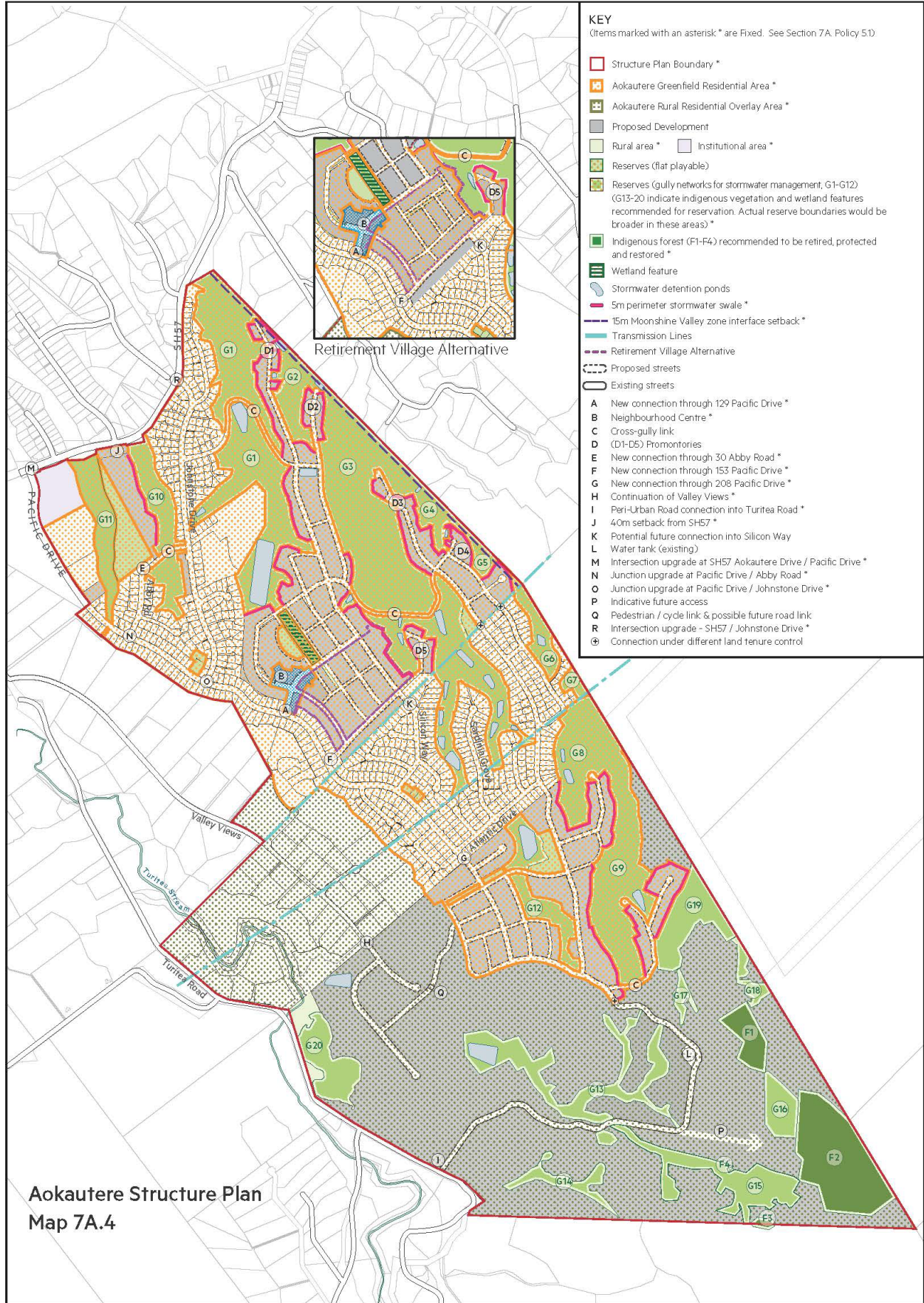
#### Map 7A.2

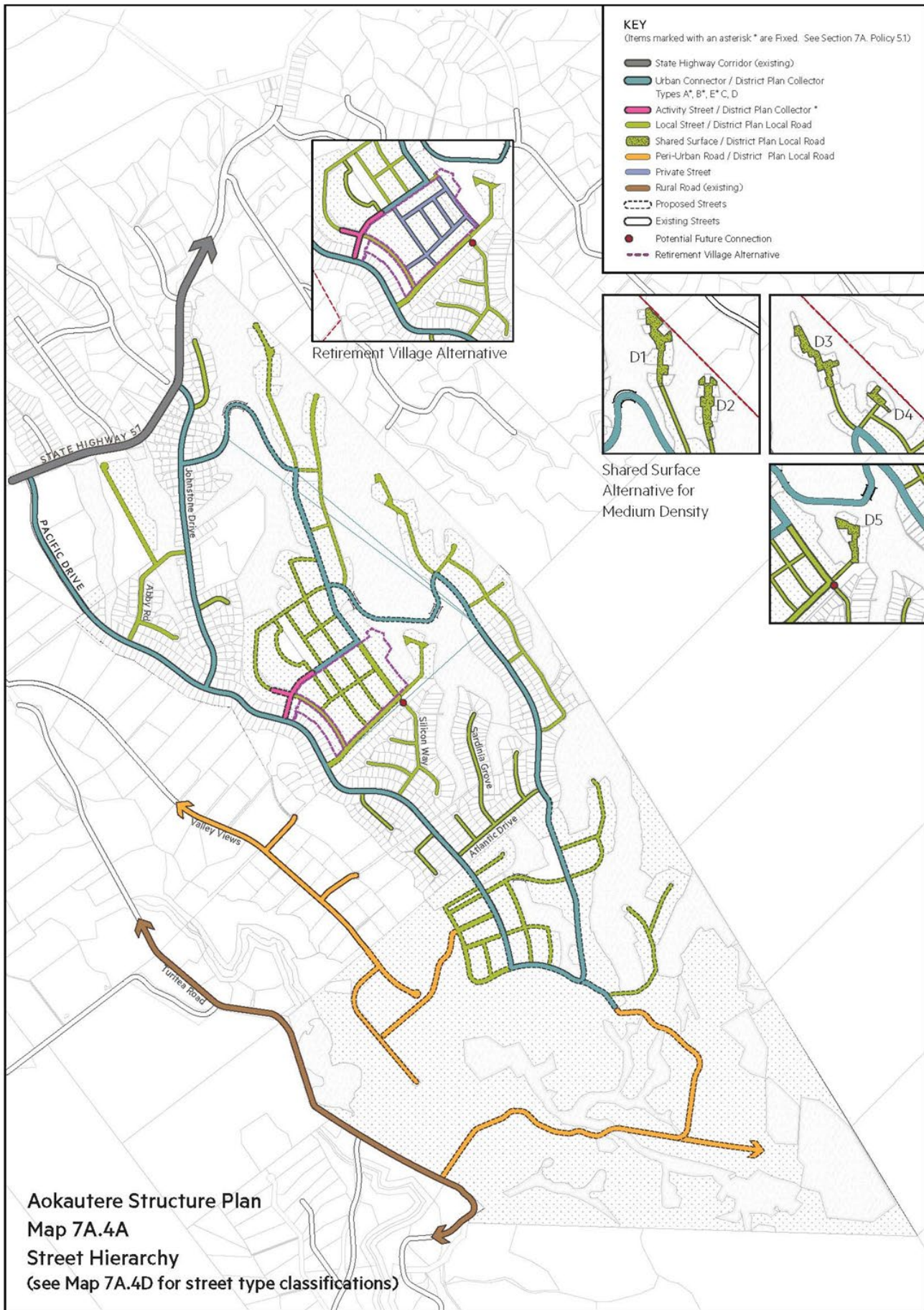


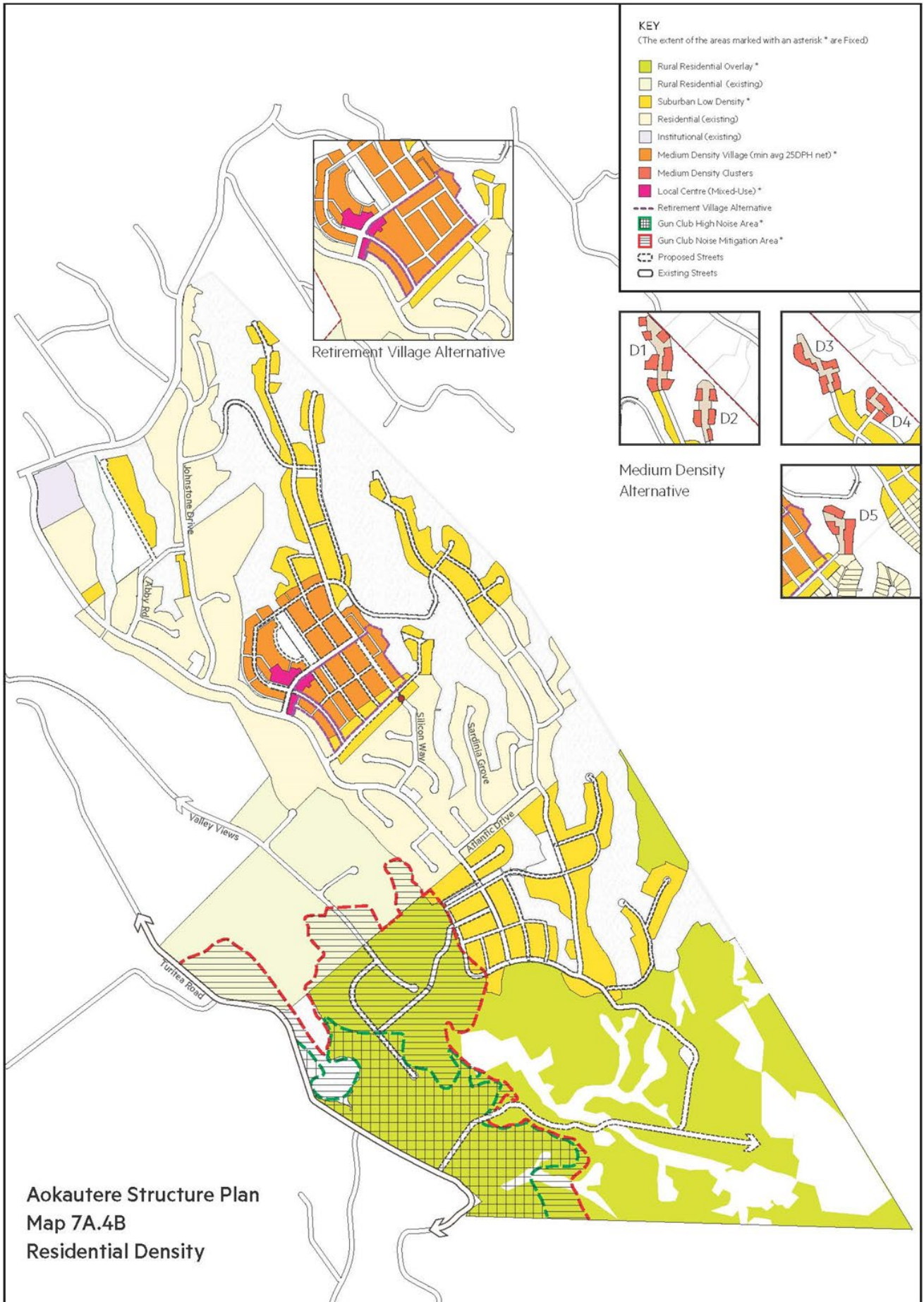
# Map 7A.3 Mātangi Residential Area Structure Plan



**Maps 7A.4 – 7A.4D1 – 14 Aokautere Structure Plan**

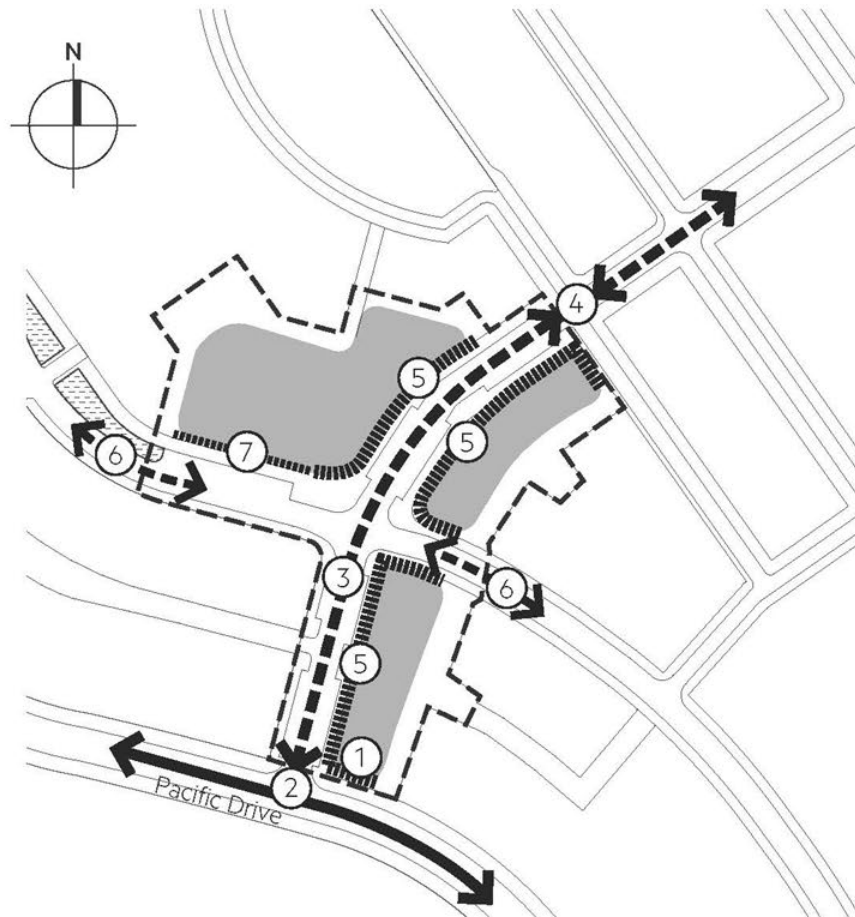








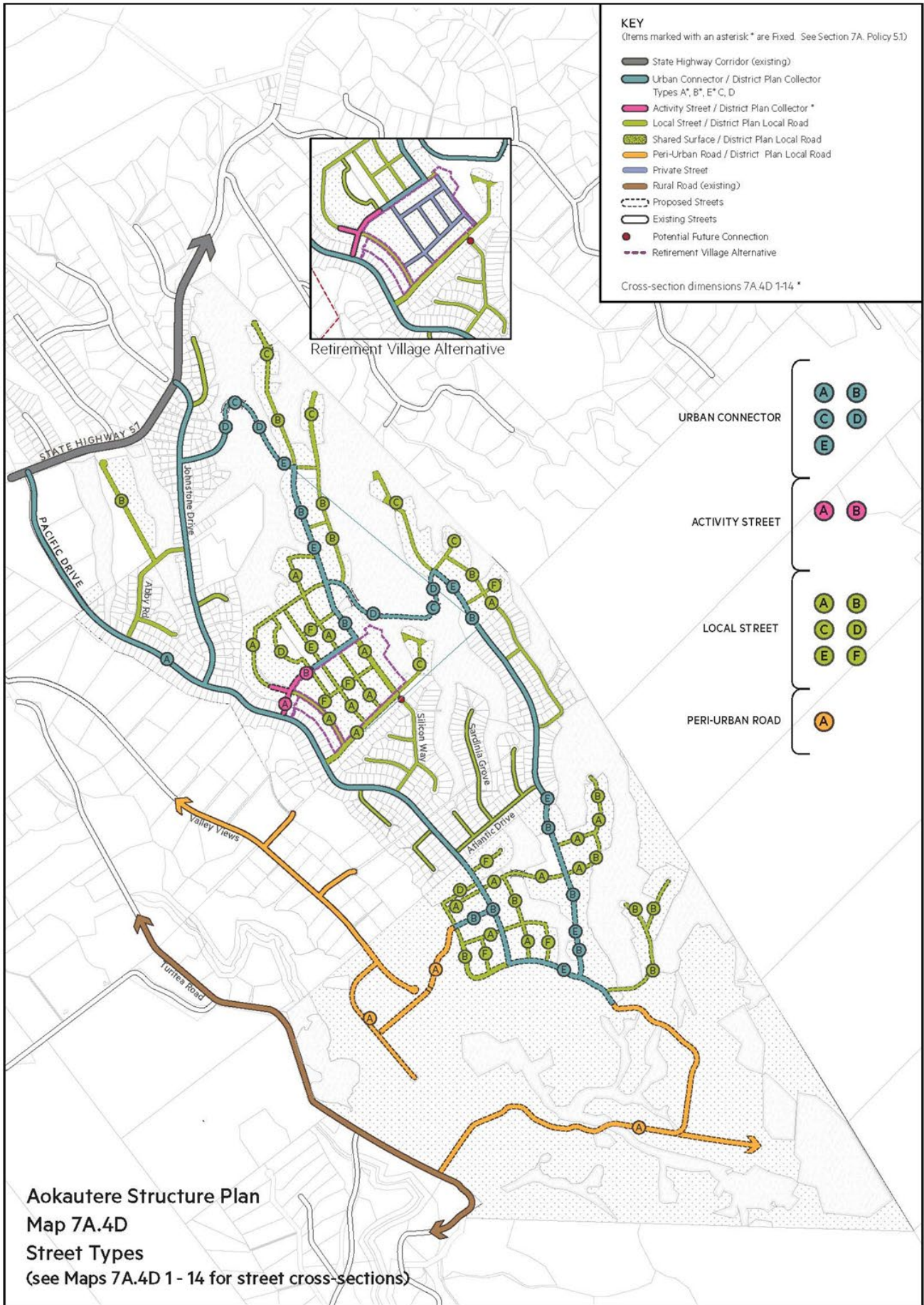
**Aokautere Neighbourhood Centre**  
**Map 7A.4C**  
**Precinct Plan**



**Key**

(Items marked with an asterisk \* are Fixed. See Section 7A. Policy 5.1)

- Local Neighbourhood Centre Boundary \*
- Development areas. On-site parking/servicing contained behind buildings \*
- 1 Primary commercial frontage onto Pacific Drive \*
- 2 Activity Street connects with Pacific Drive \*
- 3 Activity Street connection through the Centre \*
- 4 Direct connection into Urban Connector Street \*
- 5 Primary commercial frontage facing Activity Street \*
- 6 Local Street connections into proposed housing
- 7 Secondary commercial frontage





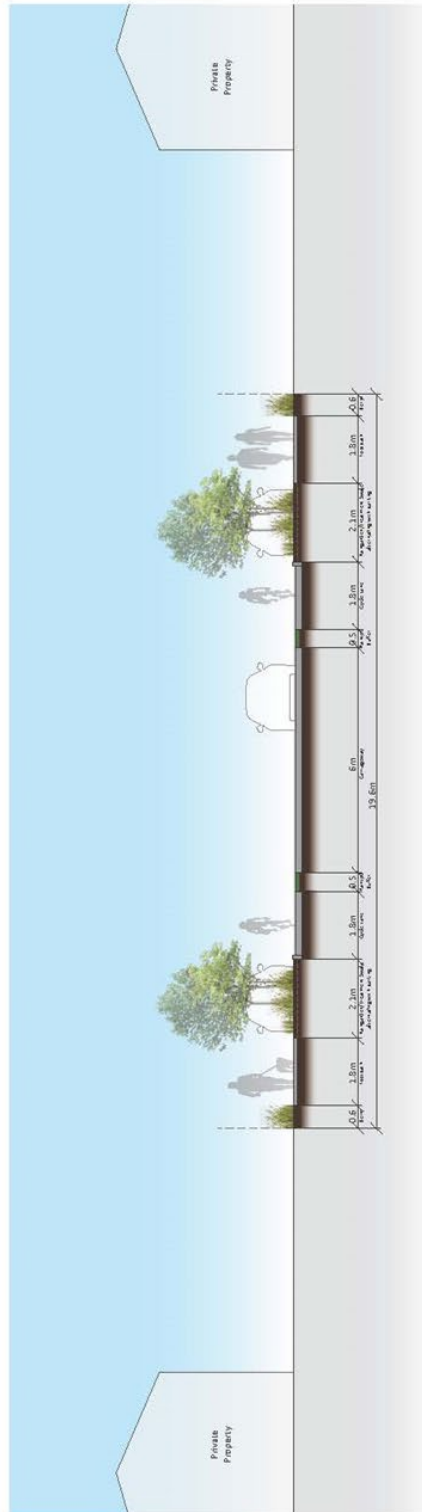
## Urban Connector

### B

**Notes:**

- Target operating speed 50km/h
- Cross-section and horizontal alignment to allow for bus routes and stops

Aokautere Structure Plan  
Street Cross Section  
7A.4D 2\*



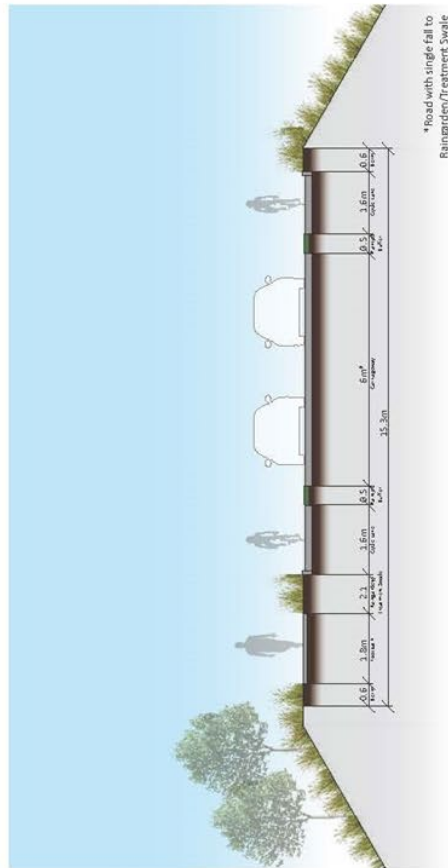
PALMERSTON NORTH

## Urban Connector

### C

**Notes:**

- Target operating speed 50km/h
- Cross-section and horizontal alignment to allow for bus routes and stops



Aokautere Structure Plan  
Street Cross Section  
7A.4D 3\*

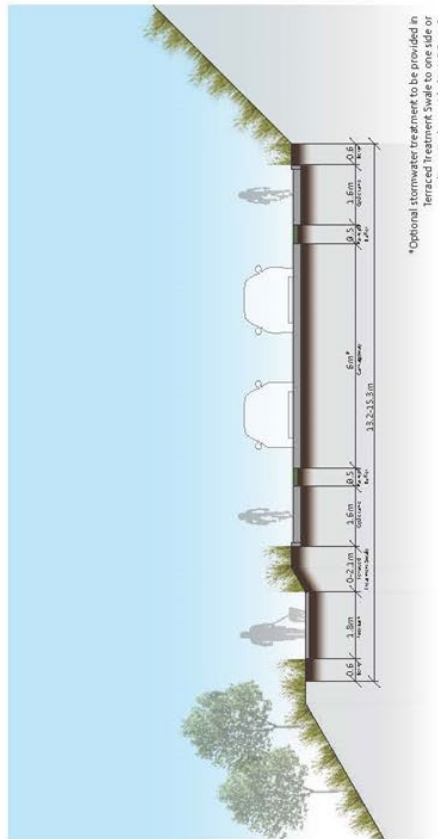
PALMERSTON NORTH

## Urban Connector

### D

**Notes:**

- Target operating speed 50km/h
- Cross-section and horizontal alignment to allow for bus routes and stops
- No stormwater to drain towards the gully edge



Aokautere Structure Plan  
Street Cross Section  
7A.4D 4\*

PALMERSTON NORTH

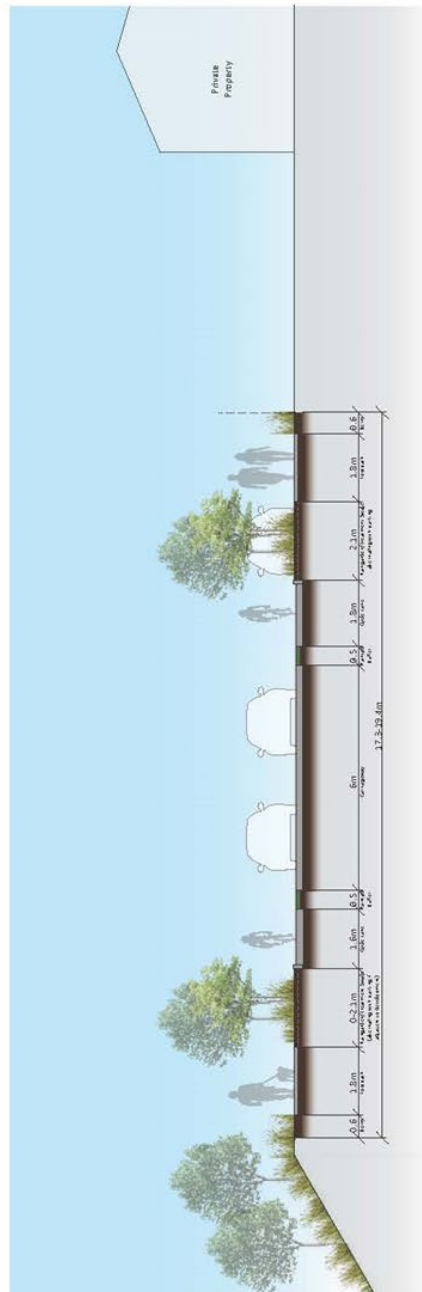
## Urban Connector

### E

**Notes:**

- Target operating speed 50km/h
- Cross-section and horizontal alignment to allow for bus routes and stops
- No stormwater to drain towards the gully edge

Aokautere Structure Plan  
Street Cross Section  
7A.4D 5\*



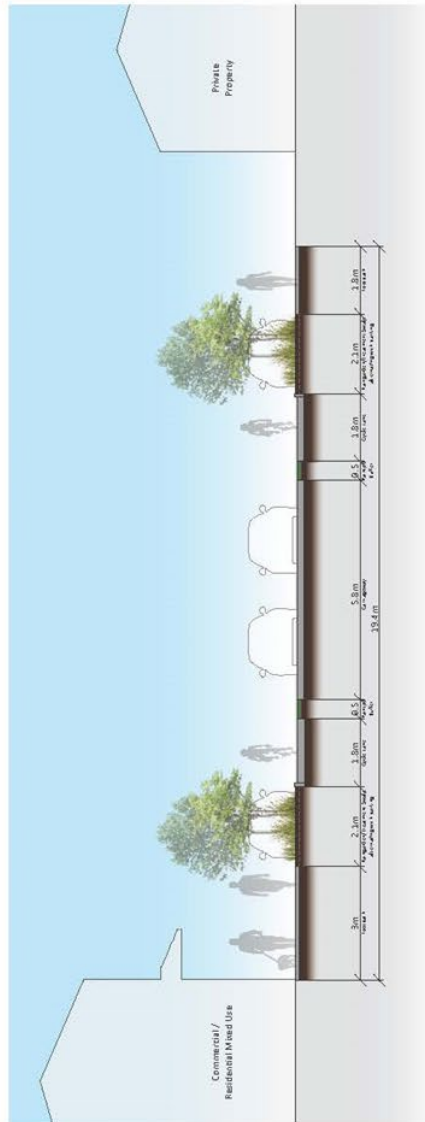
PALMERSTON NORTH

## Activity Street

### A

**Notes:**

- Target operating speed 30km/h
- Cross-section and horizontal alignment to allow for bus routes and stops



Aokautere Structure Plan  
Street Cross Section  
7A.4D 6\*

PALMERSTON NORTH

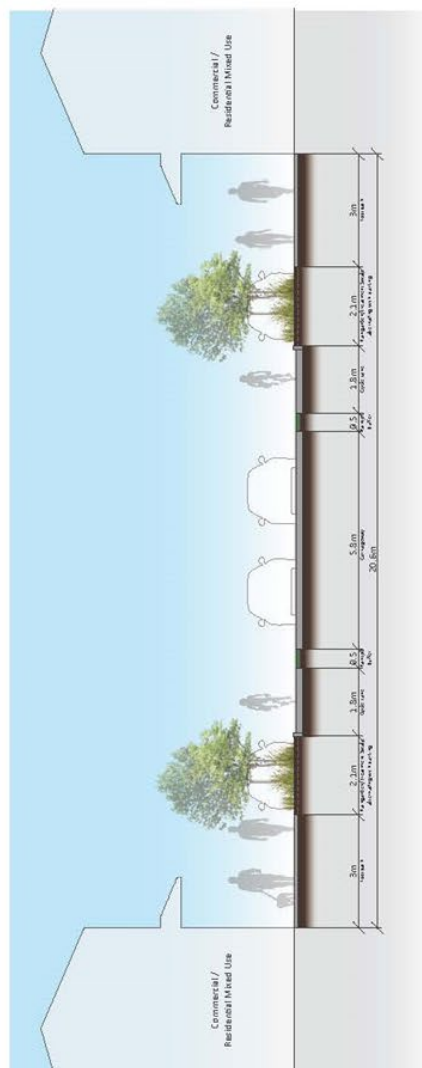


## Activity Street

### B

**Notes:**

- Target operating speed 30km/h
- Cross-section and horizontal alignment to allow for bus routes and stops



Aokautere Structure Plan  
Street Cross Section  
7A.4D 7\*

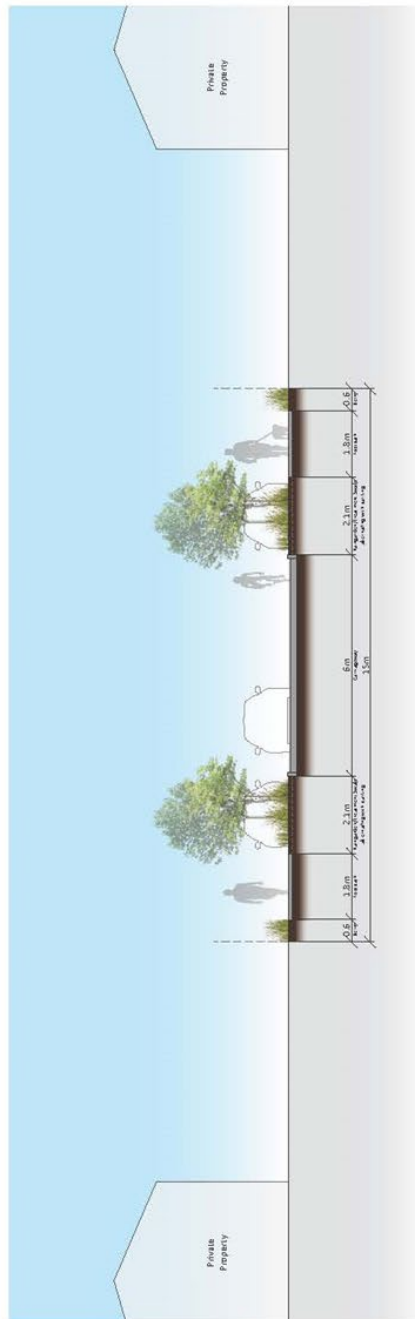
## Local Street

### A

**Notes:**

- Target operating speed 30km/h
- No stormwater to drain towards the gully edge

Aokautere Structure Plan  
Street Cross Section  
7A.4D 8\*



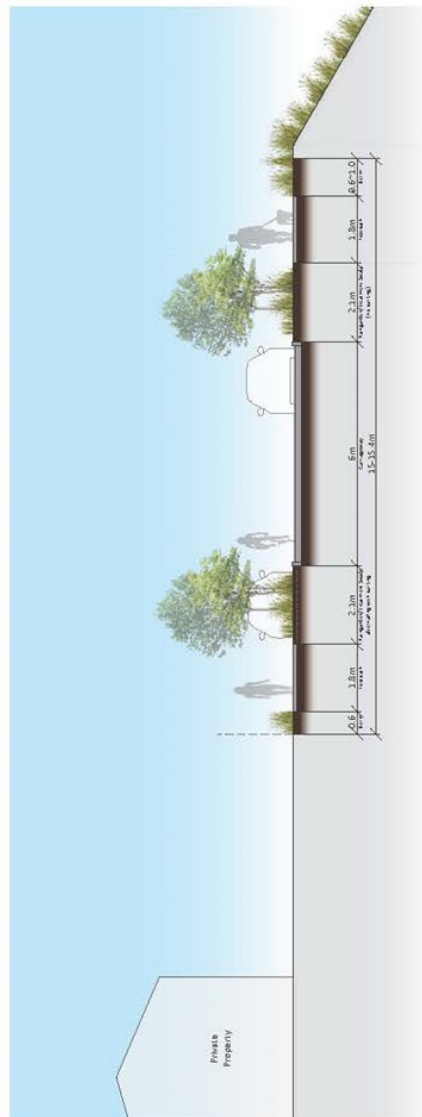
PALMERSTON NORTH

## Local Street

### B

**Notes:**

- Target operating speed 30km/h
- No stormwater to drain towards the gully edge



Aokautere Structure Plan  
Street Cross Section  
7A.4D 9\*

PALMERSTON NORTH

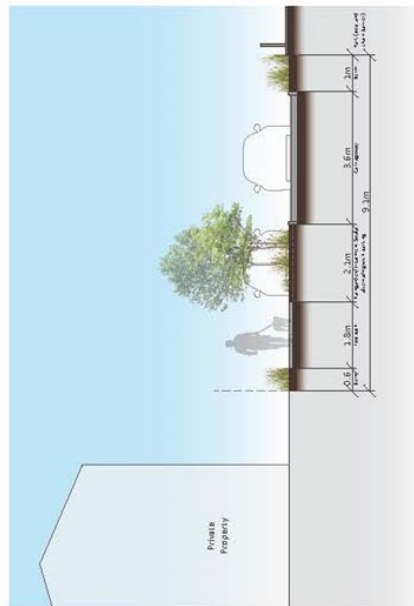


## Local Street (one-way)

### D

**Notes:**

- Target operating speed 10 to 20km/h



Aokautere Structure Plan  
Street Cross Section  
7A.4D 11\*

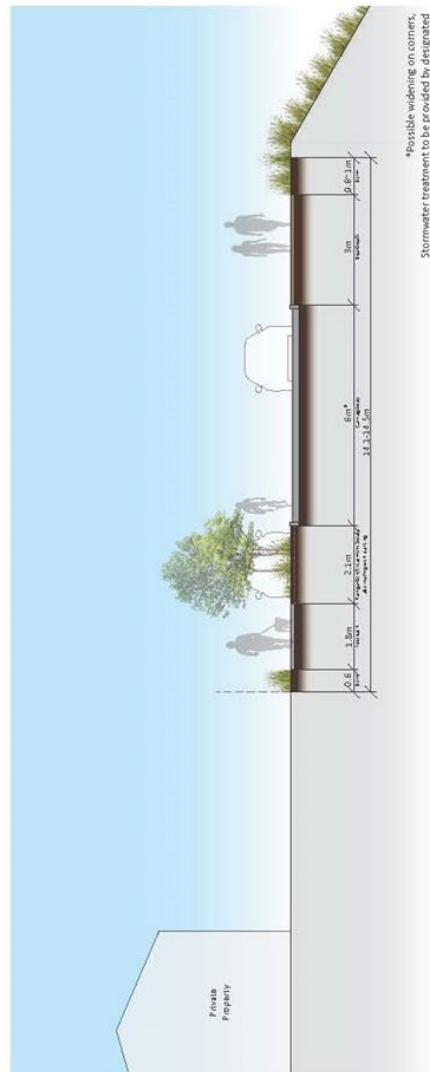
PALMERSTON NORTH

## Local Street

### E

**Notes:**

- Target operating speed 30km/h



\*Possible widening on corners.  
Stormwater treatment to be provided by designated  
Rainspreader/Treatment Swales and not within identified Wetland feature.

Aokautere Structure Plan  
Street Cross Section  
7A.4D 12\*

PALMERSTON NORTH



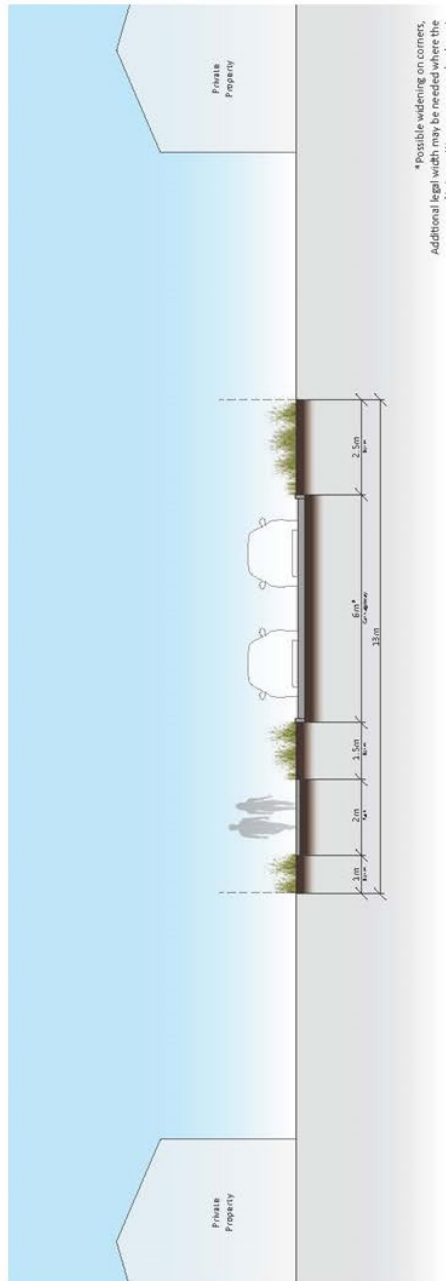
## Peri-Urban Road

### A

#### Notes:

- Target operating speed 50km/h

Aokautere Structure Plan  
Street Cross Section  
7A.4D 14\*



PALMERSTON NORTH