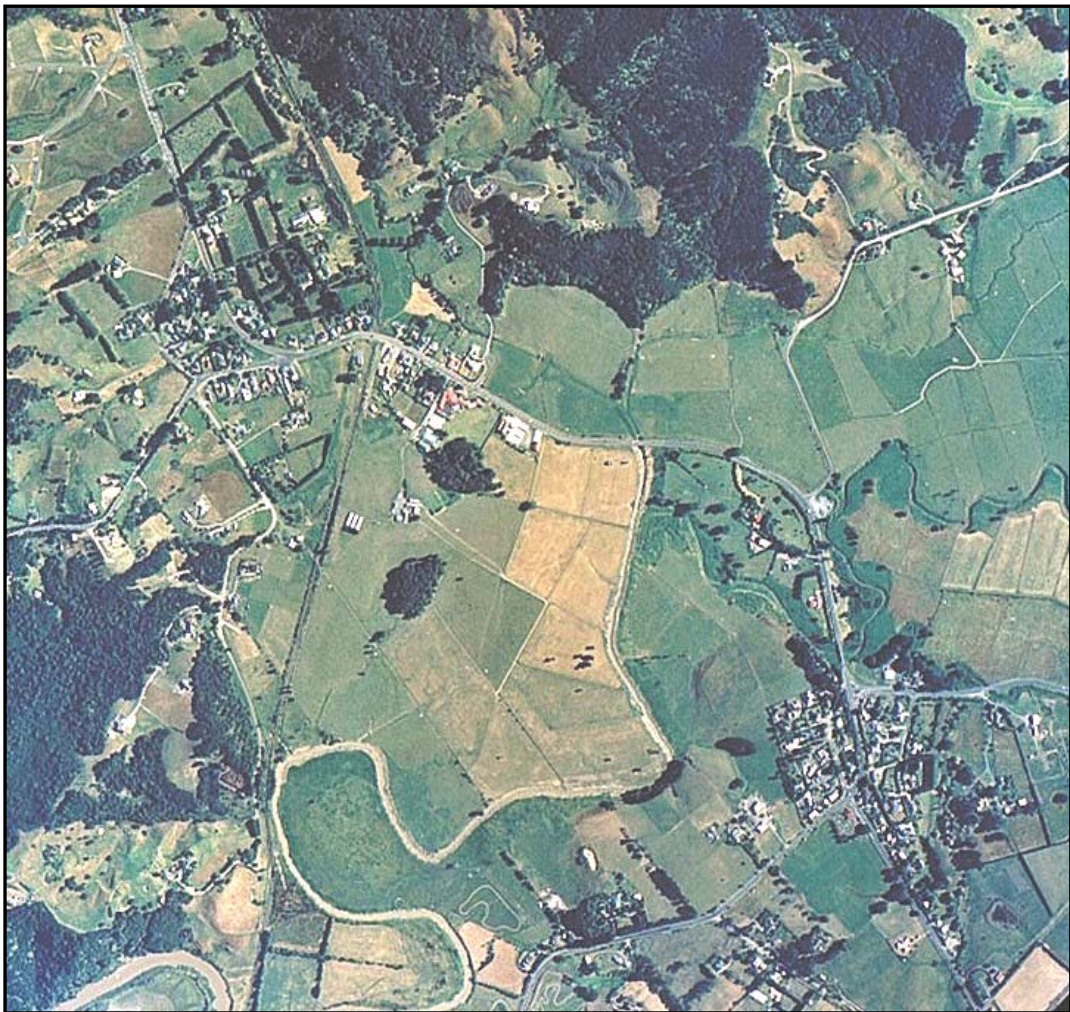


Kaukapakapa Structure Plan



Adopted September 2010

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Date September 2010

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1.0 INTRODUCTION AND TERMS OF REFERENCE

1.1 Introduction

The Kaukapakapa Structure Plan was initiated some five years ago as a community-based planning exercise.

The general aim of the Structure Plan was to assess the current state of the town, identify shortcomings and potentials, and envision and plan for development over the next 10-15 years in a comprehensive and integrated manner.

The planning was steered and coordinated by Rodney District Council (Council) and the Kaukapakapa Area Residents and Ratepayers Association (KARRA), with technical support by RDC-engaged consultants Resource Management Solutions (RMS).

By mid 2009, technical investigations were tabled as the RMS Part 1 Report and RDC and KARRA had outlined a preliminary broad land use plan. Following that, consultants Terra Nova Planning were engaged by Council to progress with the project and complete the Structure Plan.

It is against this background that the **Kaukapakapa Structure Plan** is formulated.

1.2 Purpose of the Structure Plan

The Structure Plan is generally aimed at the sustainable management of the natural and physical resources of the area, in accordance with community aspirations, and to the benefit of the local and wider District community.

In terms of the above, the more specific purpose is to provide an integrated physical development framework plan so as to minimize ad hoc decision-making and thereby avoid, remedy or mitigate the cumulative adverse environmental effects of growth and development. To achieve this, the Structure Plan needs to broadly:

- Outline a vision for the future growth and development of the area,
- Provide an overall spatial framework and indicative plan for the integration of the physical components of future land development (ie. land uses, roads, and engineering infrastructure).
- Serve as a strategic basis for pro-actively managing the effects of future development, and be a policy instrument against which to assess plan changes and for coordinating other policies, projects, budgets, and statutory obligations.

1.3 Legal Status of the Structure Plan

The Structure Plan is a non-statutory “ideas-based” document. As such, the proposals and provisions contained in the Structure Plan are indicative only, and are intended to guide future actions.

As the Structure Plan does not have a statutory status it is therefore unlike Council’s statutory documents (such as the Long Term Council Community Plan, Annual Plan, and District Plan). It therefore follows that the proposals and provisions of the Structure Plan are sometimes different to the District Plan.

In order for the Structure Plan's proposals to have a statutory status, they need to be translated into statutory Plans, and for this to take place, a prescribed statutory procedure and public participation provisions relating to the various statutory Plans will be followed. These procedures provide opportunity for further public input and amendments to the Structure Plan's proposals if required. Once this has occurred, certain provisions will be made operative and incorporated into the various statutory documents, whereafter they then become firm proposals with a statutory obligation for Council to implement.

The Structure Plan is principally a strategic policy document in that it examines the strategic alternative futures available for development in the study area. As such, it forms part of Council's broad Section 32 duties under the Resource Management Act for any future changes to its District Plan.

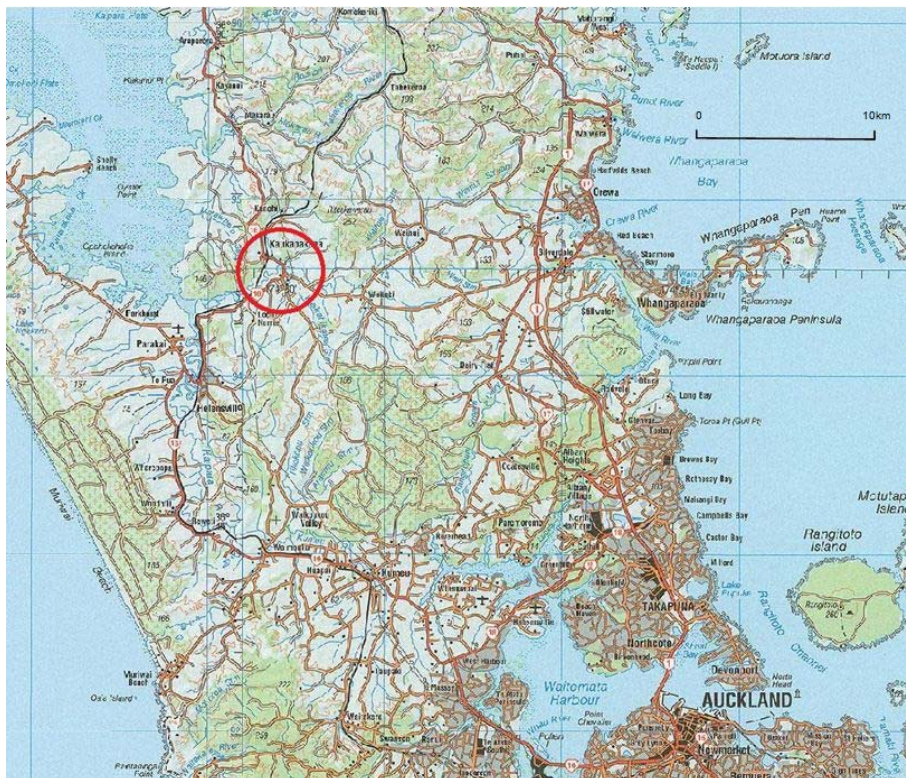
The formulation of the Structure Plan has also generally considered and observed the overarching policies, objectives, and guidelines of many higher order statutory plans, such as the Auckland Regional Policy Statement, Rodney District Plan and others.

1.4 Study Area

As shown in **Figure 1**, Kaukapakapa is located some 5km from the Kaipara Harbour in mid-west Rodney District, on State Highway 16 (a key north-south regional route), approximately 40km northwest of central Auckland, and some 10km to the northeast of Helensville.

The Hibiscus Coast, relatively easily accessible via Kahikatea Flat Road (a key east-west District arterial road) lies some 20km to the east, and Waitoki about 5km to the east.

Figure 1: Study area location



The study area (**Figure 2**, overleaf) is home to some 200 households and is generally characterized by:

- The wide Kaipara River floodplain, which is central to, and physically divides, the town of Kaukapakapa
- Two distinct settlement nodes, i.e. the northern and southern townships, roughly equal in size, respectively located on either side of the floodplain
- Commercial services and community facilities almost exclusively focused in the northern township
- A negligible amount of services and facilities in the southern township, apart from Sinclair Park, the town's main active recreation reserve
- An absence of public reticulated wet-services infrastructure networks, with an individual household self-reliance on water supply and wastewater disposal
- State Highway 16, which bisects both townships and provides the only road link between the two townships
- The regional rail line, which bisects the northern township in its centre
- A large consolidated area of lifestyle blocks located on the slopes to the immediate west of the northern township, and a more sporadic distribution of rural-residential lots to the east of the northern township and around the southern township.
- Larger pastoral farms, for the most occupying both the floodplain and the southern periphery
- A generally steeper, more bush-clad, and characteristically rural landscape surrounding and visually enclosing the northern township
- A more open-pastured and gently rolling hilly rural landscape surrounding the southern township

1.5 Project Approach and Methodology

The project methodology followed is summarized below.

The primary objective was to formulate and finalise the Structure Plan for the area.

In order to achieve this it was necessary to first review the Part 1 technical background information, identify information gaps and update the information base. This initial assessment included consultation with Councillors, Council staff, and KARRA, and identified the need for three additional new studies (i.e. population study, wastewater study, and transportation assessment), which were commissioned, and the incorporation of two available information studies (i.e. detailed flood line determination and retail demand assessment).

The process of consultation for the draft Structure Plan generally targeted information gathering and comment on planning proposals, determining that consultation was selective and generally with the majority of directly affected parties.

The next stage of the project process was to consider the development constraints, opportunities, and issues facing the area.



Figure 2: Study Area

Broad strategic development options were then identified, and assessed against more detailed preliminary land use modelling. This modelling process was continually refined and focussed (with economic, engineering and transportation inputs) to the point where the spatial development strategy and detailed land use planning proposals of the Structure Plan were defined.

Consistent with the theme of flexibility in this document, is the deliberate decision that the Structure Plan should not necessarily label the various land use areas under discussion as they are labelled in the current District Plan zones. For example, the term “lifestyle block” is used in the analysis to functionally describe a particular residential typology, whereas the term “rural-residential” is used in the proposals to denote the intended translation of a “lifestyle block” into the District Plan. Given the long term nature of the Structure Plan, this is aimed at ensuring that future changes to land use patterns and/or zonings are not restricted, and future district planning processes are not compromised.

1.6 Public Participation

Public participation is considered a vital aspect of the project and has been undertaken at various project stages throughout the course of the project. Discussions were held with:

- Internal Council departments and Councillors,
- External public agencies who play a role in the area’s development, including; Auckland Regional Council (ARC), New Zealand Transport Agency (NZTA), Ministry of Education (MoE), and Genesis Energy,
- Local organisations and forums, including; KARRA, Kaukapakapa Primary School, and Ngati Whatua Nga Rima O Kaipara,
- Numerous individual local landowners and/or developers,
- Broader public consultation on the technical studies and the draft Structure Plan was undertaken jointly with KARRA via a series of information open days.

During preparation of the draft Structure Plan, information from the numerous plans, correspondences, telephone discussions, and meetings with individuals and potentially affected parties, has been considered and incorporated into the planning process.

Full and formal consultation was undertaken by Council through the Structure Plan’s notification and hearing deliberation processes.

It is envisaged that having paid particular attention to the setting up of an interactive participatory process and ongoing consultation at relevant project stages, the Structure Plan will have the general support of public agencies and individuals and more importantly the community of Kaukapakapa.

1.7 Report Structure

The Structure Plan comprises **three separately bound documents**, which should be read in conjunction, being:

Part 1, generally a situation analysis, comprising studies of individual components of development, including:

- **Part 1a**; a separately bound report prepared by consultants RMS in August 2008, which contains a significant amount of base information, and
- **Part 1b**; a supplementary suite of studies undertaken after the RMS Part 1a document was prepared, and which includes both updated information and additional new studies identified as necessary for planning purposes.

The **Structure Plan** itself, inclusive of a summary of key development issues, a spatial development strategy, and detailed land use, road and infrastructure proposals.

The Part 1b supplementary information, noted above, includes the following specific additional studies, deemed necessary for planning purposes:

- Population Study
- Wastewater Engineering Study
- Integrated Transportation Assessment

The Structure Plan's report structure is thus:

Part 1a: Background Information report

Part 1b: Supplementary Background Information report

Structure Plan document, including:

Chapter 1: Introduction and Terms of Reference

Chapter 2: Situation Analysis; covering various sets of information and an overall assessment of the study area

Chapter 3: Development Strategy; outlining broad development objectives, strategic development options and a defined spatial development strategy

Chapter 4: Planning Proposals; including land use, engineering services, roads and other movement networks

2.0 SITUATION ANALYSIS

2.1 Introduction

Detailed studies on a comprehensive range of population, natural features, economic data, the built environment and infrastructure, etc, are included in Part 1a and Part 1b as background references. In order to avoid unnecessary repetition, this document generally accepts the Part 1 information as read, and in the section below, only summarizes this information insofar as is necessary to establish the implications for planning.

2.2 Summary situation

Kaukapakapa is a small rural town, which has historically developed in response to the locational accessibility afforded by the coincidence of river, rail and regional arterial roads.

Being highly accessible to the much larger nearby settlements of Helensville, the Hibiscus Coast, and Albany and Auckland further away, and with a small local population threshold, only a limited commercial and employment offering has established locally, and there is an external dependency for a more diverse range and higher order of such opportunities.

The study area has historically grown slowly, largely based on the desire for a rural residential lifestyle, and the town is currently largely dormitory residential in function, with commuting being common.

Physically, the town has established on both sides of the wide Kaukapakapa River floodplain, and comprises two separate, distinct and strongly interdependent settlement nodes, which are fairly small with about 50 residences in each.

The town has no public water and wastewater reticulation networks, with individual on-site wet-servicing throughout.

Almost all commercial and community activities are grouped in the north, and this node has more of a village character than the southern node, which apart from Sinclair Park, the town's main active recreation area, is almost exclusively residential.

State Highway 16 bisects both nodes and provides the only physical link across the River, thus simultaneously serving as a regional through route, the main local town access road, and as the street along which all the commercial and community facilities are located.

The regional rail line further bisects the northern village and crosses SH16 in the central village area, contributing to certain spatial restrictions and activity conflicts in this locus.

The northern village's centre lacks cohesion and the streetscape is generally drab, displaying collectively ill-defined intersections and edges, an absence of a walkway network, inadequate frontages, and effectively no street furniture.

Lifestyle blocks surround both nodes, and further afield rural farms occupy the balance of the Structure Plan area.

The open floodplain and the hilly and more afforested backdrop to the northern node are the town's key landscape identity features.

2.3 Population

As detailed in **Part 1b's Annexure 1**, the current (2009) population of the study area is about 588, which with an average household size of 3 persons, equates to some 196 households.

The distribution of households within the study area approximates:

Northern Township	51
Southern Township	41
Northern rural–residential and rural area	64
Southern rural–residential and rural area	40

From the above, the study area's population is relatively evenly spread between the northern and southern townships and their respective surrounds, with a slightly greater rural-residential population in the north (being the only area where a Countryside Living zone has been provided and the subdivision of rural-residential sites enabled as of right).

Over the past decade the population has grown by 153 persons, equating to a 35 % growth rate.

The following trends are worth noting:

- In the past 10 years growth has averaged around 5 households per annum, with the vast majority of this overall growth, approximately 76%, occurring to the north of the River.
- Growth in Lifestyle Block residency accounts for half (i.e. 51%) of the area's total growth, with the vast majority (i.e. 80%) of this particular residential growth having occurred north of the River.
- Some 43% of the area's growth is in Township Residential, with the vast majority (i.e. 81%) of this having occurred in the northern township.
- Growth in the Rural areas has been a nominal 6%, focussed exclusively south of the River.

Additionally, **Part 1b** study's socio-economic data shows that some 63% of residents have lived in the area for less than 5 years, 66% of employment is in the white collar sector, there is only a nominal amount (i.e. 1%) of income dependency on the State, and that there is a high degree of home ownership (i.e. 81%).

Planning implications:

Although annualised growth rates approximate those of the greater District, Kaukapakapa is a small settlement and relatively little land is needed for future residential development.

There is a trend toward lifestyle block residency rather than Township Residential, attributable to external demand vectors (e.g. counter-metropolitanisation) and to a lesser extent to local land supply factors (i.e. more recently the non-availability of Township Residential land).

Because of the above settlement demand dynamics, it is difficult to use a conventional population projection method as a basis for planning.

The small local population and likely small foreseeable future population determine that there will continue to be a small support threshold for local services and facilities.

2.4 Cultural History

The history and cultural heritage of the study area and its immediate surrounds is described in the **Part 1a's Sections 2.2 and 5.1** and **Part 1b's Annexure 3**. In summary:

Maori have a long association with the land and rivers of the wider Kaipara Harbour and Kaukapakapa River portages and there are numerous identified pre-European heritage sites in the vicinity. However, there are no such identified sites in the study area.

There are about twenty colonial-era heritage sites and buildings in the town, for the most identified in the Proposed District Plan, and also others considered to be of notable historical importance. Almost all of these heritage items are located on or close to SH16.

Planning Implications:

Although the heritage buildings/items of the town are protected, this status imposes no real limitations to the town's development.

There is scope to enhance and advantage this heritage semblance (i.e. both as a town-identity phenomena and through enhancement of the urban spaces around and between these buildings/items).

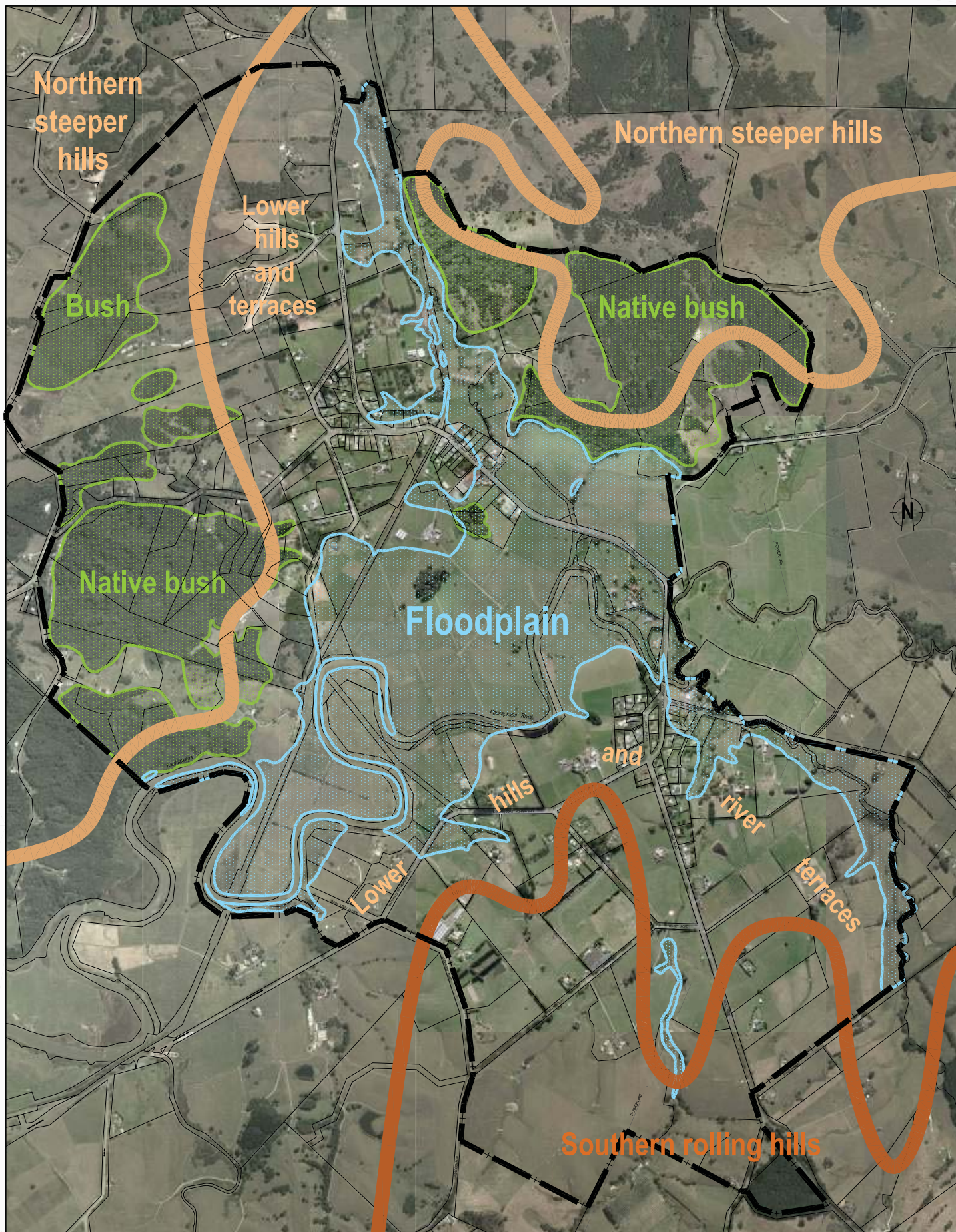
2.5 Natural Features

(a) Topography and Landscape:

Key ecological, topographic and landscape information is described in **Part 1a's Section 5**, and depicted in summary in **Figure 3** overleaf.

Key natural features include:

- the broad low-lying Kaukapakapa River alluvial floodplain, separating the two townships,
- steeper bush-clad hills surrounding the northern node to the north, which serves as an enclosing visual backdrop to the northern township, and is the township's principal landscape identity feature,
- a single large north-south orientated valley with a flood-prone valley floor, located to the immediate east of the northern township,
- raised alluvial terraces and gentler rolling hills to south of the floodplain, with numerous separate incised streams and gullies.



0 100m 250m 500m 1 km

It is noted that the northern township is generally lower-lying than the southern township in that:

- the northern township generally lies below the 10m contour and is located on the gently-sloping lowest alluvial terrace,
- the southern township generally lies above the 10m contour and is perched on top of a somewhat more elevated alluvial terrace.

Planning implications:

Mass building within the 1:100 year floodplain is not allowed, and the built fabric of the town will therefore always comprise two separate areas.

Retaining the backdrop landscape of the northern township dictates that mass bush-clearing and denser built development is not desirable in this area.

Being bounded by steep hills and the floodplain the northern township has relatively little land for urban expansion.

The southern township has land for urban expansion vastly in excess of even very long term requirements and to all intents and purposes the potential for township expansion is unlimited.

The differential hydrological drainage pattern between the northern and southern areas (discussed further in the text) is an important distinction for planning.

(b) Soils and Geotechnical:

The area's soils are depicted in **Part 1a's** Appendix and further described in **Part 1b's Annexure 3** and summarised below.

The estuarine flats and most of the alluvial plain comprises poorly-drained and flood-prone soils, unsuited to built development, as are localised steep edges interfacing the floodplain and terraces.

The alluvial terraces, lowlands and more elevated rolling hill country are moderate to well-drained, with poorly-drained clays occurring in association with the larger local drainage paths and streams.

Notwithstanding the variety of soil types found around the existing townships (the targeted areas of the Part 1b Wastewater study), insofar as wastewater disposal is concerned, these soils can, to all intents and purposes, be treated singularly.

For individual on-site wastewater servicing a minimum wastewater disposal field of 1,071m² (rounded to 1100m²) is required.

The cumulative effects of mass individually-wastewater-serviced residential sites is not desirable in that it is less unsustainable than other alternatives.

The alternative method of servicing by way of a communal wastewater system is sustainable, and as a ballpark standard, such a communal system would occupy in the order of 30% of a local residential subdivision area.

Planning implications:

In the absence of a reticulated public wastewater network and treatment facility, disposal to ground remains the only option, with sustainable mass township development on this basis being a key development limitation and planning informant.

Irrespective of the method of ground disposal of wastewater (i.e. individual site or communal treatment facility), based on the local soil capability, the land requirements for such disposal are onerous (i.e. between 30% and 50% of township land) and this affects lot sizes and the overall density of the built fabric.

(c) Hydrology:

The hydrology of the area is described in **Part 1a's Section 5**, and is depicted in **Figure 4**, and is summarized below.

The Kaukapakapa River floods extensively on an annual basis, regularly flooding parts of SH16 and reserves near the River, and also isolated low-lying township areas (mainly in the north).

The study area has numerous drainage catchments, all flowing to the floodplain, with local drainage achieved via many local gullies, small streams (some considerably modified) and drainage ditches.

A distinction is made between the respective drainage patterns north and south of the River, in that:

- Many of the streams of the northern steep hills drain to the large central north-south trending flat-bottomed and flood-prone valley located to the immediate east of the township.
- The streams of the southern area generally drain separately and more directly into the River over a long riverine frontage.

Many stream paths have been stripped of vegetation.

There is no Catchment Management Plan for the town.

Planning implications:

Mass built development cannot occur within the 1:100year floodline.

The nature and regularity of flooding determines that vital cross-River movement networks (e.g. road and potential walkway) are threatened and need to be appropriately designed.

Drainage through the northern township is at low grades and local ponding is common throughout, requiring a certain degree of engineered stormwater management.

Drainage through the southern township is more direct and generally channelled via more incised natural local valleys, with ponding not generally occurring on the raised alluvial terraces but rather on the floodplain.

Better protection and vegetation enhancement of stream courses and gullies is required.

Particular attention needs to be given to the stormwater impact of future township development.



(d) Vegetation:

Being a modified pastoral agricultural landscape, the study area has largely been cleared of natural bush and is mostly covered by exotic pasture. However, remnant areas of natural vegetation are found throughout, with a distinct difference between such occurrences found on either side of the River, in that:

- The vast majority of remnant bushed/ afforested areas are found to the north of the River, occurring in a few substantial contiguous blocks on steeper slopes, and also in smaller enclaves. The area of bush straddling Pinchgut Road is identified in the District Plan as a Moderate–High Significant Natural Area (SNA).
- The total extent of remnant natural bush to the south of the River is negligible and occurs in isolated and small copses, mainly associated with natural drainage paths.

Planning implications:

As much of the remaining natural vegetation as possible should be retained, and enhanced where possible, essentially to protect the water quality of the River and its tributaries, to maintain the diversity and integrity of broader ecological corridors, but also for human comfort reasons (wind, shade, landscape, etc.).

2.6 Land Use

The land use pattern of the study area is influenced by the two established separate settlement nodes, the topography and the desirability of a semi-rural lifestyle.

The land use pattern is broadly characterised as:

- Two separate township areas, located on either side of the River.
- Residential ribbon development along both sides of State Highway 16 in both settlements, but noticeably more so in the northern township.
- Lifestyle blocks, predominantly concentrated around the northern township, but also around the southern township, and farms of various sizes throughout the remainder of the study area.
- Almost all retail, commercial and community services and facilities located in the northern township.
- The main active recreation reserve, Sinclair Park, is located in the southern settlement.
- Key arterial and rail networks passing directly through the town, but more so with respect to the northern township.

Existing land uses are described in more detail below:

(a) Residential:

Township Residential:

There are some 80 developed township residential sites, of which very few are currently vacant, as tabled overleaf.

Table 1: Current Township Residential site distribution

Area	Developed* ¹	Vacant	Total
Northern township	44	2	46
Southern township	36	1	37
Total	80	3	83

*¹ These figures are slightly less than the related figures expressed in Section 2.3, which reflects that there is sometimes more than one dwelling/household per site.

*² Excluding the consented but undeveloped 51-site Peak Road development.

With respect to the above table it is noted that:

- The two vacant residential sites in the northern township are both large sites, being:
 - the 8,000m² central site located between the Hotel and the rail line (currently in Council ownership), and
 - a relatively recently zoned 1ha site on Downer Access Road.
- The residential site in the southern township is the overall 9.8 ha Peak Road site, held in two titles, consented for a 51-site Integrated Residential Development, and as yet undeveloped.

Take-up of Township Residential sites has averaged about 2 sites per year over the past decade. This is largely a reflection of the fact that to all intents and purposes there have effectively been no such residential sites available in the town for some time now.

Lifestyle Blocks:

Some 77 lifestyle blocks¹ are found throughout the study area with a particular concentration in the Countryside Living zone in the north-west of the study area, and the majority being more randomly distributed in the Rural zone around both the townships. The distribution of lifestyle blocks is shown in the table below.

Table 2: Current Lifestyle Block Distribution

Area		Developed
Countryside Living Zone		32
Rural Zone	North	21
	South	24
Total		77

¹ For purpose of the analysis sites measuring less than 5 ha are functionally categorised as a Lifestyle Block.

It is noted that there are some 41 currently vacant lifestyle blocks in the Countryside Living zone, generally a reflection of the more recent advent of, and development of, this zonal provision.

It is also noteworthy that the majority of developed Lifestyle Blocks occur in the Rural zone, generally reflecting the desire for such residential opportunities (i) prior to the introduction of the Countryside Living zone, and (ii) despite the current zonal allocation, especially with respect to lifestyle block establishment south of the River (where there is no Countryside Living zonal allocation).

The take up of lifestyle blocks has, over the past decade been greater than that of any other residential form. This is both a reflection of (i) the demand for such lifestyle opportunities, and (ii) the fact that there has effectively been no other form of residential opportunity available.

Rural:

Some 27 developed rural properties occupy the rest of the study area, distributed roughly equally each side of the River, with the majority of these being small scale farming units, and there being only a handful of larger farms. In addition, there are currently 8 undeveloped rural properties.

(b) Commercial:

There is a relatively limited amount of local retail and service activity, affording only a basic and essential offering of convenience-type activities, with a dependency on Helensville, Orewa, and Albany and Auckland further afield, for higher order functions and services.

The main concentration of retail and service activities are concentrated in the northern township and on the southern side of SH16, and include the Kaukapakapa Hotel, a mini-mart, veterinary service, liquor store, real estate office, hair salon, tyre shop, and an auto service facility slightly further to the north.

The former petrol station has recently closed down and that building now houses several of the above shops/offices/services.

The existing commercial area comprises buildings which are generally of a low material standard and for the most comprises converted buildings with building forms which are not conducive and optimum to the creation of a modern commercial area. The buildings are also arranged in a manner such that it would be difficult to retro-fit a comprehensive plan around these buildings, and still achieve a Centre with a high quality environmental outcome.

Commercial growth has also been very limited and in the past decade has seen the addition of only a handful of small-footprint shops and service activities within the northern village.

As there is no business zoned land in the study area these activities currently occur on residentially-zoned land, or in the case of the auto service, in the Rural zone.

There are no retail activities in the southern township, which only has a real estate office and "home-kill" service (in the Residential zone) and landscaping and cartage businesses (in the Rural zone).

The **Part 1b** study shows the small size of the local threshold catchment population and also shows that the sustainable demand for commercial activities in the town is exceedingly small, at about 678m² Retail GFA and about 204m² other Commercial Services GFA, by 2021.

The existing commercial area is not large enough to accommodate GFA projections for the Structure Plan's horizon, and additional commercial land needs to be identified. The vacant site between the Hotel and the rail line presents the best available opportunity for extending the commercial area.

(c) Social and Community Services and Facilities

Almost all social and community services are concentrated in the central northern township, alongside SH16.

A primary school and pre-school are the principal community facilities and are located adjacent to the Council reserve, at the southern edge of the northern township.

The Primary School has functionally extended beyond the limits of its site, with the use of the adjacent public Community Hall as a school assembly hall, and negotiations currently underway to utilise the adjacent public reserve as a school playing field. This situation will be exacerbated by the imminent construction of six additional classrooms on the property, and also by the proposed development of a school gymnasium on the school property.

The school also suffers from an insufficient on-site parking provision and drop-off area, poor site access and internal site circulation conditions, and a somewhat sub-optimum (re capacity and safety) bus staging area.

Despite the above situation, the MoE has no planned additional land acquisition to alleviate the situation.

There are two community areas used for multiple active recreation and community support activities, namely the Community Hall and Sinclair Park, with:

- the Hall utilised for Scouts, badminton, tae kwando, after-school care groups, and community meetings, and
- Sinclair Park utilised for rugby, cricket, netball, tennis and equestrian activities, and also includes a small play centre.

Other facilities in the area include:

- Fire Station, adjacent to the Community Hall,
- a handful of churches (eg St Cuthbert's Presbyterian Church and the South Kaipara Co-operating Parish (which includes a small cemetery),
- Bowling Club, located at the rear of the School,
- "Yoga Barn".

There is a small cemetery, located on an 800m² site adjoining Shanks Road.

The Kakanui and Araparera maraes (both outside of the study area) provide a focal point for local iwi, and include a kohanga reo, an urupa (which is almost at capacity), and other facilities.

There are no medical facilities in the study area.

In summary, the area has a relatively wide and comprehensive range of social and community facilities, which apart from the School's spatial requirement situation, is commensurate with the current needs of the local population.

(d) Open Space and Recreation:

Active and passive recreation areas include four zoned open space areas and a number of esplanade reserve areas along the Kaukapakapa River banks (which have been vested over time through subdivisions). These reserve areas are located:

- at the southern end of the northern township, and includes the Fire Station, Kaukapakapa Hall and associated parking, with the balance area comprising (approximately equally) of a stand of native bush and a grassed playing field,
- to the east of SH16 and to the north of Kahikatea Flat Road and the northern township, being a riparian-vegetated vehicle rest area, which includes a boat ramp,
- Sinclair Park to the immediate southwest of the southern township, comprising asphalt netball/tennis courts and associated buildings, rugby fields and the balance area used for equestrian activities,
- at the southernmost extremity of the study area (on the corner of Shanks and Peak Roads), an area fully covered in trees.

Passive recreation is generally well catered for in the area given the size of the population and the general openness of the landscape.

Key issues are that the active reserves are not centrally located to the population (a function of the town's dual township situation) and the fact that there is no formed access to the reserves from the residential areas or between the reserves (i.e. no walkways and/or reserve connections). This requires residents to utilise the road network (including SH16) for both vehicular and pedestrian access.

(e) Agriculture

Commercial agriculture in the study area is limited to a few larger pastoral farms. Most of the evident smaller farms serve as lifestyle blocks (albeit with small-scale farming) and some offer rural service orientated activities such as truck depots, storage and/or cartage, and landscaping supplies.

There are no intensive agricultural activities in the study area.

2.7 Zoning

Current District Plan zonings in the study area are depicted in Part **1a's Section 4** and described below.

Residential:

There are three applicable residential zones, namely:

- **Residential M (Medium Intensity) Zone, Township Policy Area:**

This zone generally enables conventional urban township subdivision, with a minimum lot size of 800m² where the site is served by a reticulated wastewater system. In the instance of the study area, with no reticulated public wastewater system is available, a 1500m² minimum site size applies.

It is noted that numerous older sites measure less than 1500m² despite the zone's minimum site size requirement.

The Residential M zoned land is distributed approximately equally between each of the two townships.

The undeveloped capacity of the Residential zone is limited to the three vacant sites mentioned previously, and under current zone provisions these could yield a total of about 28 x 1,500m² sites, being approximately:

- 6 on the 1ha Downer Access Road site,
- 5 on the 8,000m² site next the Hotel, and
- 17 on that 3.2 ha part of the Peak Road site which is currently zoned for residential use.

- **Countryside Living Town Zone:**

Subdivision of lifestyle blocks, with a minimum lot size of between 1 and 1.5 hectares, and a variable specified minimum average site size (depending on the parent lot site size at the time of subdivision) is enabled under the District Plan.

Land in this zone is almost fully subdivided, and there is currently scope to subdivide only an estimated approximately 10 additional lots in this zone.

- **General Rural Zone:**

This zone's current minimum lot size is 120 ha. However, additional subdivision of sites to a minimum of 1–2 ha may be enabled in tandem with the protection of a natural feature or the enhancement of native bush or the vesting of reserve land. Many sites have been created under such provisions, and there is a limited potential for further subdivision on this basis.

Business:

There is no business zoned land in the study area, with all business activities established on land that is currently zoned either Residential (the majority of cases) or General Rural.

Open Space:

There are three open space zones, being; Conservation (Open Space 1), Passive and Informal (Open Space 2), and Multi-use and Community (Open Space 4). These zones apply to all reserves (which are owned and managed by Council).

Designations and Schedules:

There are four individual sites which have been identified in the District Plan for specific uses (such as a school, or for transportation) by way of site-specific Designations.

There are also numerous Scheduled Activities relating to individual sites.

Applicable District Plan Designations and Scheduled Activities are detailed in the **Part 1b** report.

Planning implications:

There is a need to introduce additional township residential zoning to cater for any such future demand. Site sizes in this zone should be set to reflect the rural nature of the town, in response to community aspirations, and also in consideration of on-site wastewater disposal requirements.

Whilst there appears to be sufficient zoned land to the north of the River to cater for further lifestyle block demand in the planning horizon, there is no available zoned land for such residential opportunities to the south of the River. If the current evidential situation of ad hoc out-of-zone lifestyle block establishment is to be avoided, a Countryside Living zone should be introduced to the south of the River.

There is a need for a business-type zone to be introduced, to both cater for either existing business activities and/or for potential new businesses, and to institute an appropriate level of development control on such establishments through zone provisions.

2.8 Engineering Services Infrastructure

The following descriptions of components of engineering services are referenced to details contained in the **Part 1b** report, insofar as wastewater and stormwater are concerned.

Water supply:

There is no reticulated public water supply network within the study area, and all sites are served by individual on-site water supply systems (ie either roof catchment or bore).

Wastewater:

There is no reticulated public wastewater network in the study area, and all sites are serviced by way of individual on-site septic tanks and/or the occasional larger disposal field.

Whilst Council currently does not have any plans to provide Kaukapakapa with a reticulated wastewater system in the near future, there is the potential to construct such a scheme in the very long term. There are a few options for this scheme, generally including either (i) a stand-alone scheme for the town, or (ii) a scheme utilising the Helensville Treatment Plant. Either of these options could also include linkage to the Genesis Power Plant's treatment facility, if and when it is established.

The wastewater servicing options available within the Structure Plan planning horizon can therefore only be based on ground disposal, either individual on-site disposal or communal disposal plant(s).

Based on experience of existing private communal plants in other parts of the District (relating to a general failure of management and maintenance responsibilities), Council currently does not fully support the use of such private communal package plants for residential subdivisions. However, retail/commercial developments are an exception to this under certain circumstances.

The ARC and the District Plan sets a minimum sites size of 1.500m² for residential sites not served by reticulated wastewater. However, the **Part 1b** report indicates that approximately 1100m² is required for an individual residential on-site disposal field and with an allowance for other on-site activities, the 1,500m² site size is considered insufficient. The report recommends a minimum residential site size in such instances to be in the order of a minimum of 1,800m² - 2,000m².

Additionally, the ARC has concerns that mass residential development with on-site individual wastewater disposal is not sustainable and that appropriate strategic planning for large scale residential development should look towards other methods of wastewater disposal. As an order of magnitude the ARC considers that up to 10 residential sites with on-site disposal is an acceptable upper limit.

Planning Implications:

Within the planning horizon residential development will need to be designed on the basis of providing for either individual on-site wastewater disposal or based on communal disposal systems. Both of these options are available, subject to the scale of residential development envisaged.

Over and above the setting of an appropriate site size for individual on-site disposal (a minimum of say 2,000m²) consideration should also be given to the longer-term possibility of a reticulated network being instituted, and the associated potential for denser subdivision of these sites at a future date.

With regard to commercial development an allowance for an on-site disposal field mitigates against the creation of a compact and user-friendly environment. Therefore, communal disposal systems appear to be a requirement in such instances.

Due to the potential impact of flooding (especially in the northern township), any communal wastewater disposal plant will need to be located above the 1:10 year floodline.

As these lower lying areas are also likely to be the location of off-line stormwater ponds for residential development, it is important that such stormwater ponds and any communal disposal plant are separated and that planning of these engineering services components is integrated.

Stormwater:

There is no Stormwater Catchment Management Plan for Kaukapakapa.

As described in the previous section on Hydrology, local ponding regularly occurs in the townships (especially the northern township). More stringent stormwater management of township areas is thus required.

In terms of the ARC's policies, stormwater ponds need to be off-line and in this regard the Part 1b report indicates that approximately 5% of a residential area's land should be allocated for such ponds.

Additionally, the use of natural drainage paths within the townships needs to be optimised, and this requires the protection and enhancement of these paths (by limiting their modification and by way of riparian planting).

Planning Implications:

From a management perspective, it is important that residential developments do not perpetuate a plethora of stormwater ponds and it is therefore important that the design of individual residential areas target a minimum number, if not a single, stormwater pond for each of these areas.

Protection and enhancement of natural drainage paths needs to be rigorously promoted.

The design of stormwater ponds for any residential area should consider the need to separate stormwater and wastewater disposal areas or alternatively be based on a comprehensive design which incorporates both of these aspects.

Electricity:

The area is supplied with power from the national grid and high voltage transmission lines run through the eastern sector of the study area.

Power supplies traditionally follow development, and this situation will continue to prevail in the study area.

Planning Implications:

Denser township development should not be located within close proximity to the high voltage transmission lines.

Gas:

The regional gas line is located just outside of the study area to the east. Reticulated gas supplies are therefore potentially available to the study area, but would be relatively costly to construct without a critical demand mass.

Telecommunications:

Telecommunication services traditionally follow development and demand, and in this respect the area is well catered for. There is no urgent need to allocate significant additional land for automatic exchanges in the study area.

2.9 Transportation

Road:

Transportation aspects are described in detail in the **Part 1b** report and are summarised below.

SH16 is the alternative north-south route to the main national State Highway 1 (SH1), and is used as such during peak traffic times and emergency closures of SH1. The increased level of regional north-south traffic dictates that SH16 traffic volumes will also increase in the future.

SH16 bisects both the northern and southern township areas and thus simultaneously serves as a regional through road, as the only cross-River link and main town connector road, and as a local mainstreet in the northern township along which almost all services and facilities are located.

Key District arterial roads provide sub-regional access to the town and intersect with SH16 at a point in the southern township.

Many local township roads and individual residential driveways intersect with SH16.

Frontage on SH16, especially that of the northern township's central area is ill-defined with an almost total absence of adequate edge treatment and pavements.

From the above, the pervasive general roading issue in the town stems from the highly differential level of road functioning and the resulting side friction and activity conflict between SH16 and local road intersections and land uses (particularly in the central northern township).

Importantly, in the northern township, non-residential activities have not yet established on the eastern side of SH16, which would serve to exacerbate the strip development activity conflict in this road sector.

Despite the fact that the standard and grades of SH16 is adequate to cater for current and future projected regional traffic, and that speed limits are imposed through certain parts of the town, side friction and activity conflicts (especially in the central northern township) remain a concern.

An added complication in the northern township is the existence of the regional rail line which crosses SH16 in the township's central area. This particularly affects accesses to and from any large composite development sites, especially the existing commercial area and any other extension of the commercial area in the immediate vicinity.

The existing road network gives rise to the following **planning implications**:

Future planning should avoid direct individual site accesses on to SH16 where ever possible, and rather provide access by way of well-defined controlled intersections.

Adequate edge and frontage treatment on SH16 is required, especially in the central northern township.

In order to reduce the sole reliance on SH16 as the only conduit for day-to-day movement between the two townships, a dedicated cross-River pedestrian/cycle/bridle path needs to be provided.

Land use planning needs to contribute to reducing side friction on SH16, which requires better consideration of site accesses, parking areas, building frontages and urban landscaping, especially insofar as the northern township's composite commercial and community nodes are concerned

Rail:

The North Auckland Rail Line passes through Kaukapakapa, traversing the northern township and intersecting with SH16 in the central northern township.

The level of regional through traffic on this line is currently extremely low (i.e. a few train movements a day) and without significant upgrading of the entire line is unlikely to have significantly increased traffic volumes in the future.

Given the size of the town, even with optimistic future growth, a commuter rail service cannot be supported. Therefore notions of a commuter rail station in Kaukapakapa are highly unrealistic, and should be disregarded in the Structure Plan.

The rail line effectively physically partitions the northern township and imposes limitations on built and roading development in this central locality.

Planning Implications:

The rail line will remain as currently located, and this dictates limitations to roading and land use planning and interfaces with the line.

Pedestrian:

Given the requirement for day-to-day movement between the two townships, and between residential areas and key non-residential activity nodes within the townships, there is almost sole reliance on roads (principally SH16) for such movements.

The current overall pedestrian network is sporadically developed, unconnected, and significantly inadequate. In the absence of a well-functioning pedestrian network, there is a reliance on the few existing roadside pavements for pedestrian movement.

Planning Implications:

An integrated and extensive walkway/cycle way/bridle path network linking across the River and to Sinclair Park and the northern township's commercial and community activity core needs to be introduced.

2.10 Key Development Issues

It is important to outline the key development issues facing the town because these parameters provide the context for appropriate planning intervention and against which proposals should be assessed.

The key development issues facing the town are summarized and grouped by general subject for convenience below, noting that they are not tabled according to any priority.

Externally driven growth and development impetus:

The local residential growth rate has historically been relatively low and in the more recent past, and increasingly with the progress of time, is driven by external land demand factors of the Auckland metropolitan region. This situation is unlikely to change in the foreseeable future.

Being externally driven, the rate of residential demand is cyclical and expressed differently over time, and cannot be accurately forecast by traditional growth projection methods.

Given the town's proximity and high level of regional accessibility to much larger urban areas, and small local catchment thresholds, commuting to external employment and service opportunities (and hence the current dormitory residential and commuter-based nature of the local lifestyle) will continue to prevail.

Natural features:

The wide floodplain will always serve to divide the town into two distinct township areas and result in limited cross-River intra-town linkages.

Lying between the floodplain and steep surrounding hills, the northern township has relatively limited land available for township expansion.

The steep hills which surround and enclose the northern township to the north and west are an important visual landscape identity feature, which is threatened by Countryside Living sprawl.

The rolling hill and more open topography of the southern township determine that there is considerable land available for township expansion in the south, vastly in excess of reasonable projected requirements.

The soils of the river terraces and lower hills have limitations with regard to their ability to sustainably absorb wastewater and therefore relatively large disposal fields are required for ground disposal based methods.

Land modification through vegetation removal, earthworks filling, and engineered channeling of local stream paths and gullies, especially in the townships areas, has reduced the ability of these drainage paths to function optimally as key natural elements of overall stormwater management system.

The above requires that natural drainage paths need to be better protected and enhanced, and that off-line stormwater management devices are also required to augment the overall township stormwater drainage system.

Land use patterning and planning:

Being separated by the River and floodplain, the town cannot physically integrate as a single township and the bi-nodal form of the town will thus continue to prevail.

Various key town functions (e.g. Sinclair Park, and commercial and community activity nodes) are located on either side of the River. Day-to-day functioning of the town requires cross-River movement between these key nodes.

Almost all commercial and community activity is located in the northern township requiring residents south of the River to travel for such services.

There is no zoned commercial land, thereby severely reducing the ability to establish commercial development on a co-coordinated and integrated basis, and in association with other urban design elements vital to the commercial areas successful performance.

There have effectively been no township residential lots available for development for some time in either of the townships, and local residential demand has spilled over into larger lifestyle blocks.

Because no Countryside Living is formally provided for in the southern township, rural land immediately surrounding the township has been subdivided into lifestyle blocks on an ad hoc basis.

From the above it is apparent that residential demand is not being satisfied by an equivalent release of land for development, resulting in ad hoc residential development and/or growth restrictions.

The poor access and extended usage requirements of the School, coupled with the MoE's current policy to not acquire additional land to alleviate this situation, dictates that innovative methods are required to improve this situation.

Urban Design:

The town does not have a high quality public realm and the poor built environmental quality is particularly evident in the central northern township.

The town lacks a high quality and singularly identifiable central focus.

The potential to establish an integrated and high quality commercial centre at the location of the existing commercial area is limited by the current size of the area and the form and arrangement of buildings.

The SH16-local activity conflicts in the northern township need resolution, which requires appropriate local road edge treatment and better building frontage considerations.

The fine-grained urban design features are poor, especially in the northern township's central sector, and aspects such as urban landscaping and street furniture require attention.

Non-residential development has not yet spread to the east of SH16 in the northern township, and this positive attribute should be rigorously maintained in order to prevent denser levels of activity and linear strip development along this road sector, thereby aggravating current movement and land use activity conflict.

Service Infrastructure:

There is no apparent possibility of establishing a reticulated public water supply network and domestic water supplies will continue to rely on private water harvesting.

Although there is the possibility of establishing a fully reticulated township wastewater network in the much longer term, this system is not guaranteed and cannot be relied upon within the planning horizon of the Structure Plan. Therefore all wastewater treatment will continue to rely on private individual or communal on-site disposal methods.

As there is a direct spatial relationship between on-site wastewater disposal and township residential densities, wastewater disposal is a critical issue with respect to the built environment.

Transportation:

SH16 will continue to be the only effective cross-River road link, dictating that with increased regional through traffic and increased intra-town day-to-day movement, activity conflict on this road will exacerbate.

There is an insufficient threshold for the establishment of a commuter rail service and station.

The intersection of SH16 and the rail line will continue to limit road intersections and built fabric development in the central sector of the northern township.

There are numerous movement hierarchy conflicts throughout, including amongst others, poor local road intersections with SH16, multiple residential driveways accessing directly on SH16, and poorly defined road edges and roadside use areas.

The interface of SH16 and the northern township's commercial node, (and equally, of any additional commercial land in the vicinity), requires special consideration with respect to achieving traffic and pedestrian safety.

The overall walkway network functions poorly in that it is sporadically developed and largely unconnected to key use areas of the town.

There is a notable absence of provision for other non-motorized transportation modes (e.g. cycles, horses) within the embryonic walkway network.

3.0 DEVELOPMENT STRATEGY

3.1 Overall Strategy

The development strategy for Kaukapakapa is translated and applies at different levels, namely; at the regional, town and local area/neighborhood scales.

At the primary **regional and district scale**, the overarching settlement strategy is to retain the current character and general profile of Kaukapakapa as small rural service town, serving a limited rural hinterland and regional through traffic.

The acceptance of this “settlement positioning” determines that the town will remain generally low profile in terms of the provision of employment opportunities, services and facilities, and will likely offer only essential and basic opportunities.

A corollary of the above is that commuting to larger external urban employment, service, facility and activity nodes such as Helensville, the Hibiscus Coast and Auckland, will continue for all but domestic and basic lifestyle functions.

At the **town scale** the key strategic development imperatives are:

- Given that built fabric of the northern and southern nodes cannot physically join, and that different town functions and activities will continue to be distributed to both nodes, enhancing movement linkages across the floodplain is a key focus.
- The recognition that there is a demand for a range of residential opportunities in each of the two township areas requires that both Township Residential and Lifestyle Blocks need to be provided for in each of the northern and southern nodes, respectively.
- Consolidating the built environment of each of the two nodes and the creation of a strong urban edge around these townships by using natural features as edges as far as possible.
- Concentrate commercial activities in a composite and identifiable core area, which will serve as the “Village Centre” of the town.
- Formalise the existing commercial area, albeit through redevelopment of the area on a comprehensive plan basis, and allow for additional commercial land on the vacant site next to the Hotel.
- Improve the performance of the northern township’s central area through appropriate edge treatment and urban design.
- Avoiding further conflicts with SH16 by minimising the introduction of new road intersections with the Highway.
- Continuing the reliance on individual site-based water supply harvesting.
- Providing options with respect to on-site wastewater disposal.

3.2 Broad Spatial Development Options

The following are the main spatial development options with respect to Kaukapakapa.

Option 1: Concentrate development only in and around the northern township.

The **positive** aspects of this option are:

- Consolidation of the northern township's built fabric.
- Concentrated and maximised local non-residential activity thresholds.
- Lifestyle block demand will be focused on and catered for in currently vacant Countryside Living lots and additional in-zone capacity.

The **disbenefits** of this option are:

- Development demand in the southern township will be unsatisfied, with pressure for both township residential lots and lifestyle blocks south of the River likely to arise and dealt with on an ad hoc basis and outside of an overall strategic approach.
- Consequential missed opportunities, such as confirming local roads and an integrated walkway network in the southern node.
- The remaining need to provide improved linkages between the northern and southern nodes.

Option 2: Concentrate development only in and around the southern township.

The **positive** aspects of this option are:

- Consolidation of the southern township's built fabric.
- Lifestyle block demand will be catered for in existing vacant Countryside Living lots and additional in-zone capacity in the north, and in the south (with new planned Countryside Living areas).

The **disbenefits** of this option are:

- Development demand in the northern township will be unsatisfied, with pressure for Township Residential lots north of the River likely to arise and be dealt with outside of an overall strategic approach.
- Consequential missed opportunities, such as confirming local roads and an integrated walkway network in the northern node.
- With the option of planning the town's commercial area, a new central area in the south, the loss of the opportunity to consolidate the northern township central area and the dissipation of agglomeration opportunities in the current embryonic northern node.

Option 3: Development in both the north and south.

The **positive** aspects of this option are:

- Consolidation of the northern township's built fabric.
- The avoidance of the need to create a second central node in the southern township.
- Concentrated and maximised local non-residential activity thresholds in the northern township.
- Lifestyle block demand will be catered for in currently vacant Countryside Living lots to the north of the River and in additional lifestyle block areas to be introduced into the southern area.
- The remaining need to introduce improved linkages between the two townships, in any event required for the above-mentioned two Options.

There are no apparent **disbenefits** associated with this option, and this overall strategic option is therefore adopted for purposes of proceeding further with the Structure Plan.

3.3 Proposed Spatial Development Strategy

Following on from the above, the proposed spatial development strategy for the town is depicted in **Figure 5**, with the key components described below.

Avoiding any mass built development within the 1:100 year flood line.

Protecting the valuable visual landscape backdrop to the northern township by limiting any further residential development on these hillsides.

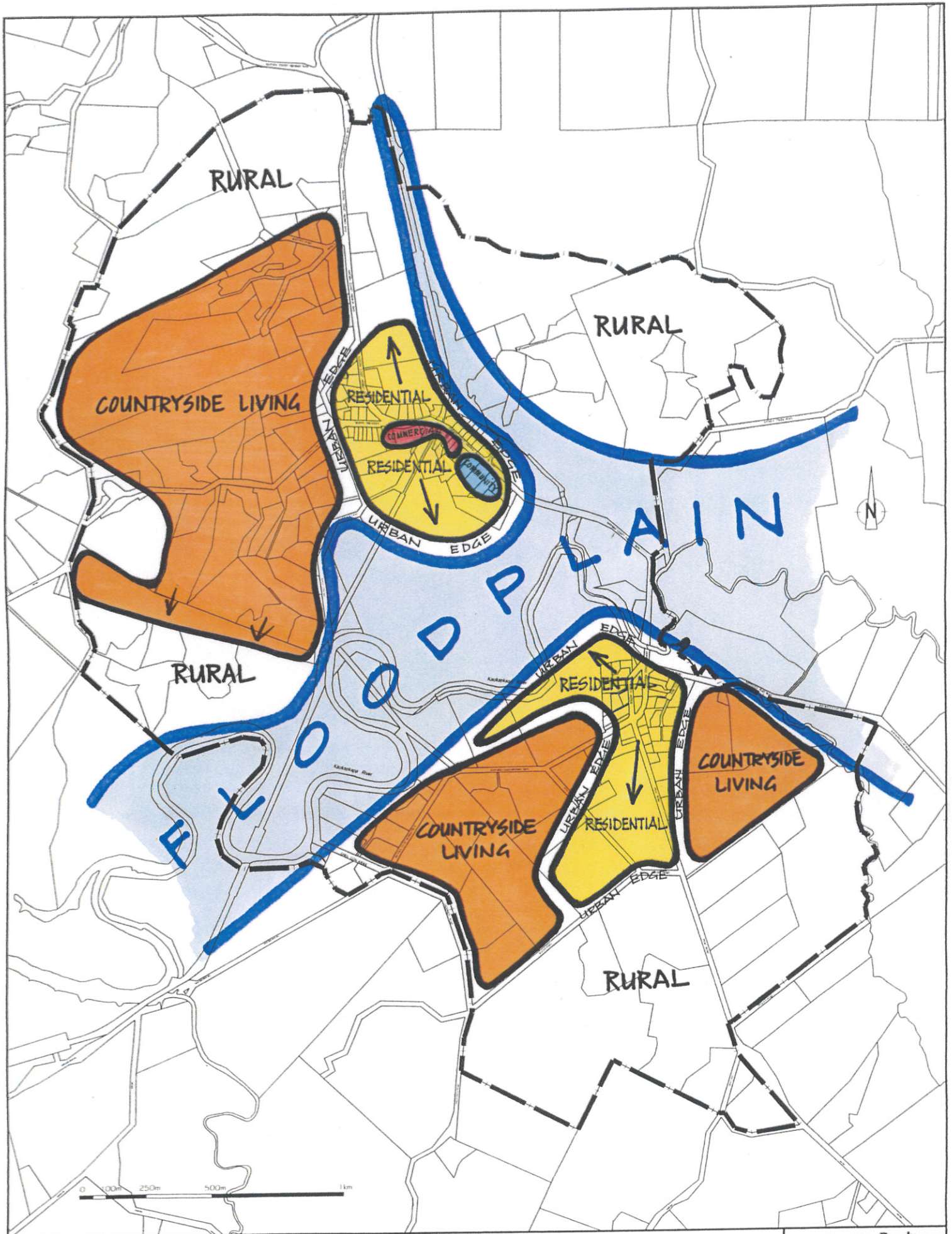
Providing for a fuller range of residential options (i.e. both Township Residential and lifestyle blocks) in each of the northern and southern townships, through:

- Extending the northern township to the fullest extent of the limitations imposed by various natural features, principally the floodplain, thereby utilising key natural features as strong and logical edges to the built environment and reducing the potential for urban sprawl.
- Extending the southern township and utilising key natural features as strong and logical edges to the built environment where possible, and in order to further reduce the potential for township sprawl, locating lifestyle block areas for 'artificial' township edge creation on the western and eastern edges.

Retaining the Countryside Living zone to the north of the River, with a small extension of this zone in this area.

Introduction of new rural-residential areas around the southern township.

Focusing and reinforcing the commercial and community nodes in the northern township, with no additional such land uses proposed in the southern township.



Kaukapakapa Structure Plan

Figure 5: Proposed Spatial Development Strategy

Allied to the above, establishing the northern township's commercial area as an identifiable and high-quality 'village heart', supported by good urban design.

Improved local connection and movement options between and within both townships, by the introduction of local roads and an integrated pedestrian/cycle/bridle network.

Protect the very long-term potential for denser township development in the southern township, especially along both edges of SH16, by not establishing township development along SH16 at this point in time.

4.0 PLANNING PROPOSALS

4.1 Introduction

The Structure Plan proposals outlined in this chapter are a more detailed expression of the Spatial Development Strategy, and include proposals relating to land use, engineering services and transportation networks.

The overall land use proposals are depicted in **Plan 1**, which also shows proposed new roads and walkways.

4.2 Proposed Land Use

4.2.1 Residential

The two different types of residential forms proposed for the town of Kaukapakapa are **Township Residential** and **Rural-Residential**, with the remainder of the study area proposed to be retained as conventional general rural living areas.

Township Residential site sizes are proposed to be a minimum of 2,200m² in order to adequately cater for a dwelling, a residential amenity area, an individual on-site wastewater disposal field, and to also enable ease of further subdivision if, and when, wastewater reticulation is available at a future date.

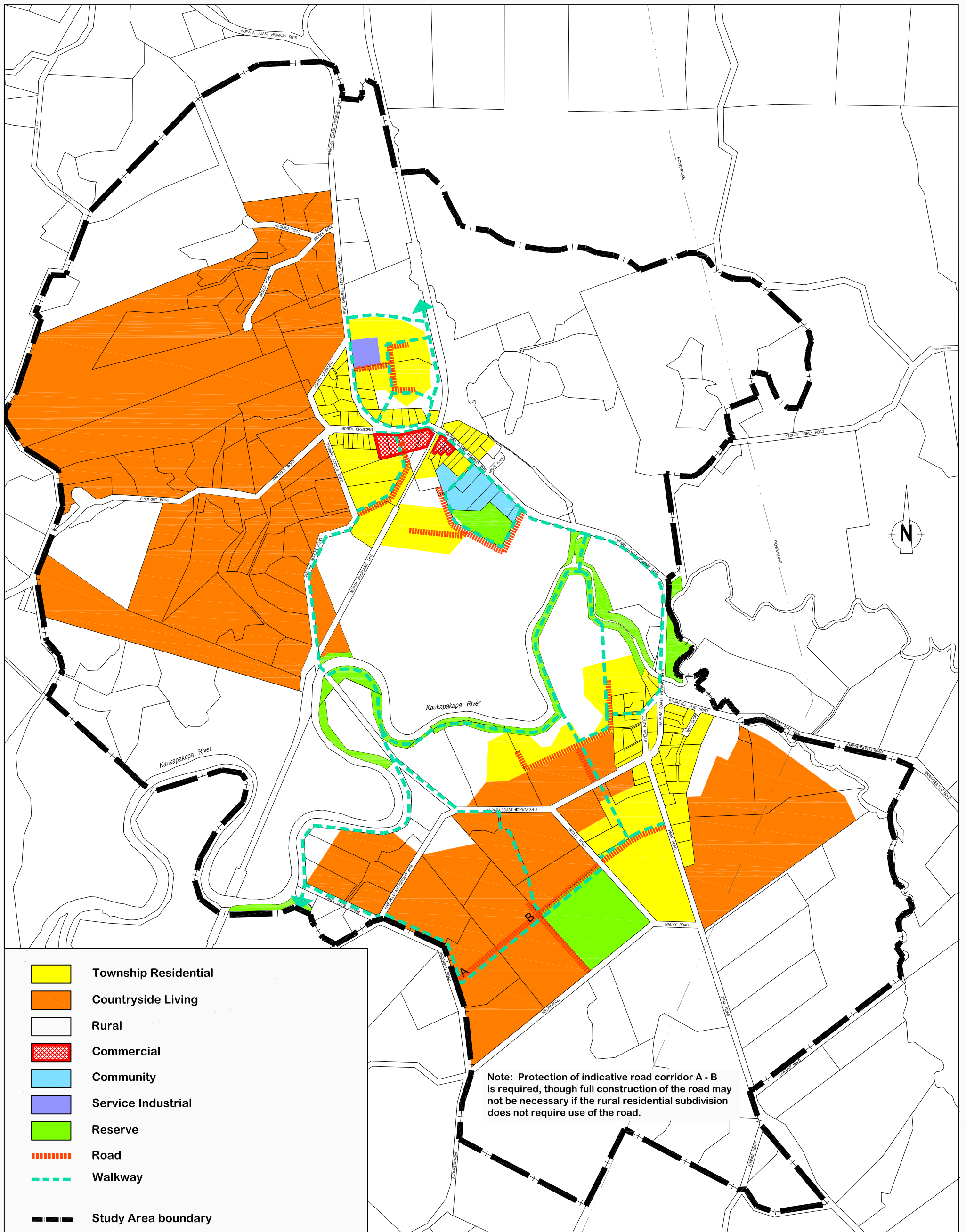
Indicative lot yield calculations in Table 3 are based on this minimum 2,200m² lot size, recognising that these indicative yields could increase by an estimated 50% with the advent of a fully reticulated public wastewater system.

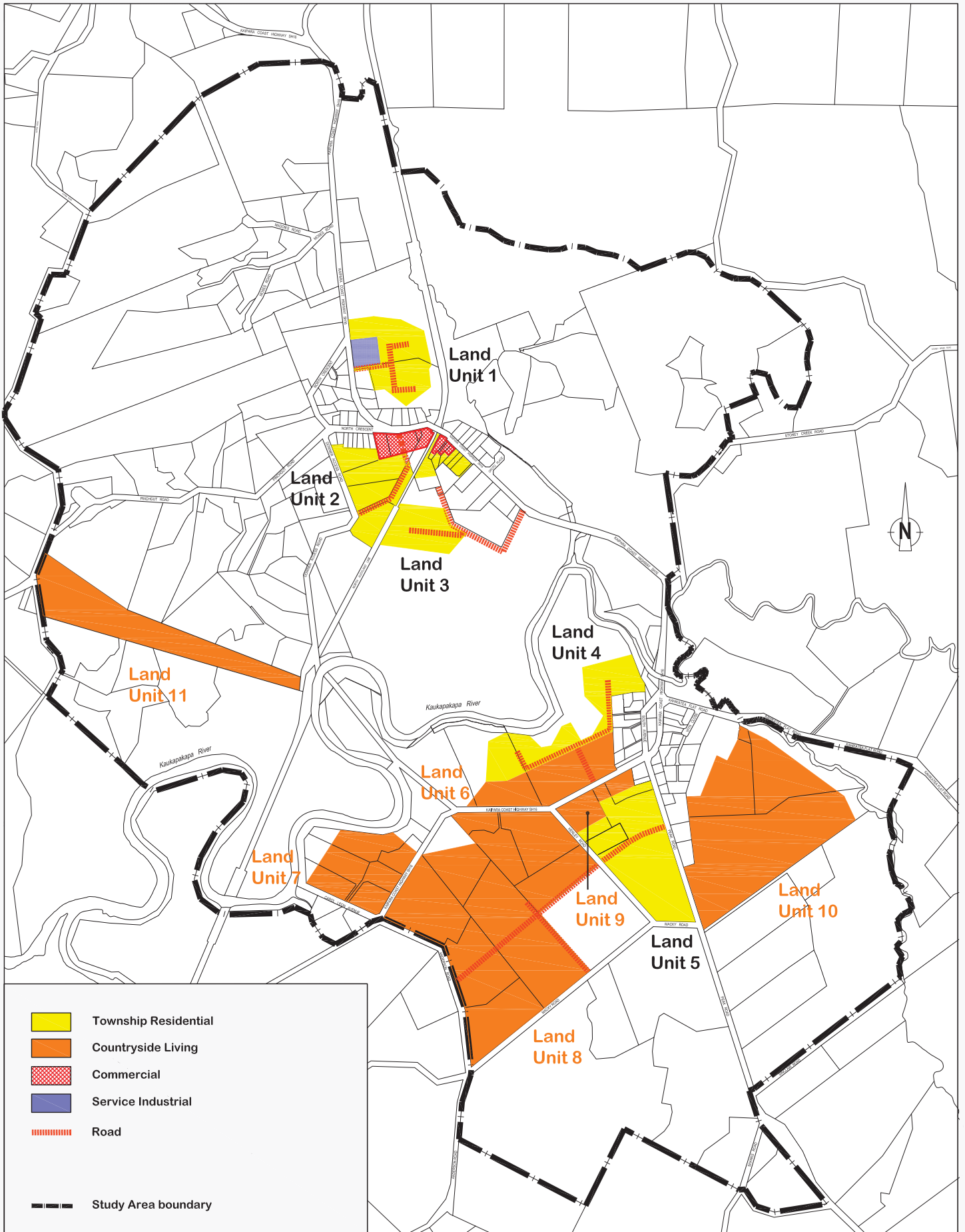
To account for the possibility of full wastewater reticulation and associated future denser subdivision it is recommended that any consent for a 2,200m² subdivision be required to also submit a 'shadow plan' showing how eventual denser subdivision to 1,000m² residential lots could be achieved.

In the event that a communal wastewater treatment plant is constructed at the outset with any Land Unit's subdivision (as an alternative to individual on-site wastewater disposal), residential lot sizes could be a minimum of 1,000m². However, in this instance there will be a relatively smaller increase in lot yield (in the order of 30%-50%) because the communal plant's disposal field will occupy an estimated 30% of the planned residential area.

The summary table overleaf quantifies the indicative lot yields of proposed new residential areas, with individual Land Units shown in **Figure 6** (Proposed New Development Land Units).

Rural-Residential site sizes are proposed to be a minimum of 1ha, and the indicative yields in Table 3 are based on this standard.











-  Township Residential
-  Countryside Living
-  Commercial
-  Service Industrial
-  Road
-  Study Area boundary

Table 3: Indicative additional^{*1} lot yields of proposed new residential extensions

Residential Type	Area	Land Unit	Indicative Lot Yield	
			@ 2,200m ²	@ 10,000m ²
Township Residential	North Township	1	17	
		2	16	
		3	11	
		Sub total	44	
	South Township	4	25	
		5	30 ^{*2}	
Sub total		55		
Rural - Residential	South	6		2
		7		3
		8		12
		9		1
		10		13
	North	11		10
TOTAL			99^{*3}	41

Notes:

- *¹ Existing dwellings within these proposed new residential extensions are excluded from additional yields tabled.
- *² Including an estimated 26x 2,200m² lots which the Peak Road site could yield if the currently consented 51-unit subdivision is not enacted.
- *³ Tabled indicative yields could double with a fully reticulated township wastewater scheme, and increase by an estimated 30%-50% with the use of a communal wastewater disposal plant.

For ease of reference more detailed plans of the two townships are presented as **Figure 7** (northern township) and **Figure 8** (southern township).

For summary purposes, and also to assist with the service infrastructure and road planning, the estimated total residential capacity which would be available in the town is summarized in the table below.

Table 4: Composite residential capacities

Lots	Urban	Rural-Residential	Rural	Total
Existing developed	80	77	27	184
Existing vacant	3	41	8	52
Further in-zone potential	* ¹ 5	10	0	15
Additional planned	99	41	0	140
Total	187	169	35	391

Note:

- *¹ Now excluding: (i) the Peak Road site; because its estimated potential full capacity of 26x 2,200m² lots is included in the table under "Additional Planned" lots, and (ii) the alternative potential 5 lots on the proposed Village Centre site.

FIGURE 7: Northern Township detail

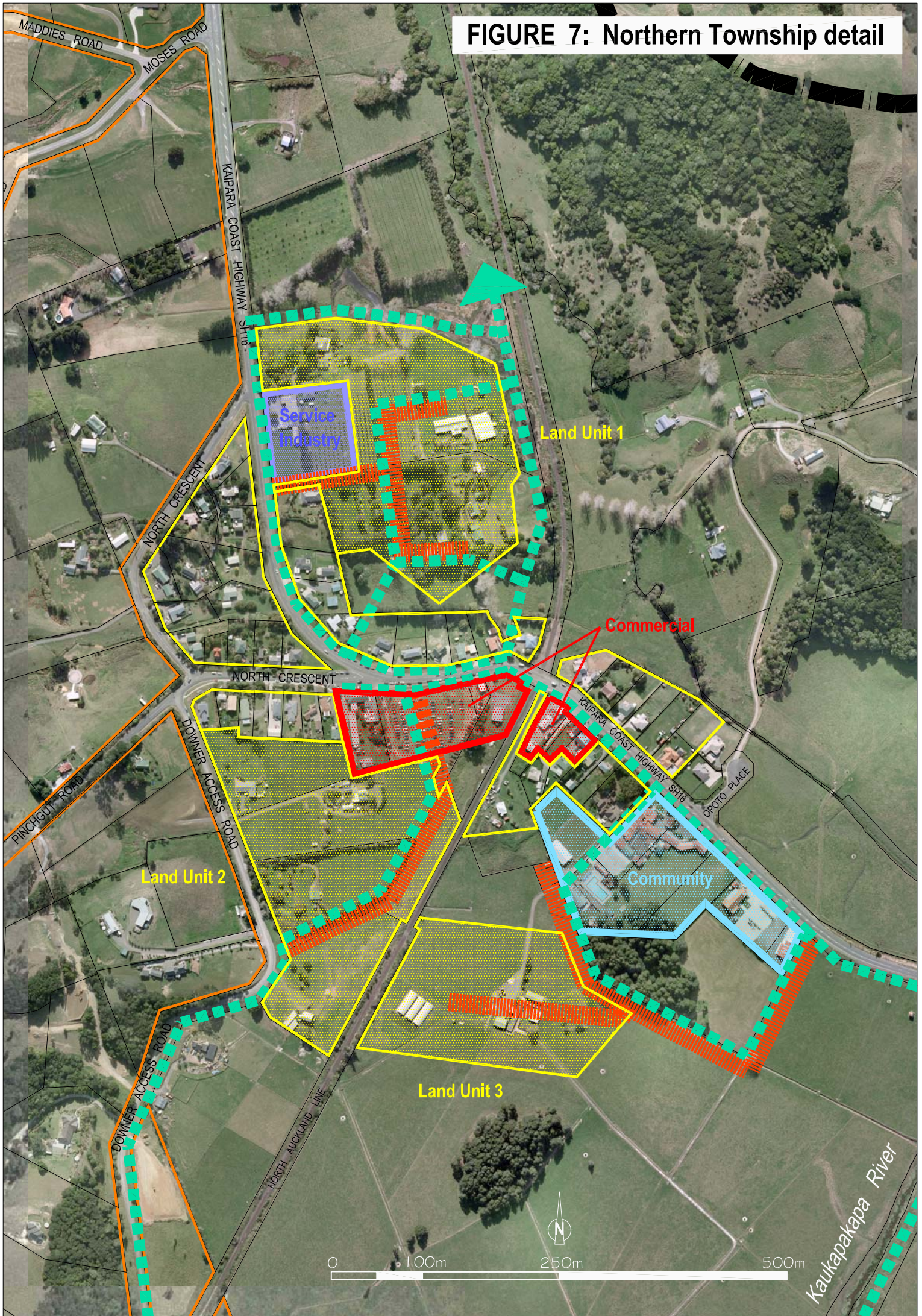
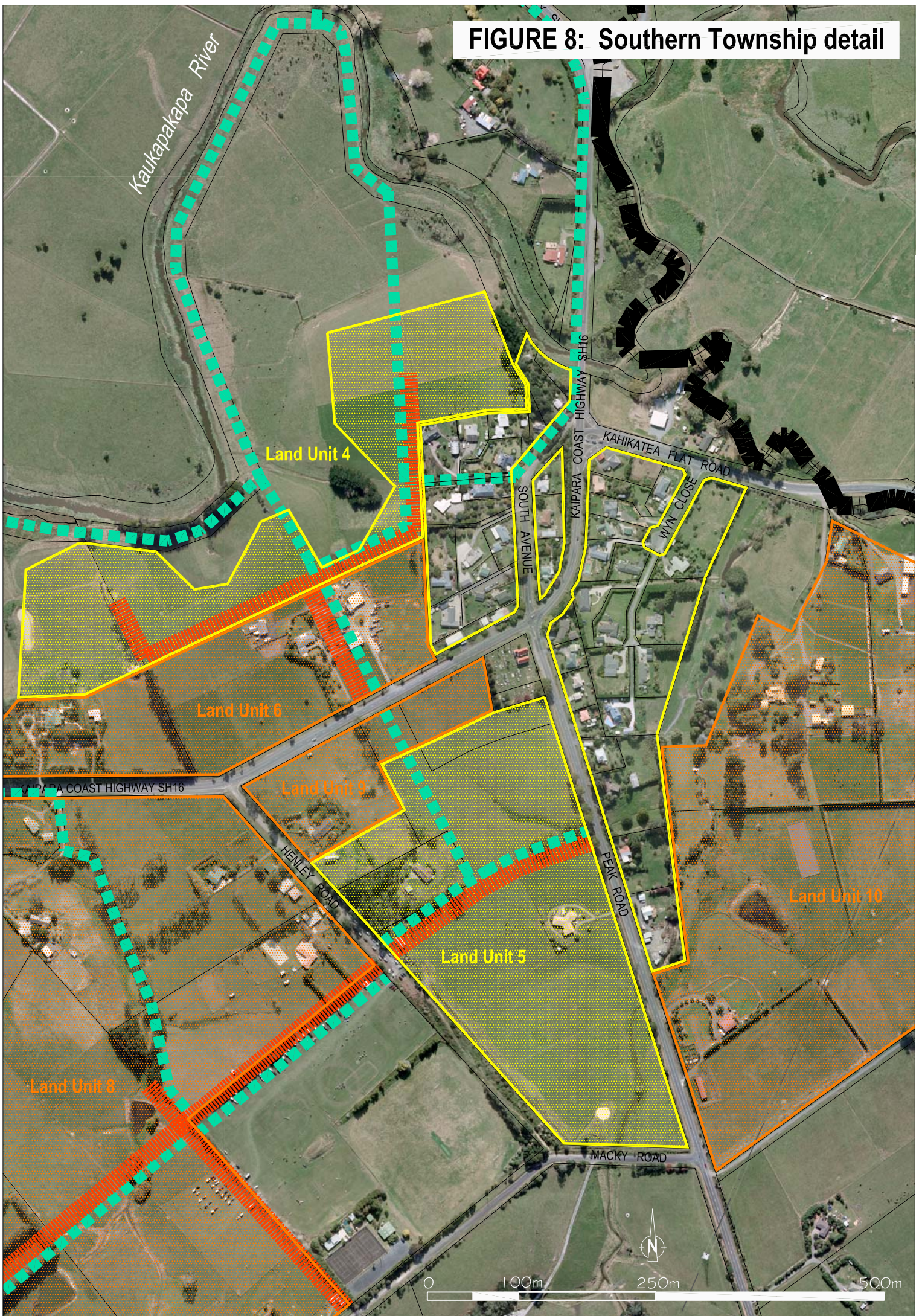


FIGURE 8: Southern Township detail



4.2.2 Commercial

It is proposed to formalise the 3,600m² area covered by the existing commercial area for retail purposes. Given the requirement to upgrade the performance of this area over time, it is recommended that any development of the site other than the upgrading of the existing buildings on their current footprint (i.e. the construction of new buildings or any extensions to existing buildings, beyond the current footprint and height) requires a comprehensive plan for the entire approximately 3,600m² commercial area to be submitted with the first resource consent application for any such redevelopment, and that this plan, amongst others:

- has no individual site access and/or parking bay accesses directly from SH16, determining that a median barrier and service lane on the SH16 frontage is an appropriate design solution
- has adequate site setbacks to achieve the above
- provides a general bulk and location layout, showing the arrangement of buildings and parking areas, clear accessways to the residential properties to the rear, landscaping and other urban design features, and engineering servicing solutions.

A single new commercial area extension is proposed, measuring some 1.3ha, and located on the western side of SH16 and to the north of the rail line. It is noted that the existing Hotel site currently occupies 4,000m² of this overall site and a small church and telecom exchange are located on the eastern side, near the rail line

There is about 6,000m² available for new built development, parking and landscaping on this site, which along with the existing commercial area is deemed sufficient to cater for the projected retail and commercial demand in the town. It is noted that an area of about 5,000m² adjacent to this new commercial site is identified for a wastewater disposal field.

It is recommended that the composite commercial area's design include retail outlets, possibly a small supermarket, and small retail-related commercial outlets.

It is important that this composite commercial area serve as a 'village heart' and that the design of each of the two commercial sites be undertaken on a comprehensive basis and also include small multi-functional public spaces which can be used for non-retail related activities and events.

It is equally important that the design of both the existing and new commercial areas reduces the potential for vehicular conflict with SH16, by ensuring that, with respect to each of these two commercial sites:

- a single two-way entrance onto SH16 prevails, or alternatively two separate one-way ingress/egress points,
- carparking is internalised on the site, and is not on the SH16 road-side, and
- the design includes a median pavement on the SH16 frontage of the site, ideally including tree planting and landscaping, and possibly street furniture.

Additionally, with respect to the new commercial site, it is important to optimise accessibility, and therefore the local road network is augmented with a new public access road (narrow at about 10m-12m wide), to link Downer Access Road to SH16 via this site.

It is recommended that in the downstream planning process a Retail Service Zone be applied to both commercial sites.

Given the incompatibility of some 'industrial-type' activities with the abovementioned composite commercial area (e.g. the vehicle servicing component of a service station), it is proposed to separate these activities from the commercial area by introducing a 9,000m² new service industrial area at the northern edge of the northern township (around the existing auto service site).

This service industrial area is located adjacent to residential Land Unit 1 and will be accessed off SH16 by a new common access road (importantly limiting direct access from this service industrial area on to SH16).

It is recommended that in the downstream planning process a Mixed Business zone be applied to the service industrial area, with a restriction on direct retailing and office activities.

4.2.3 Social and Community Services and Facilities

It is proposed to support and reinforce the current community activity node located to the south of the rail line along SH16.

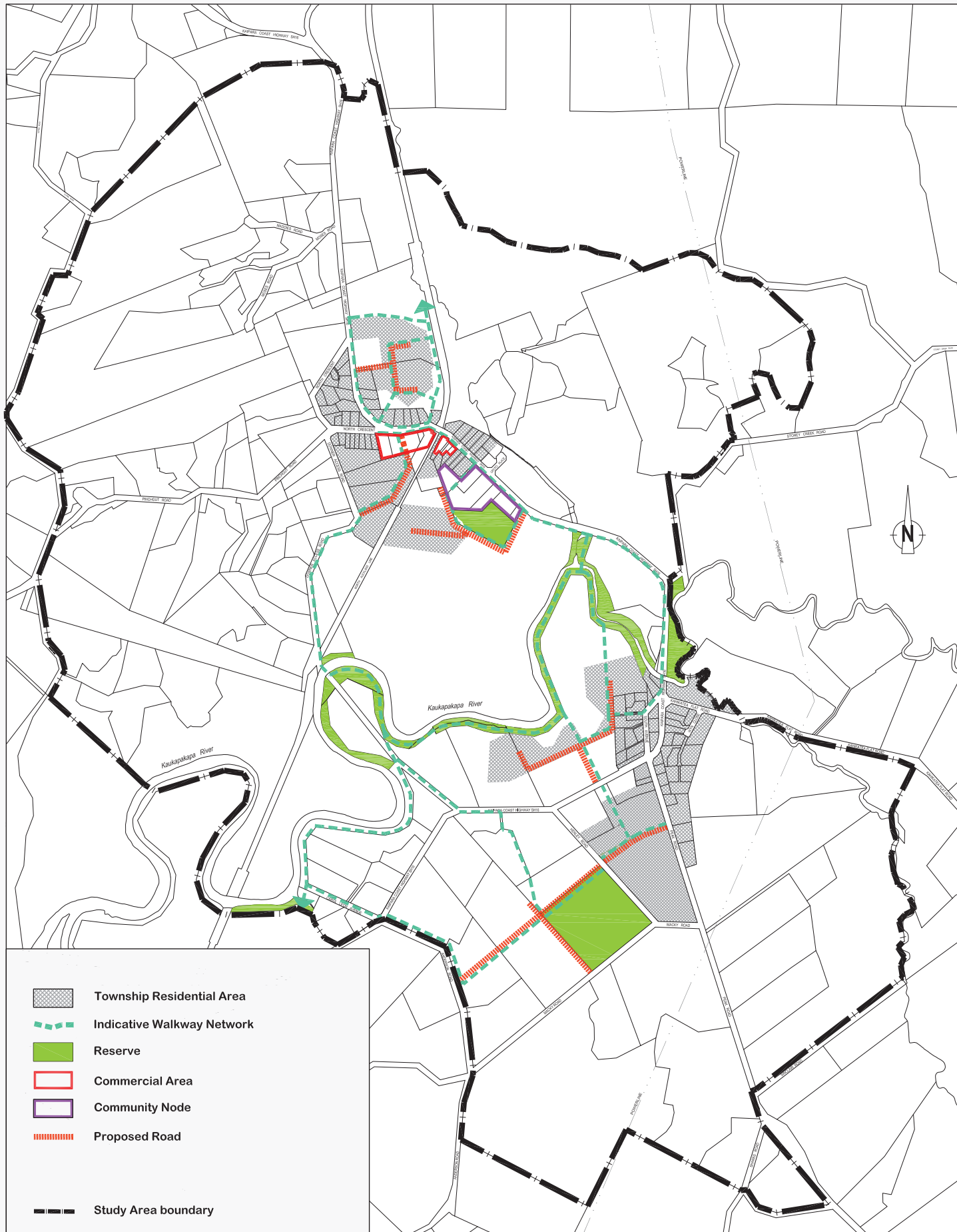
In order to counter the current activity conflict with SH16 along this node's Highway frontage, it is proposed to introduce a new road which will provide access to Land Unit 3 and also rear access to the Fire Station, Community Hall and reserve, School (including bus and vehicle drop off) and Bowling Club. This new road lies within the floodplain and would need to be raised approximately 1.5m from current ground level to be flood-free.

4.2.4 Open Space

It is proposed to retain and enhance all current reserves and to introduce a pedestrian/cycle/bridle walkway network to link the two township areas and to provide pedestrian linkages between the various residential areas and the town's main non-residential activity nodes. The proposed overall open space network is depicted in **Plan 2** overleaf (which shows the indicative walkway network).

Sections of the proposed walkway network will be via existing and new planned roads and it is therefore important that appropriately wide pavements be developed in conjunction with these roads.

This network (parts of which are already committed in Council's budgets), will require future more detailed investigations (outside of the scope of the Structure Plan) to confirm both the particular alignment(s) and the development staging of the network. It is recommended that this overall walkway project be a future joint Council-community initiative.



4.3 Engineering Services Infrastructure

Water:

It is proposed that the townships continue to be served by individual on-site water harvesting.

Wastewater:

It is proposed to introduce two options for wastewater servicing in the townships, namely; individual on-site disposal by septic tank, and communal wastewater servicing.

With respect to communal wastewater servicing it is important that:

- the number of such plants is kept to a minimum,
- the design and construction of such plants be rigorously evaluated at the consent stage,
- monitoring and reporting on both the performance and management of such plants be a mandatory requirement, and
- a rigorous management regime be introduced into the District Plan to cover the above aspects.

Stormwater:

It is proposed that an allowance of 5% of Land Units be allocated for stormwater treatment purposes, and that the number of ponds be kept to a minimum.

4.4 Transportation

This section summarises the findings of the proposed transportation components of the Structure Plan that are presented in more detail in the **Part 1b** report.

The traffic volumes associated with proposed new land use will have a negligible overall impact on the current traffic volumes of SH16, therefore not requiring any road upgrading of SH16 by virtue of these proposals.

It is proposed to introduce new local roads to provide access to the proposed new land use areas and to also improve the accessibility afforded by the existing road network of the town. Four of these new local roads require new intersections with SH16 and one requires a new intersection with Peak Road.

With respect to the new roads intersecting with SH16:

- all of these roads are confirmed to be necessary to provide access to proposed new residential areas, and
- all of these road intersections with SH16 are appropriately located in terms of relevant design criteria.

The new intersection on Peak Road is essentially a replacement of the existing consented intersection for the Peak Road site development.

It is recommended that certain improvements be made to sections of SH16, particularly:

- the section of SH16 lying between the Fire Station and the Hotel in the northern township, where it is recommended that a detailed road upgrading plan be formulated in conjunction with land use frontage controls in this sector,
- at the intersection of SH16, Kahikatea Flat Road and South Avenue,
- a reduction in speed limits on various sections of SH16.

The nature of the former recommendation requires particular consideration of the upgrading of the road edge condition and some of this responsibility would fall both/jointly on NZTA and Council.

It is also identified that in order to introduce a walkway along the western side of SH16 in the sector that lies within the floodplain it would be necessary to upgrade that edge of SH16. This is a critical aspect requiring consideration under the auspices of the previously-mentioned detailed investigation and design of the overall walkway network.