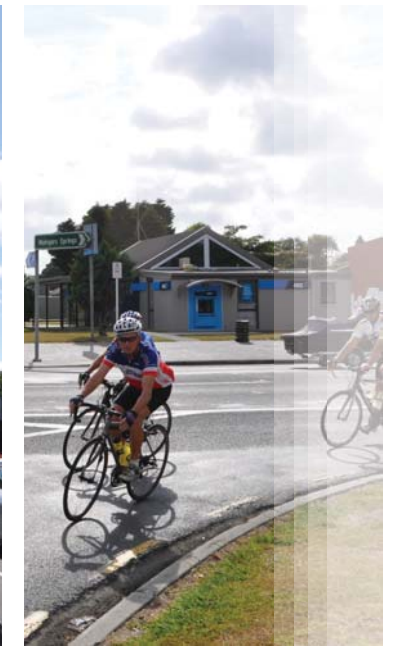


Ngaruawahia and Environs Structure Plan

Preliminary Urban Design Assessment

September 2014



Revision History

Revision Number	Prepared By	Description	Date
A	Carl Lucca / Will Green / Kate McBurney	Draft	30 May 2014
B	Carl Lucca / Will Green / Kate McBurney	Final Draft	5 June 2014
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Document Acceptance

Action	Name	Signed	Date
Prepared by	Carl Lucca		10 September 2014
Reviewed by	Annette Jones		10 September 2014
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On behalf of	Beca Limited		

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Appendix A

Growth areas for further investigation - Ngaruawahia, Taupiri, Horotiu and Te Kowhai

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Introduction

This report has been prepared to assist Waikato District Council in the preparation of a structure plan for Ngaruawahia and environs, including Taupiri, Hopuhopu, Horotiu, Te Kowhai and Glen Massey. In the main, this report provides urban design direction on the following matters (acknowledging that further input will be required from a range of disciplines to further refine the direction given):

Growth areas: Direction in relation to key growth areas for further investigation, along with strategic direction in relation to connectivity and movement, town gateways and key areas for community amenities and commercial development.

Town centre concept plans: High level town centre concept plans have been prepared, outlining key moves to be responded to as growth occurs. The town centre concept plans are high level and are intended to assist in engaging with the community and key stakeholders to gain buy-in (or otherwise), before moving to more detailed concept design and project identification.

Residential guidelines: Responding to key issues identified in relation to residential growth in Ngaruawahia, the guidelines are intended to provide principles for residential development that can be applied at multiple scales, i.e. structure planning, subdivision and individual lot development. In this manner, the guidelines can be applied (used as a check list) at the time of non-statutory structure planning for neighbourhoods and/or through the development of subdivision and land use provisions within the district plan.

This report does not provide a structure plan for the study areas, but rather should be seen as a layer in the structure plan preparation process. In particular, growth areas and town centre concept plans will need to be tested and refined with input from transport and infrastructure experts, as well as the community and key landowners; while the residential guidelines can be used to inform and review Council's statutory and non-statutory policy framework for future development.



Photo 1. Cyclists in Ngaruawahia



Photo 2. Turangawaewae Marae on the Waikato River



Photo 3. State Highway 1 bypass passing through Taupiri

2.1 Ngaruawahia and Environs

This section focuses on the townships included within the Ngaruawahia and environs structure plan, namely:

- Ngaruawahia
- Taupiri
- Hopuhopu
- Horotiu
- Te Kowhai
- Glen Massey

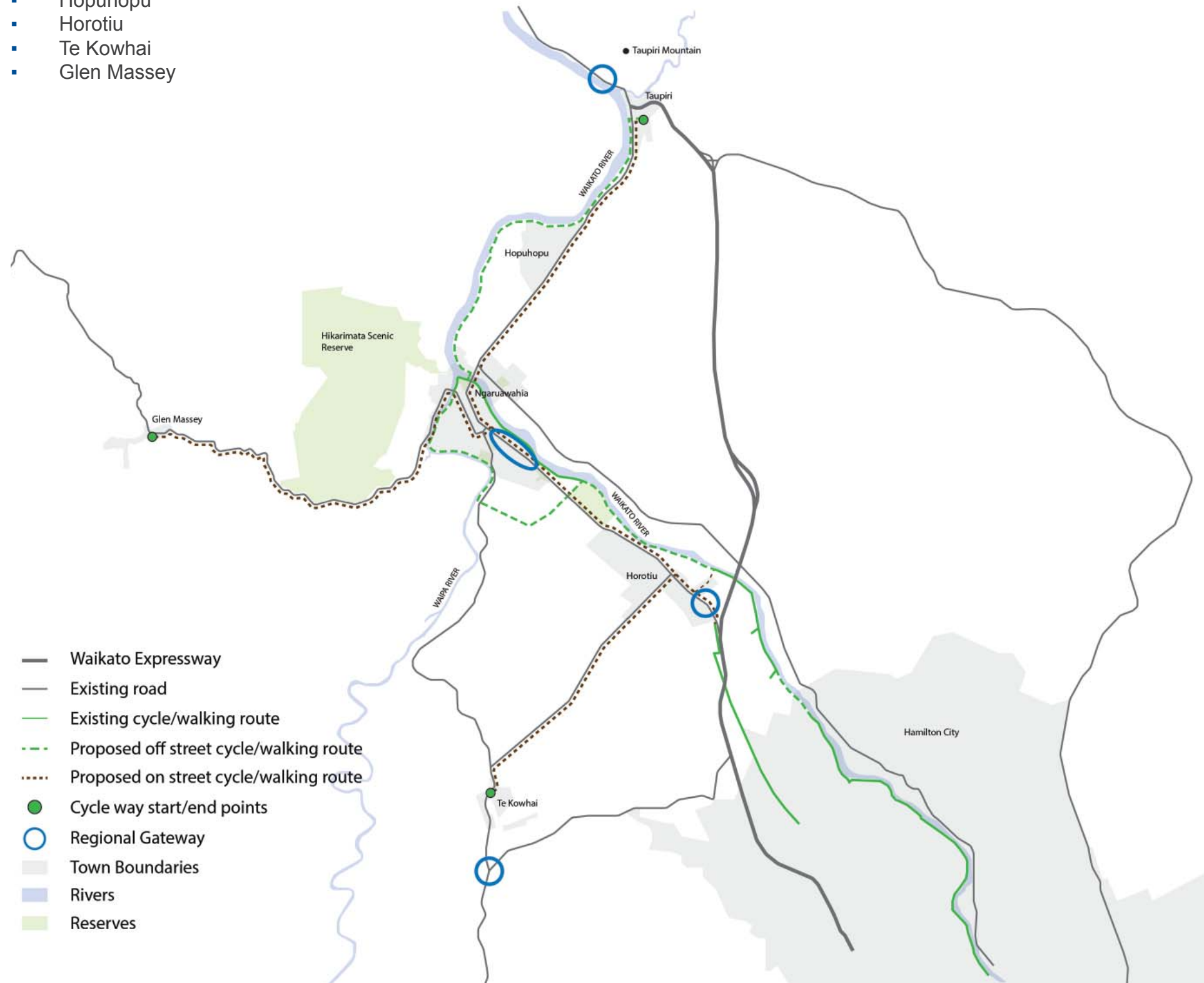


Figure 1. Ngaruawahia and environs - Gateways and Connections Plan

Ngaruawahia and the surrounding environment is rich in cultural (particularly Maori) and natural heritage, offering opportunities for both locals and visitors. Figure 1 illustrates a starting point for enhancing access to the natural and cultural environment, responding to the opportunity provided by the relocation of State Highway 1 and the subsequent reduction in vehicle traffic through the area.

A key action is to make visitors aware of the attractions that lie within the area and encourage them to travel through the area as opposed to bypass it. Accordingly, the provision of regional gateways, designed in conjunction with local iwi (Waikato-Tainui), that reflect the culture and inform of potential activities, is suggested within the vicinity of Mount Taupiri, before reaching the State Highway bypass route. Two similar opportunities are also identified to the south (exact locations to be determined). In addition, it is considered there is an opportunity to provide a significant intervention within Ngaruawahia itself (over the previous land fill area to the west of Great South Road), again, designed in conjunction with local iwi and showcasing local culture.

Providing opportunity for people to slow down and enjoy the area, a series of cycle and walking routes are proposed between Taupiri, Ngaruawahia, Hamilton (connecting with existing cycle links) and Te Kowhai. Acknowledging the flat terrain, on road cycle routes are provided for experienced cyclists, and off road for less experienced and families. For both on and off road, marked cycle specific lanes are recommended. There may be opportunities for safer and/or alternative routes to those shown, identified as part of further detailed design.

The key to making cycle and walking routes attractive is by providing activities along the route. This includes existing destinations, such as town centres and cultural destinations, but should also include new interventions and rest stops (with views of the Waikato River and other amenities). The cycle routes also have the potential to catalyse economic growth, such as cafés and visitor accommodation.

Building on the above, a high level analysis of land use patterns, connectivity and movement, and landscape (including open space) has been undertaken for each of the towns within the structure plan area, to assist in informing key elements for future growth from an urban design perspective. These generally relate to the following structuring elements (to be read in conjunction with the “Overarching key moves for future growth - landuse, connectivity and landscape” plans hereafter):

 **Future residential growth areas**

These areas have been identified as logical future growth areas taking into account existing urban form, connectivity and amenities. Future residential growth has been directed to those areas that have potential to be well serviced by existing amenities. In some cases, further amenities / neighbourhood centres are suggested. All growth areas remain subject to infrastructure and transport testing and planning, and consultation with key stakeholders and the community. It is also noted that the growth areas are likely to be over and above anticipated growth projections; accordingly, a staged approach to release (i.e. zoning) of any growth areas is suggested.

 **Potential future road connections**

These indicative routes illustrate key arterial routes to be investigated as part of future growth areas. It is expected that a further refined and detailed movement hierarchy (for pedestrians, cyclist and vehicles) will be developed through the course of structure planning and subdivision.

 **Existing/potential walk and cycle trail**

These indicative routes identify the key movement routes for Council to focus on at township scale. The purpose of these routes is two-fold: to enhance recreation and visitor opportunities associated with local attractions; and/or to enhance connectivity between key amenities. The identification of trails indicates the development of dedicated pedestrian and/or cycle trails, to be further investigated by Council.

 **Community amenities focus**

These areas relate to the provision of community amenities such as sport fields, playgrounds, open space, local shops, schools and so forth. Within areas of community focus, emphasis should be given to pedestrian movement and safety, amenity and the opportunity to provide further amenities in the community’s favour.

 **Existing and future employment**

These areas have been identified as appropriate for commercial development. In most cases, they relate to land already zoned and used for commercial or industrial purposes. Economic analysis indicates that none of the townships is likely to experience significant commercial growth and therefore consolidation of existing activities within town centres and commercial areas is generally promoted (as opposed to allowing for dispersed development patterns).

 **Ecological enhancement**

Ecological areas have the potential to result in environmental and cultural benefits and, to a lesser extent social and economic benefits. Incorporated into local walking or cultural trails, areas of ecological interest can be both part of a journey and a destination for both local residents and visitors to the area.

 **Landmark feature / Views and vistas**

Land mark features, such as Mount Taupiri, form an important backdrop to many of the townships, and should be celebrated by recognising and opening up views to them from public places.

Gateway treatment

Gateway treatments relate to physical interventions to celebrate the gateway to the region, town or centre. The gateway treatment should be relative to the place it is celebrating, both through scale and interpretation of local heritage and culture.

 **Regional gateway**

In the context of Ngaruawahia and environs, the regional gateway to the area is considered to be at the base of Mount Taupiri. Ngaruawahia and environs has a rich Maori heritage that should be portrayed in the gateway, enticing visitors to visit the area. Design of the gateway needs to be undertaken in collaboration with local iwi, particularly Waikato Tainui.

 **Township gateway**

These gateways should be physical markers on the side of the road, indicating that a town is being entered. They may include or be a combination of signage, change in speed zone, planting / landscaping, murals or paving treatment.

 **Town centre gateway**

These gateways should be physical markers on the side of the road, indicating that a town centre is being entered. They may include or be a combination of pedestrian crossing points, signage, change in speed zone, planting / landscaping, murals or paving treatment. The emphasis should be on promoting a pedestrian orientated town centre zone, and a feeling of slowing of vehicle traffic.

 **Culturally significant area**

Culturally significant areas include Maori and non-Maori sites of significance, such as urupa / cemeteries, pa / fort sites and so forth.

2.2 Ngaruawahia

Ngaruawahia is located approximately 22 minutes' drive north of Hamilton at the confluence of the Waipa and Waikato Rivers and is one of the oldest settlements in the Waikato Region. The township is home to the Maori Kiingitanga and the first Maori King was crowned there in 1857. Ngaruawahia is well-known for its local regatta – an event held each year on the Waikato River; it is considered a traditional perseverance of New Zealand history and Maori culture. The first regatta took place in 1896 and is now one of the largest aquatic festivals in New Zealand.

The population of Ngaruawahia is approximately 5300 people, with a significant proportion of these being of Maori ethnicity – approximately 54%. The township has a 'working age' population of approximately 63% and also has a significant youthful population (approximately 29%). It is noted that development in the town has been relatively static over the last decade and residents are largely reliant on either Hamilton or Huntly for meeting higher order needs.

Within the wider Ngaruawahia and environs area (including Taupiri, Glen Massey, Horotiu, Hopuhopu and Te Kowhai), relatively low growth is anticipated over the coming 25 years:

Ngaruawahia Catchment	2014	2016	2021	2026	2031	2036	2041
Population	9,712	9,853	10,182	10,449	10,646	10,819	10,972
Households	3,412	3,492	3,706	3,893	4,051	4,117	4,175
Household Size	2.85	2.82	2.75	2.68	2.63	2.63	2.63
Population Growth (p.a.)		0.72%	0.66%	0.52%	0.37%	0.32%	0.28%
Household Growth (p.a.)		1.17%	1.20%	0.99%	0.80%	0.32%	0.28%

Source: Property Economics

Photos 4 to 12 portray the township and some of the key issues identified during analysis.

Key strategic directions for the town include:

- New residential growth in response to development of an employment hub at Horotiu will comprise of expansion areas to the north and south, and quality intensification alongside the rivers and around the town centre (Summary of Waikato District Growth Strategy 2009)
- A wider range of goods, services and activities to be provided for in the town centre (Summary of Waikato District Growth Strategy 2009)
- Promote Ngaruawahia as the cultural capital of the Waikato by seeking opportunities in collaboration with Tangata Whenua, including tourism, education and business development opportunities (Summary of Waikato District Growth Strategy 2009)
- Potential key passenger rail hub (Summary of Waikato District Growth Strategy 2009).

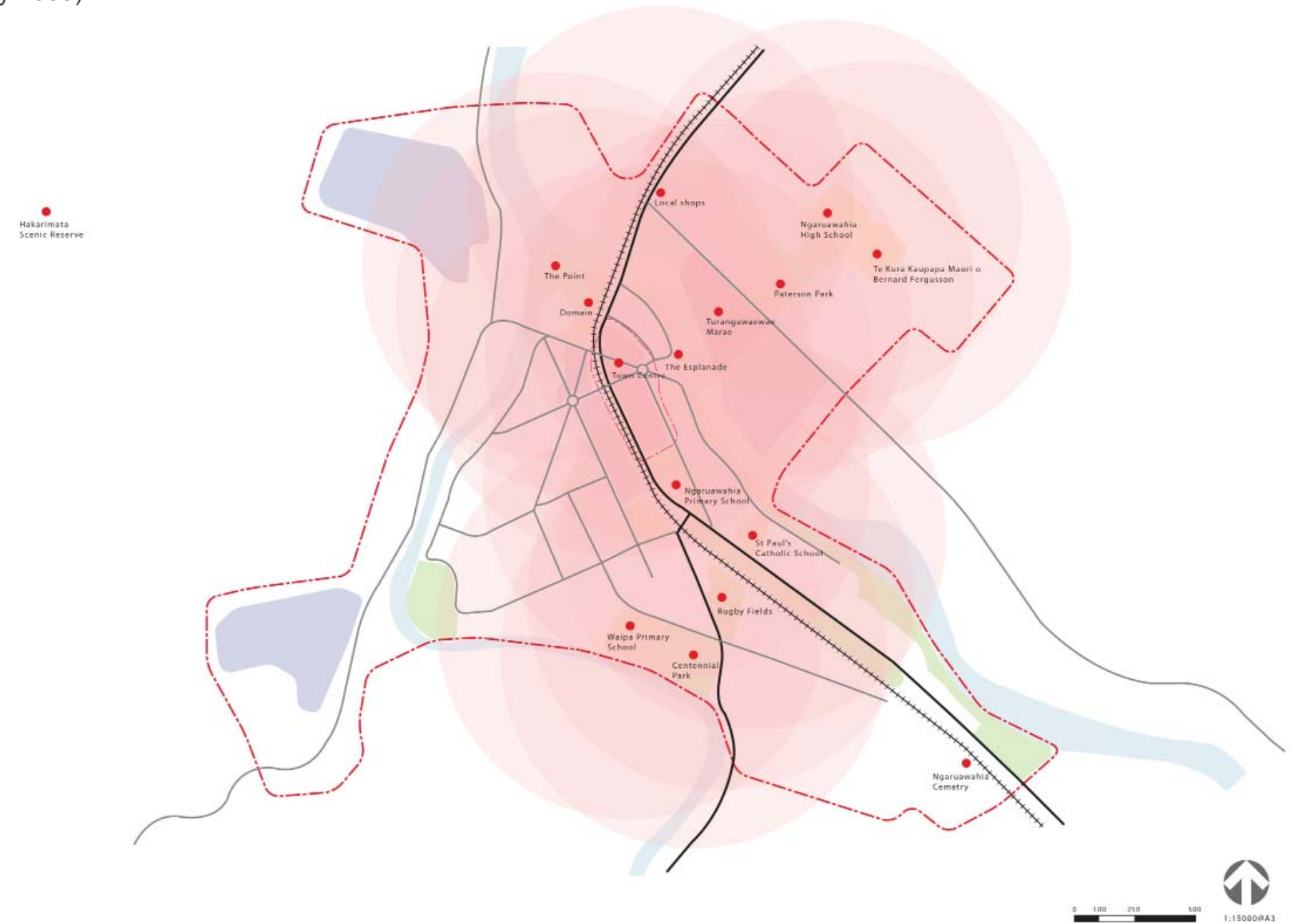




Photo 4. Conflicts between trucks travelling to the quarry and cyclists



Photo 7. Town centre concentrated in one area due to the railway



Photo 10. Flowers soften the aesthetic of the town centre



Photo 5. Tired light industry is isolated from the town centre



Photo 8. Kiingitanga Walkway celebrates Maori heritage in the area



Photo 11. Typical suburban residential development in Ngaruawahia



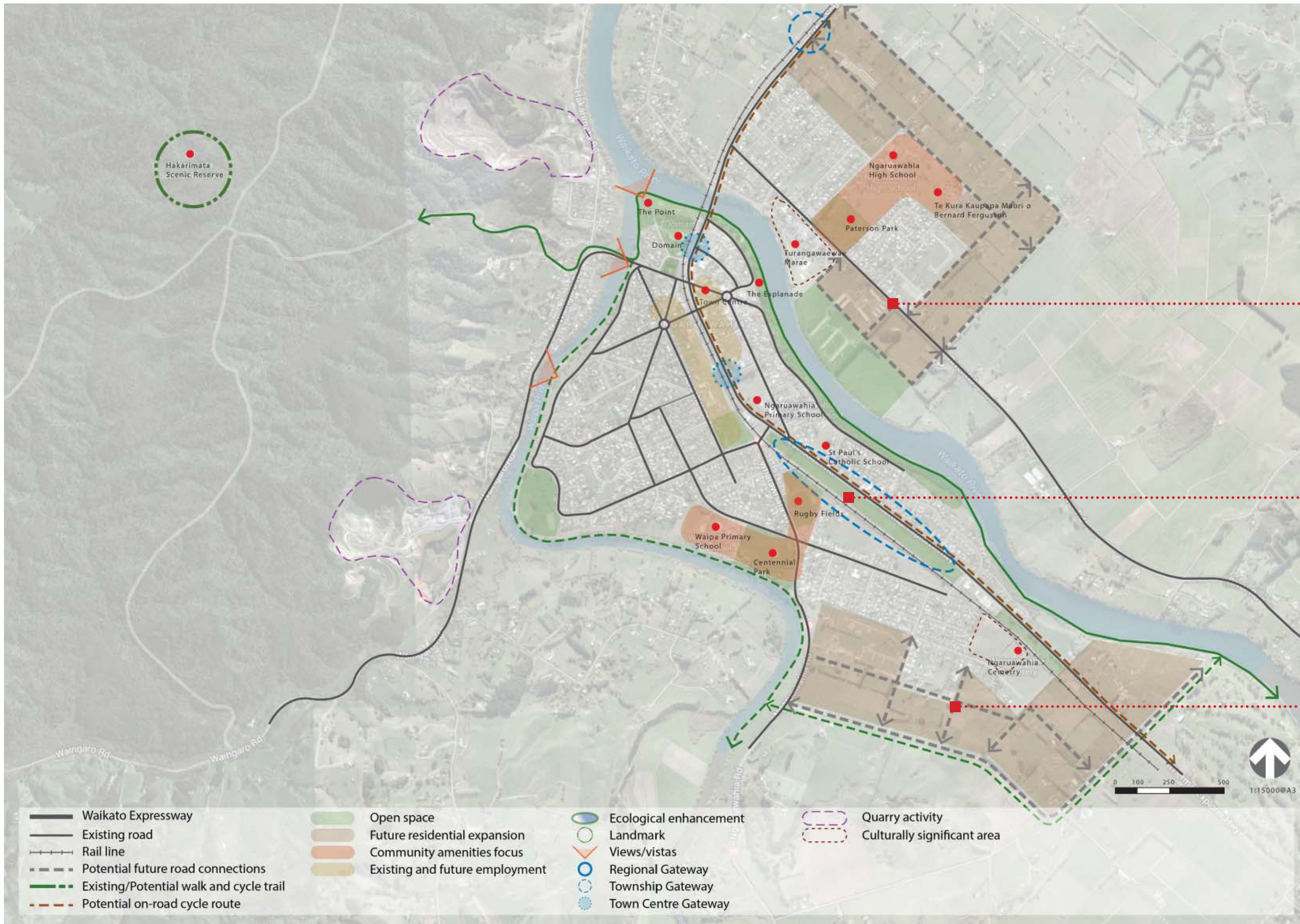
Photo 6. Marae sits on a prominent site on the edge of the river



Photo 9. The outdoor pool is one of the few public sport amenities



Photo 12. Paterson Park is an important public open space



Indicative location for future neighbourhood centre

Opportunity for cultural art installation along the length of the open space, in collaboration with local iwi and community

Indicative location for future neighbourhood centre

Figure 2. Overarching key moves for future growth - landuse, connectivity and landscape

2.3 Ngaruawahia Town Centre

This section provides an overview of the key outcomes suggested in relation to the future growth of Ngaruawahia’s town centre. The approach is based around a number of key structuring elements to assist in promoting growth of a compact centre that is at the heart of the surrounding community. Further, more detailed planning and design will be appropriate as known development opportunities come to the fore (e.g. supermarket development; train station development; other significant development within the town centre).

Figures 3 and 4 illustrate the key moves / key outcomes sought within the town centre.

Key assumptions

In considering the town centre, an analysis (including key issues) of the area and surrounding context has been undertaken. Subsequently, key considerations and assumptions that have informed the key moves include:

- Currently visitors to Ngaruawahia are unaware of the social and cultural activities that the town has to offer. Appropriate gateway and streetscape responses are required to respond to this issue.
- Transport infrastructure dominates the town centre. Enhancing the overall pedestrian experience within the town centre, particularly across Great South Road, to enhance east-west connections, will encourage more locals and visitors into the town centre.
- Strengthening connections with the Waikato and Waipa Rivers, including the Kiingitanga heritage trail, will also attract more local and visitors to the centre of the town.
- Jesmond Street has a good quality streetscape and a number of notable buildings (particularly corner buildings); however, the street remains vehicle dominated and is lacking in quality outdoor space (particularly facing north) suitable for community events, dining or children’s play
- It is suggested that future growth be focused on existing commercial areas, assisting to intensify activities.
- Identifying and encouraging development over those sites that are currently under developed, particularly along Great South Road, will assist to consolidate the town centre.
- There is a significant shortfall in supermarket retail provision in the form of a medium sized supermarket. This will become more pronounced over the next 25 years.
- There is an oversupply of convenience retail, which will balance out over the next 25 years.

Town Centre: Key Outcomes Sought

In response to the issues and assumptions identified, the approach to the Ngaruawahia town centre is premised on 6 key moves (refer figure 4):

1. Enhance connectivity with the Waikato and Waipa Rivers and Domain area by enhancing the legibility, connectivity and safety of the existing Kiingitanga heritage trail.
2. Upgrade Great South Road in favour of pedestrians, slowing traffic and enhancing legibility of the town centre
3. Enhance safety and legibility of the crossing point between Jesmond Street and the public open space to the west, making the connection as direct and convenient as possible
4. Redevelop the library site as a mixed use community destination including public open space
5. Enhance the eastern roundabout in favour of pedestrians
6. Retain the supermarket in the general vicinity, encouraging it to front Great South Road (with parking to the rear) if and when redevelopment occurs. Enhance pedestrian connections to the supermarket.



Figure 3. Ngaruawahia town centre - key moves diagram

Detailed concept plan overview

Building on the key moves, the following concepts have been identified for further investigation (refer figure 4):

1. Gateways into the town centre are proposed at two key points along Great South Road. The purpose of this is to change the driving behaviour of people when they subconsciously process that they are travelling through a built-up area. This reduces speeds and makes drivers more aware of their surroundings. It is possible to achieve these results through specific traffic management and urban design interventions, more specifically through simple signage, landscaping treatments and build outs within the road corridor.
2. For large sections of Great South Road, slip roads and separate turning-lanes are used to help increase traffic flow. But as a consequence, the width of the road corridor can reach up to 20 metres at points, further emphasising the barrier created by the railway and road. The current locations of the two pedestrian crossings are not very convenient for access from the main shopping street to the public open space, residential areas and domain to the west. By reducing the road width (removing the slip-lanes and central reservation areas) this will subsequently create a completely different street character, slowing traffic speeds and allowing more opportunities for safe pedestrian crossings.
3. A major concept put forward for consideration is to remove the access from Jesmond Street onto Great South Road, therefore making it a one-way intersection. The purpose of this key move is to enhance pedestrians connectivity both north-south and east-west, and to create opportunity for a visually attractive open space, attracting people to stop in the town centre. Vehicles would only have access to Jesmond Street from Great South Road but to exit the street they would have to leave via the roundabout to the east. By tightening the intersection and reducing the road width, this allows for more public space which makes crossing the road a lot easier and safer therefore encouraging more activity. It represents a great opportunity to introduce a pedestrian crossing which directly links the main shopping street to the Park and Lower Esplanade loop to the west.
4. The proposed redevelopment of the library building will play a key role in enhancing the character of the area. It should be seen as a landmark building which has a positive relationship with the existing streetscape. The building should front onto Jesmond Street with public open space to the side. Opportunity exists to combine the library with other uses, such as community based activities, cafés and local information.



Figure 4. Detailed town centre key moves for further investigation - landuse, connectivity and landscape

5. There are several brownfield sites within the town centre area which have a negative effect on the peoples 'experience' of the street. By encouraging buildings to populate these spaces, this will produce a continuous built-form with active frontage throughout the central areas therefore giving it more identity and creating a better experience for pedestrians.
6. Supermarkets, by their nature, assist to act as an anchor for other commercial uses, and therefore can be decisive in increasing activity within an area. The existing supermarket has limited relationship with the public realm / street, particularly Great South Road, and is likely to be too small to respond to demand in the medium to long term. Opportunity exists to relocate the supermarket so it faces on to Great South Road with car parking to the rear. This would encourage pedestrian activity along Great South Road and potentially catalyse further commercial development along this main street towards the town centre. Further investigation, in dialogue with the supermarket owners, into alternative sites in close vicinity to the town centre, and/or the possibility of land swaps within the existing area (e.g. council owned land), may assist to achieve the desired outcomes.
7. Although land to the east of the town centre is predominantly residential, the road infrastructure still dominates the space making it difficult for pedestrians to cross certain intersections. The best example of this is the roundabout to the east of Jesmond Street which links with 4 other secondary roads. Pedestrian movements should have priorities within these residential areas. This can be achieved by refining and constraining the junction corners and introducing a pedestrian crossing at each of the link roads. This will allow for a safer and more permeable junction. This will also assist to establish a more usable heritage circuit around the town centre and along the river.
8. Reconfiguring the eastern roundabout at the start of Waikato Esplanade has the potential to enhance pedestrian connections and establish a formal entrance to the esplanade, which should be celebrated as a walking destination within the town.
9. The Octagon is an underutilised cultural and social amenity. It has strong ties with the Kiingitanga House and the heritage trail. Removal of that section of Durham Street and extending the park to the rail line (with appropriate safety fencing) is suggested. Upgrades to seating and a temporary (summer) kiosk should be considered, particularly as pedestrian connectivity is improved.



Photo 13. A direct connection with Jesmond Street will encourage greater use of surrounding open space



Photo 14. Better access to the octagon will enhance the cultural and social experience of the town

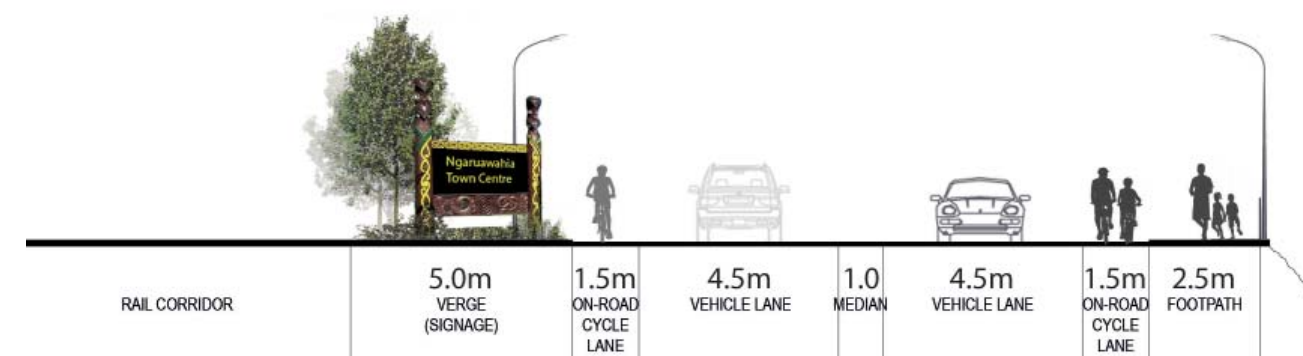


Figure 5. Indicative cross section - Great South Road gateway to Ngaruawahia town centre



Figure 6. Indicative cross section - corner Jesmond Street and Great South Road - narrowing to one lane and provision of outdoor open space outside the library and southern side of the street

2.4 Taupiri

Taupiri is located on the eastern bank of the Waikato River approximately 7 minutes north-east of Ngaruawahia and is overlooked by Mount Taupiri – the sacred burial ground for Maori of the Waikato iwi. The township was settled by Pakeha in the 1870s and became a farming centre with flax mills, a sawmill and a dairy factory.

The population of Taupiri is approximately 440 people. The township has a significant Maori population (approximately 38%), while approximately 58% of the population identify as of European ethnicity. Taupiri also has a significant youthful population, with approximately 25% aged 14 years of age or younger. Approximately 62% of the population is of ‘working age’ (between 15 years and 64 years of age).

The landscape surrounding Taupiri is dominated by the presence of Mount Taupiri which has significant cultural value to Maori (particularly local iwi, Waikato Tainui) as a burial ground.

The existing Taupiri town centre is small with a mix of retail and service uses. The Church sits on a prominent site on the corner of the State Highway at the entrance to the town centre. There is a collection of education services to the north of the town centre that consists of a Primary School and a Daycare Centre. To the east of the town centre is an area of light industry that sits adjacent to the rail line.

The Taupiri Rugby Club and Tennis Courts are well respected within the wider Ngaruawahia Region. Many teams from all over the region come to Taupiri especially to play there.

The new Ngaruawahia bypass and the railway line cut through the town making movement through the area difficult. To the west is the old State Highway running alongside the Waikato River and effectively isolating it from the rest of the town. Due to the opening of the new by-pass, vehicle traffic has reduced but overall the town is still traffic dominated.

The town centre is located off the main road and provides a more pedestrian friendly environment compared to the main road. The school, Rugby Club and Church can all be accessed from side roads away from the State Highway creating a safer environment for parents and children.

Photos 15 to 23 portray the township and some of the key issues identified during analysis.

Taupiri is zoned predominately for residential activities and the majority of the township is zoned ‘Living’ and ‘Country Living’. There are also a number of sites identified as the ‘Business Zone’ and a small proportion of land is allocated to the ‘Recreational Zone’ and the ‘Pa Zone’. Taupiri township is surrounded by land zoned ‘Rural’.

Key strategic directions for the town include:

- Limited growth to the south and east of Taupiri is envisaged.
- There will be increased pressure on the town for potential logistics and industrial sites with the completion of the Ngaruawahia Section of the Waikato Expressway. Completion of the Ngaruawahia bypass will place pressure on the town for potential logistics and industrial sites.
- Future urban growth is possible on undeveloped countryside living areas.

(Source: Summaries of Waikato District Growth Strategy 2009)

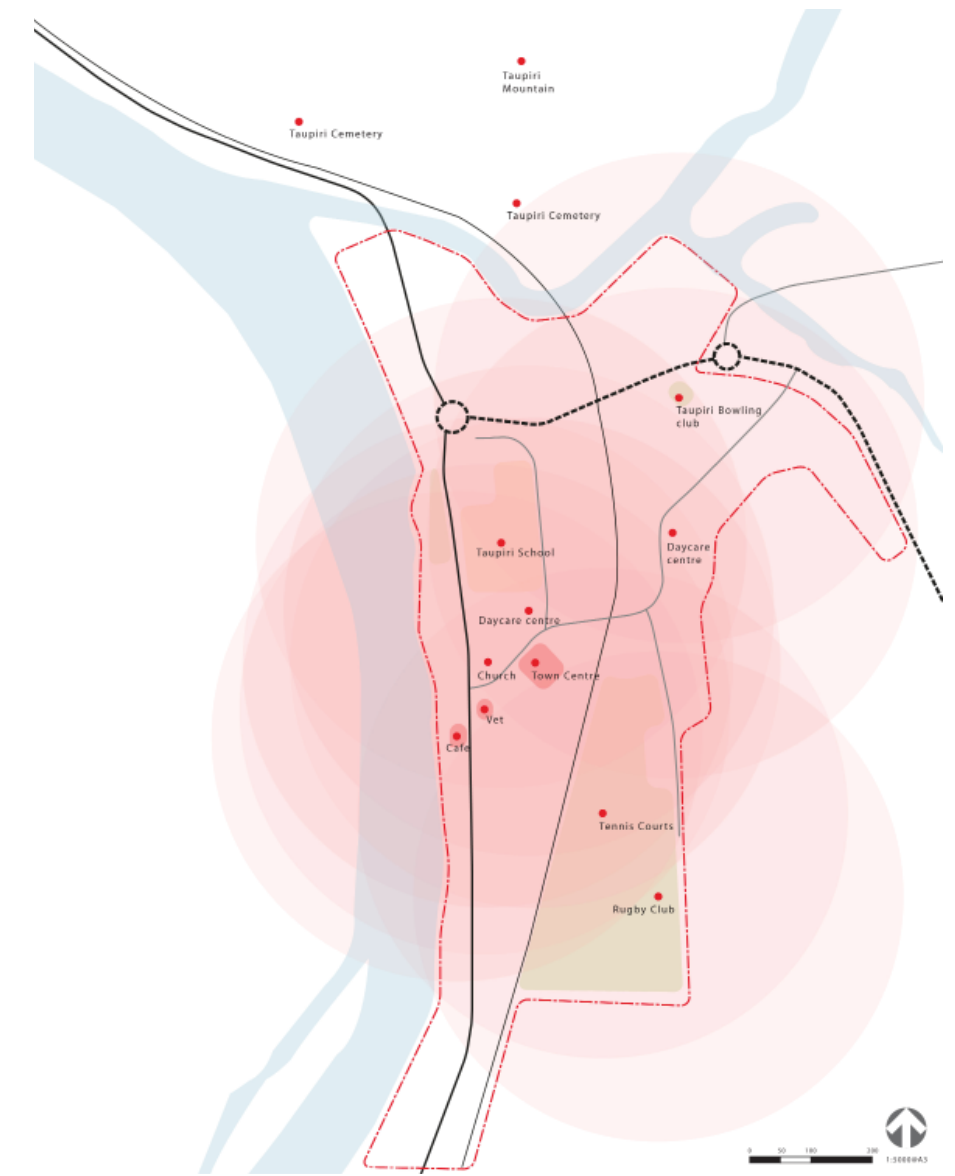


Figure 7. Walking distances from key amenities (400m walking circles from key activity nodes). Darker shaded areas identify those areas potentially well suited to residential development and/or intensification.



Photo 15. Dominant presence of Mount Taupiri



Photo 18. The Taupiri Rugby Club is well known in the Ngaruawahia area



Photo 21. Good outdoor amenities sit adjacent to the Rugby Club



Photo 16. The Church sits on a prominent site within the town centre



Photo 19. The location of the cafe provides opportunities for advertising



Photo 22. Small group of local amenities located off the highway



Photo 17. Pedestrian and cyclist routes are affected by the by-pass



Photo 20. Typical suburban housing



Photo 23. Pedestrian facilities are limited throughout the town

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Figure 8. Overarching key moves for future growth - landuse, connectivity and landscape

2.5 Hopuhopu

Hopuhopu is located approximately 6 minutes north-east of Ngaruawahia. The township was formerly the site of an army camp from 1920 until 1993 when the land was returned to Waikato-Tainui, who established a complex including the Waikato-Tainui Endowed College and tribal administrative centre.

The village is located off the main road and provides a pedestrian friendly environment compared to the main road. The school, Rugby Club and Church can all be accessed from side roads away from the State Highway creating a safer environment for parents and children.

Hopuhopu is predominately zoned 'Living', 'Business' and 'Pa' and is surrounded by land zoned for 'Rural' activities.

Any future planning for Hopuhopu should be undertaken in collaboration with Waikato-Tainui. Potential exists to support Tainui in the development of a significant cultural and visitor destination that reflects the Maori heritage of the area.

Photos 24-29 portray the township and some of the key issues identified during analysis.



Photo 24. Endowed College sits on a raised area to take advantage of the views



Photo 27. Limited pedestrian and cycle amenities



Photo 25. Large trees line the road as you enter the Hopuhopu area



Photo 28. Large public open space that opens out to the Waikato River

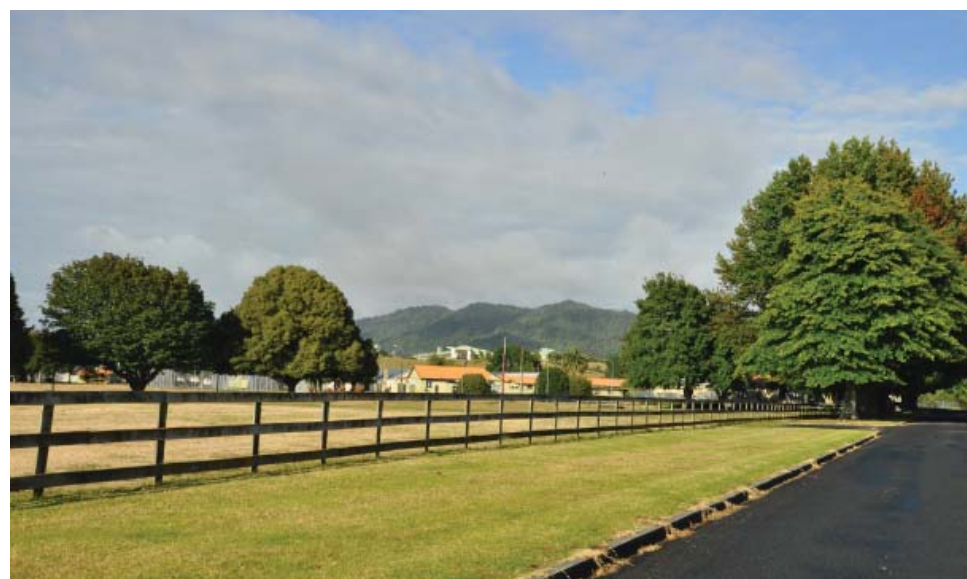


Photo 26. The historical army base is an important landmark



Photo 29. Tainui has a strong presence in the Hopuhopu area

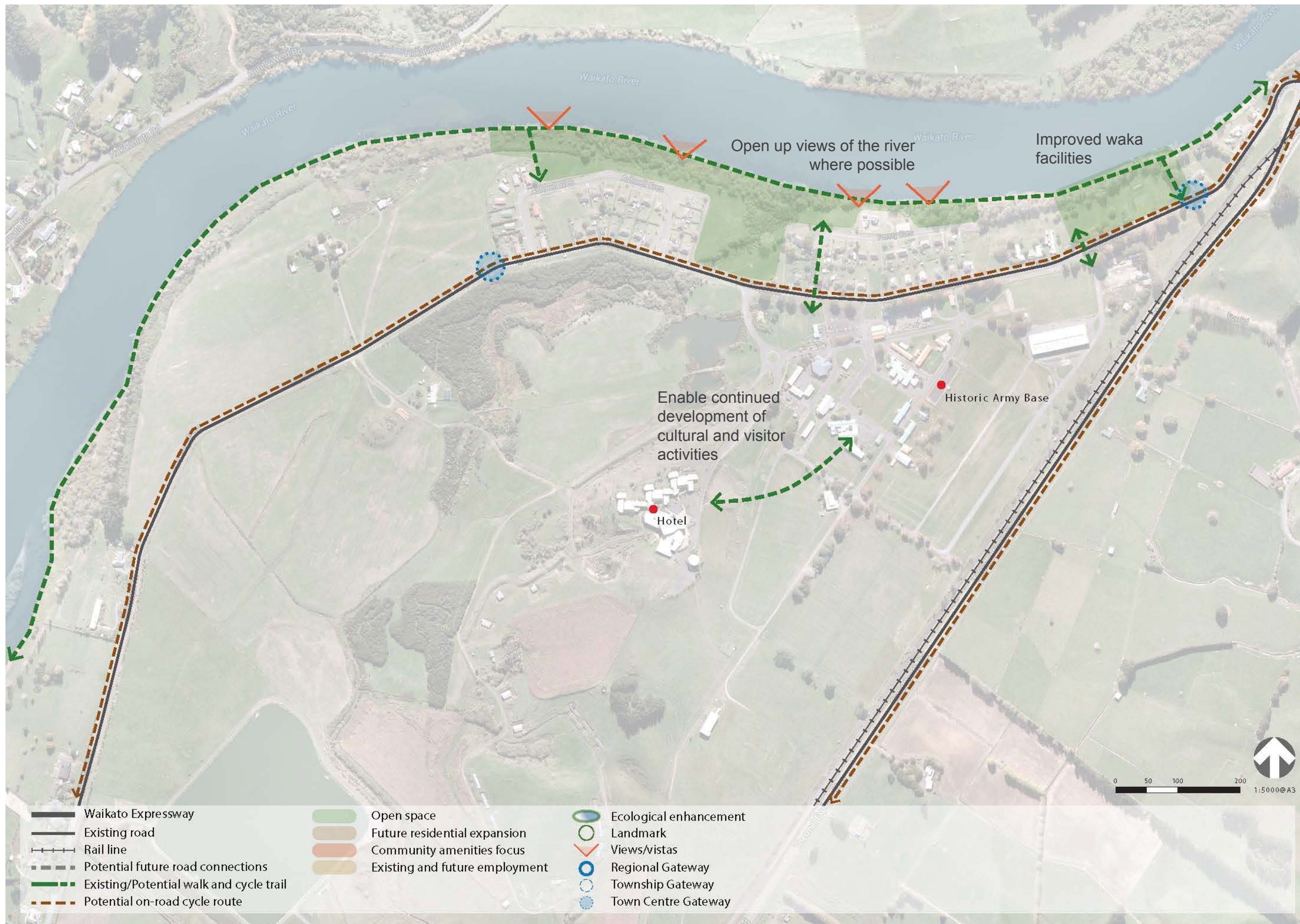


Figure 9. Overarching key moves for future growth - landuse, connectivity and landscape

2.6 Horotiu

Horotiu is located approximately 15 minutes' drive north of Hamilton and has a population of approximately 870 people. The population is largely of European ethnicity (approximately 64%) but there is also a significant component that identifies as Maori (approximately 27%). Horotiu has a notable dependent population – approximately 26% of people are younger than 14 years of age and 13% are 65 years of age or older.

Horotiu is predominately zoned for industrial activities with the majority of land either the 'Heavy Industrial Zone' or 'Industrial Park Zone'. There are also pockets of land which are dedicated to residential activities, including an area of land zoned 'Living' to the west of the industrial area and an area of land zoned 'Country Living' to the east of the industrial area.

Key strategic directions for the town include:

- Industrial growth at Horotiu with appropriately scaled development in existing settlements, in order to capture economic investment (Summary of Waikato District Growth Strategy 2009)
- Strategic transport interchange (Te Rapa Bypass, Ngaruawahia Bypass) with development of substantial employment hub, sensitive to community and natural environment (Summary of Waikato District Growth Strategy 2009)
- Residential developments close to river around Horotiu Bridge and around the existing village (Summary of Waikato District Growth Strategy 2009).

Photos 30-34 portray the township and some of the key issues identified during analysis.



Figure 10. Walking distances from key amenities



Photo 32. One of the few public amenities in the town



Photo 30. Local dairy is the only store within the town



Photo 33. Horotiu Primary School



Photo 31. Suburban property backing onto an industrial site



Photo 34. Local industry



Figure 11. Overarching key moves for future growth - landuse, connectivity and landscape

2.7 Te Kowhai

Te Kowhai is located approximately 17 minutes' drive north-west of Hamilton City and is a small rural town consisting predominately of dairy and cattle farms. The town is popular for new subdivisions and also comprises a primary/intermediate school, fruit and vegetable store, dairy and takeaways, mechanic, and a large park with a skatepark and playground. Te Kowhai Airfield is situated on the southern periphery of the town.

Approximately 62% of the population are aged between 15 and 64 years of age and approximately 16% are 65 years of age or older. It is noted that this 'old dependent' proportion of the population is the highest of all towns within the wider study area.

Te Kowhai is predominately zoned for residential activities and rural activities. The township includes both the 'Country Living Zone' and 'Living Zone', and has a small number of lots zoned 'Business'. The township is surrounded by a large expanse of land zoned 'Rural' on all sides.

Key strategic directions for the town include:

- Compact growth to the north of Te Kowhai Airfield and to the east of the stream
- Promote more local services and activities but retain the rural aspect and village feel of Te Kowhai
- Protect and enhance Te Kowhai Airfield operations.

(Source: Summaries of Waikato District Growth Strategy 2009).

Photos 35-38 portray the township and some of the key issues identified during analysis.

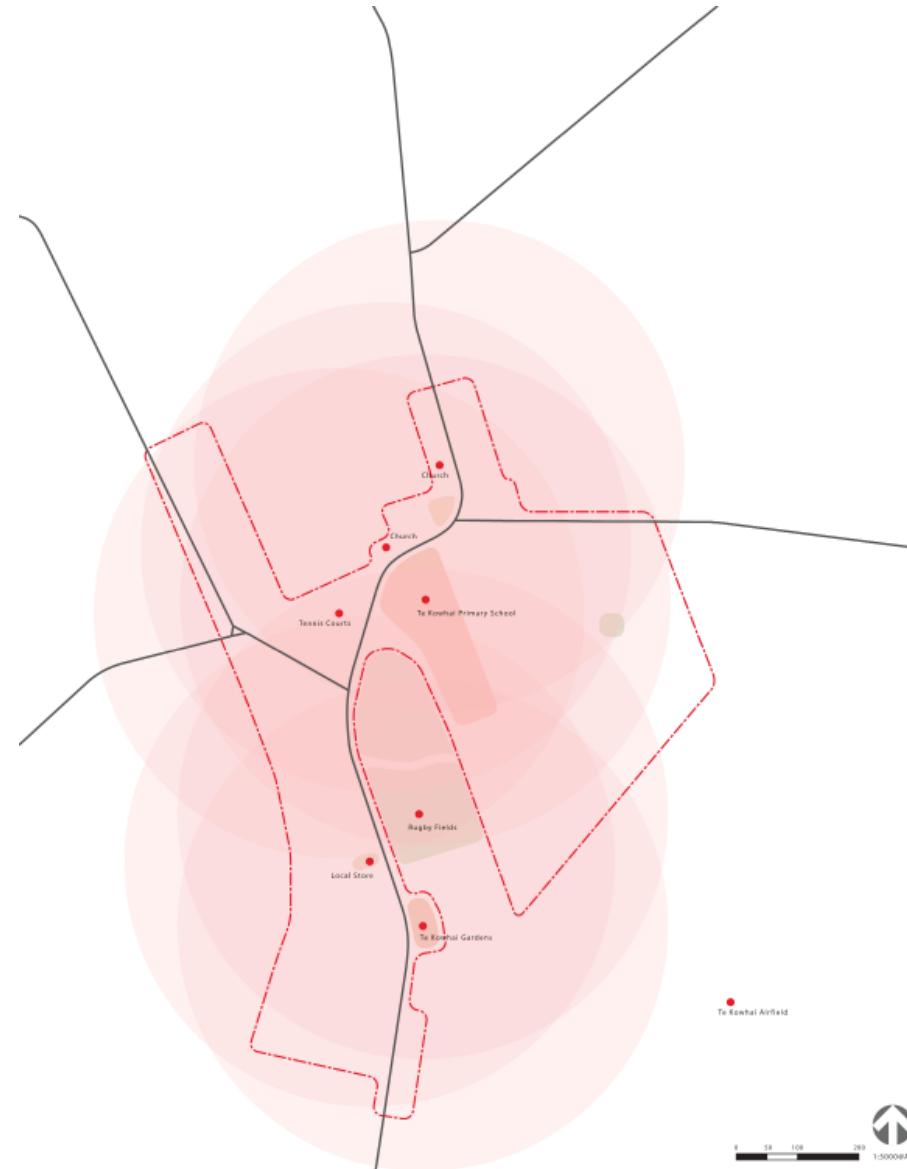


Figure 12. Walking distances from key amenities



Photo 36. Open space and street layout respond to views and vistas



Photo 37. Large public park at the entry of the suburban development



Photo 35. Local dairy is isolated from the town centre



Photo 38. Te Kowhai Automotive is the only light industry in the area

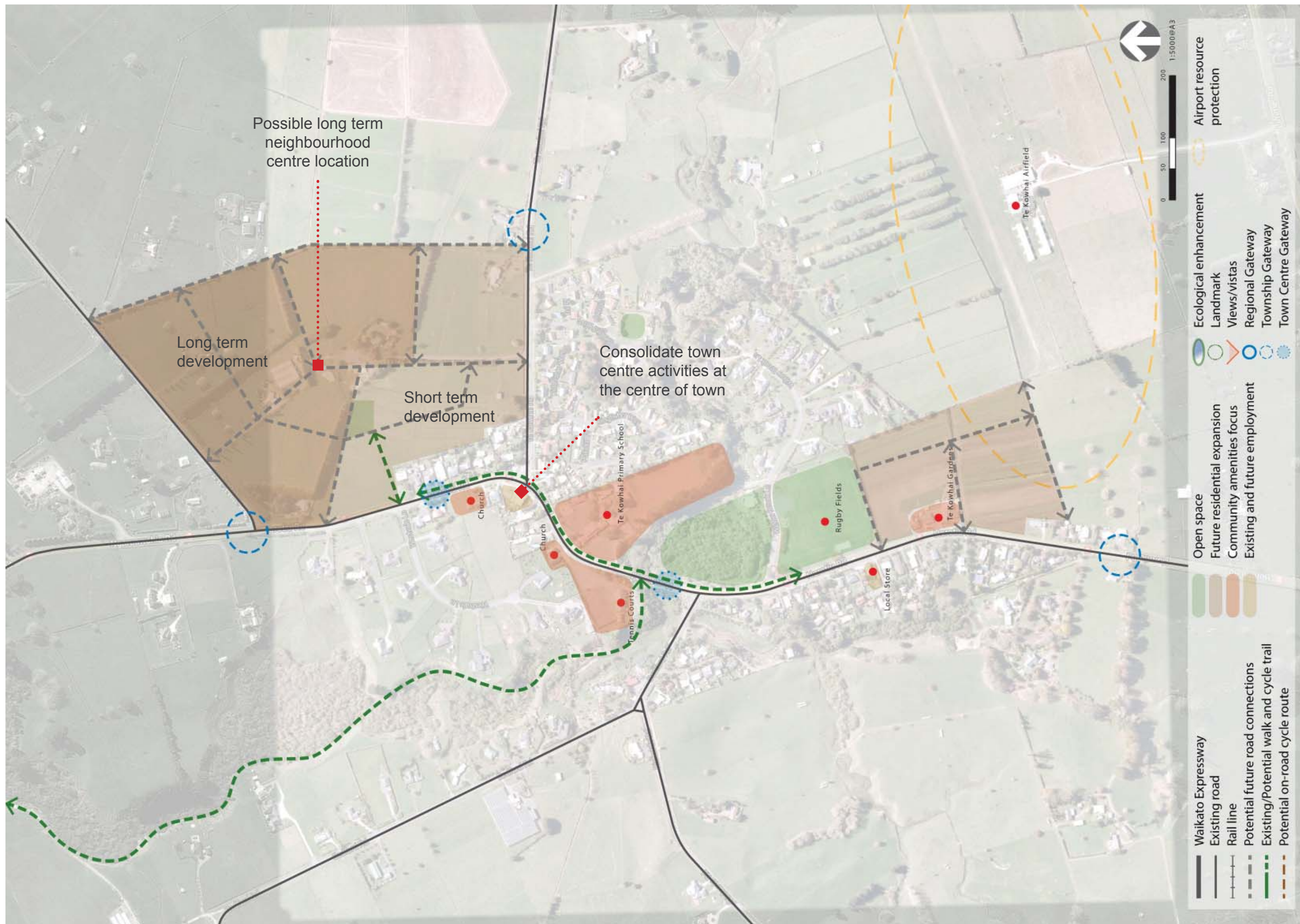


Figure 13. Overarching key moves for future growth - landuse, connectivity and landscape

2.8 Glen Massey

Glen Massey is an old mining village located approximately 12 minutes' drive west of Ngaruawahia.

Glen Massey is zoned predominantly for residential and rural activities. The village itself comprises of land zoned for both 'Living' and 'Country Living' and is surrounded by land that has been identified for the 'Rural Zone'.

Photos 39-45 portray the township and some of the key issues identified during analysis.

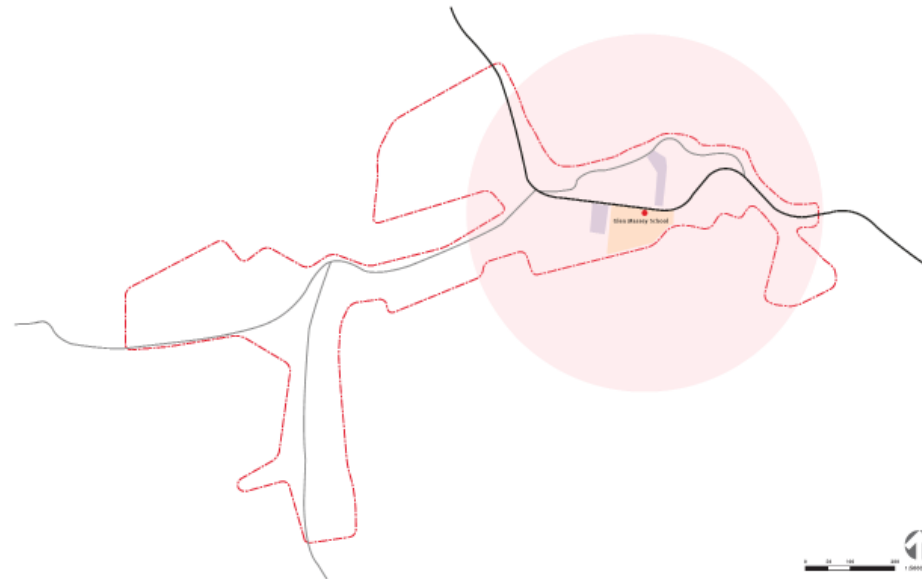


Figure 14. Walking distances from key amenities



Photo 43. Tired and abandoned looking dwellings



Photo 39. The Glen Massey township is nestled within the hills



Photo 41. Well respected school within the Ngaruawahia area



Photo 44. Limited amenities for pedestrians and cyclists



Photo 40. Only recreational space in the town is within school grounds



Photo 42. Typical residential street within the Glen Massey area



Photo 45. Open space and street layout respond to views and vistas

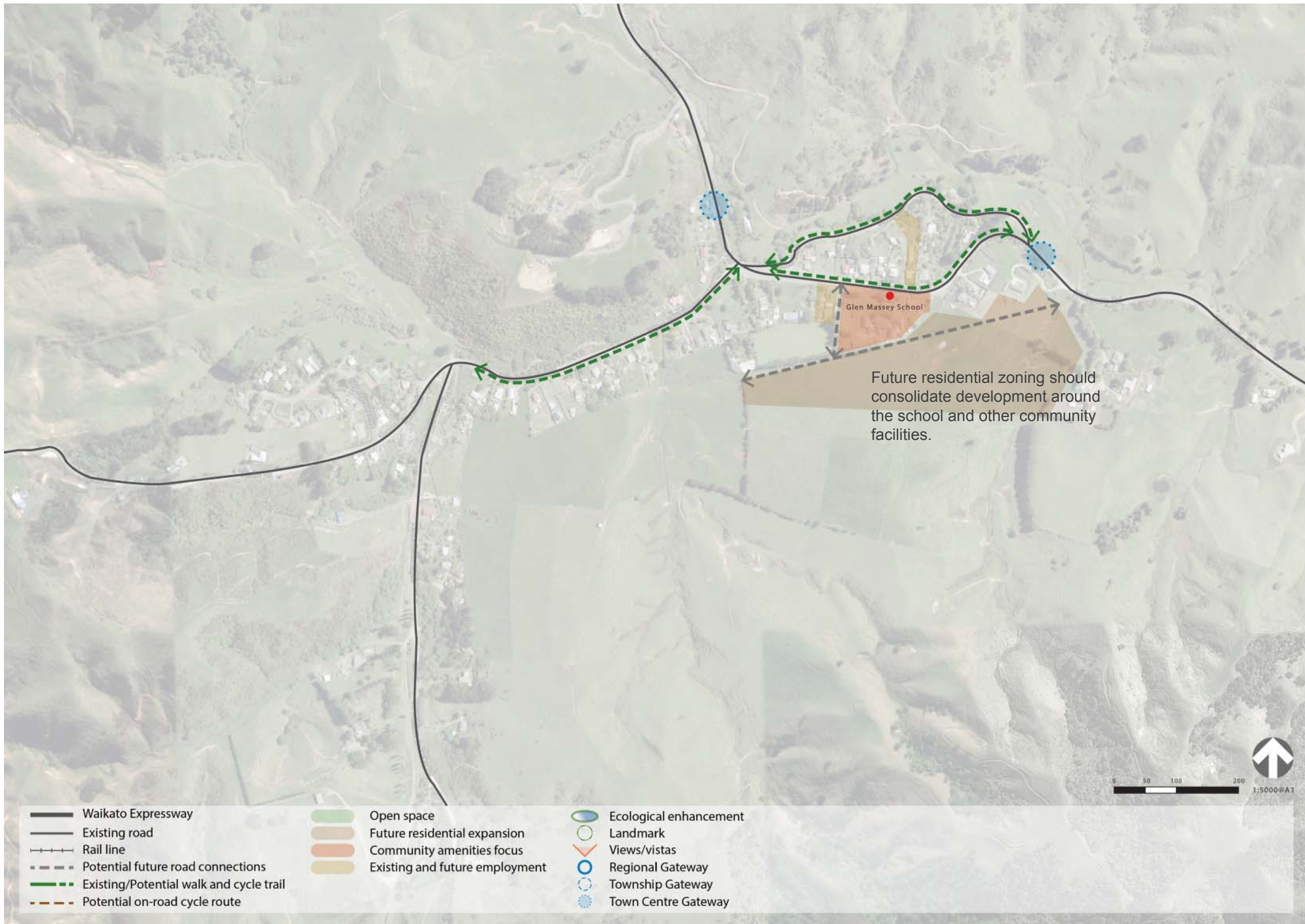


Figure 15. Overarching key moves for future growth - landuse, connectivity and landscape

3.1 Residential Design Guidelines

The following guidelines for residential development have been prepared in response to issues facing Tuakau and Ngaruawahia in relation to residential development, but are also relevant to smaller townships within the Waikato District as they experience development pressure. The guidelines can be applied at multiple scales of design, including:

- Structure planning for the wider township areas
- Structure planning for neighbourhood growth areas
- Subdivision design (through subdivision standards)
- Dwelling design (through bulk and location standards within the district plan).

Prior to undertaking structure planning and/or subdivision design, an assessment (including mapping) of the following site qualities (as a minimum) should be carried out to gain a thorough understanding of the opportunities offered by the site:

- Topography and landform
- Flora and fauna
- Soil conditions
- Open spaces, green networks and waterways
- Accessibility to river areas and other significant amenities
- Features of heritage and cultural significance
- Potential flood areas and other natural hazards
- Movement networks, including walkways, cycle routes and streets
- Surrounding land use and built character

Building on and responding to the site assessment, the following key matters should be considered as part of the design process going forward:

- Subdivision and site layout
- Movement and connectivity
- Public open space and streetscape
- Cultural values - in particular, Maori urban design principles

Each of the above matters is further outlined hereafter.

3.2 Subdivision and site layout

Design Principles

- Much of the Tuakau and Ngaruawahia environs consist of relatively flat topography. Subdivision design over flat sites should, at least in part, seek to establish a regular (or near-regular) grid pattern that provides strong connections to existing movement networks (including walkways, cycle routes and streets). Where streets are unable to form continuous routes, walkways should be used to complete the grid patterns and retain permeability.
- Within residential areas grid patterns should establish blocks of between 100 – 200 metres in depth and width, facilitating walkable, permeable neighbourhoods and avoiding internal

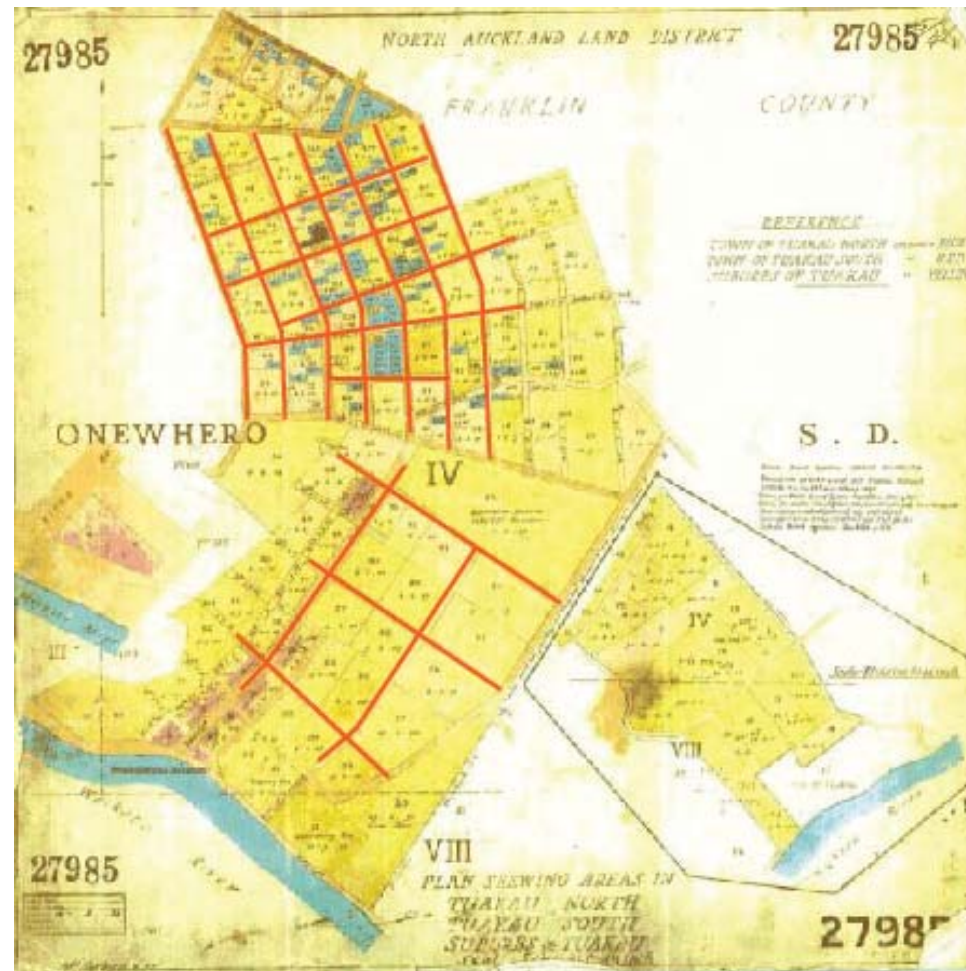


Figure 16. North Auckland Land District map, dated 14 March 1935, showing original planned grid pattern of township.

lots. The use of cul-de-sacs should be avoided wherever possible.

- Subdivision design should avoid the use of 'rear lots'. Such lots add little value to the wider community and can result in safety issues, particularly where access ways are narrow and have little visual connection with the street.
- Wherever a regular grid pattern is unachievable or not appropriate, an informal grid pattern needs to be established. The pattern should provide strong connections to existing movement networks and include walkways and cycle routes.
- Design urban blocks for lots to have 'fronts facing fronts' and 'backs facing backs'. Avoid developing rear lots within a block. These reduce the privacy of adjacent sites and increase the depth and size of the block.
- Provide lots with sufficient area and dimensions to meet user needs. Ideally lots should be rectangular in shape, with dwellings located at the front by the road to allow the development of private back yards.
- Design lots so that future dwellings can locate their front door towards the street – assisting to improve the character and safety of the neighbourhood.
- Specify dwelling setbacks for streets, and locate garages a specified distance back from the dwelling's front façade.
- Within any neighbourhood, provide a variety of different sized lots, creating a diverse community, rather than catering for only one residential market. This may include (refer figure 19):
 1. Compact residential type units in close vicinity to town centres and multifunctional open space. These dwellings will be particularly appropriate for singles, couples without children and elderly.
 2. Mixed use commercial/residential sites within town centres (subject to appropriate development controls to ensure a good standard of living is achieved). These

dwellings will be particularly appropriate for young people and professionals looking for a live/work lifestyle.

3. Low density residential .

4. Rural residential, offering potential for horticulture / country living lifestyles.

- Provide for minimum dwelling unit sizes (excluding parking and outdoor living space). The following areas are recommended:
 - 1 bedroom / studio units: 45m²
 - 2 bedrooms: 70m²
 - 3 bedrooms: 90m².
- Orient lots to ensure sheltered microclimates can be delivered, receiving adequate winter sunlight in outdoor and indoor living spaces. For any standalone, semidetached or duplex dwellings, provide a single, usable outdoor living space:
 - Minimum 35m² in area, with a minimum dimension of 4m
 - Orientated to the north, east or west (preferably north or west to capture the afternoon sun)
 - Attached to habitable indoor space (e.g. living room).
- Locate outdoor living spaces to the side or rear to avoid the need for tall solid fencing.
- Design driveway crossings and vehicle access to less than 40% of any site frontage with the road.
- Incorporate principles of Crime Prevention Through Environmental Design (CPTED) in the design of subdivisions (including regular safety-in-design reviews during the design process).

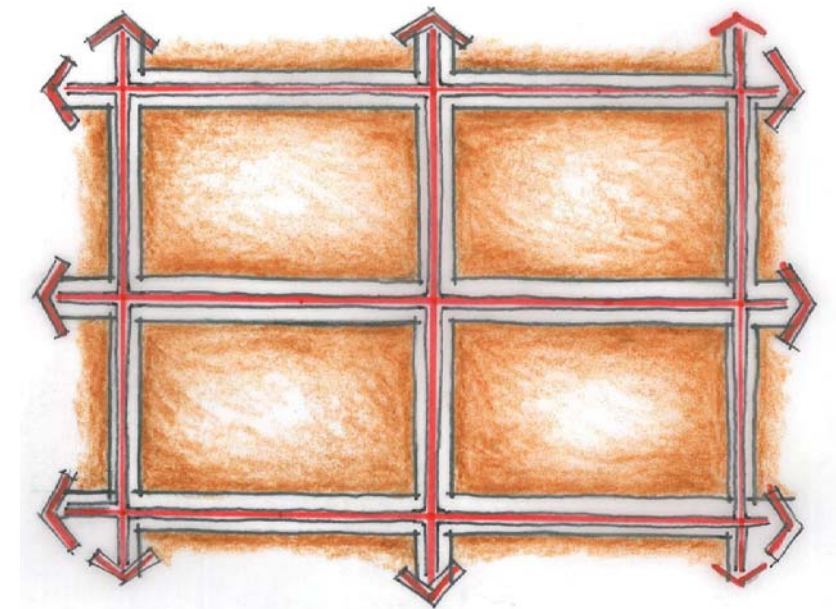


Figure 17. Grid pattern blocks promote connectivity and permeability, and subsequently enhance personal wellbeing and reduce vehicle kilometres travelled.

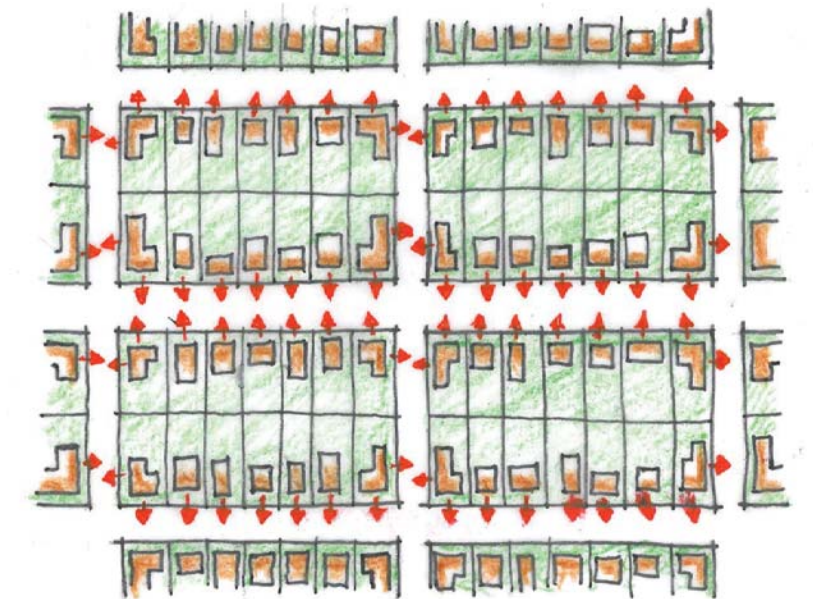


Figure 18. Grid pattern blocks, designed so that all residents have a 'street address' facilitate safer streets and social interaction, while providing potential for good on site amenity.

3.0 Design Guidelines

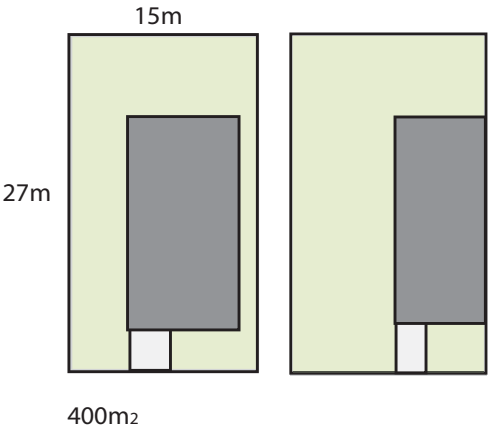
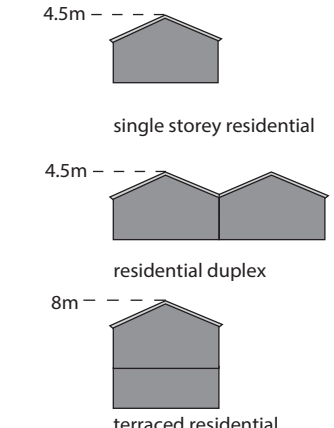

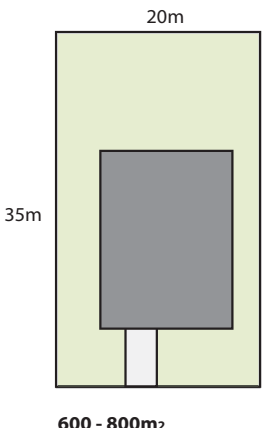
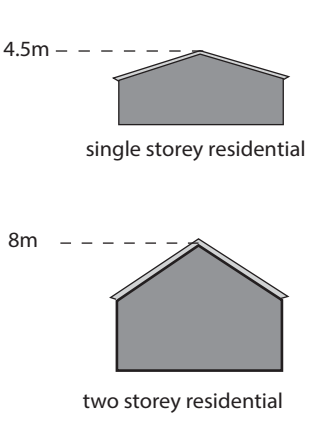

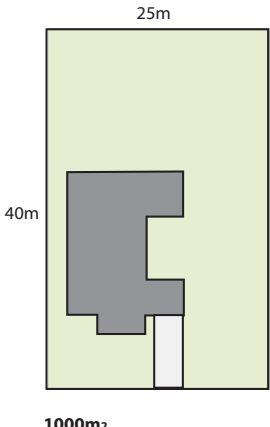
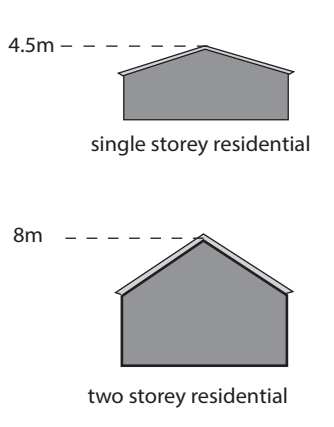
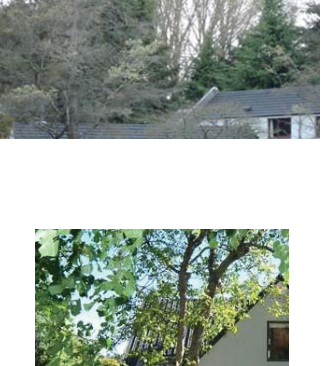
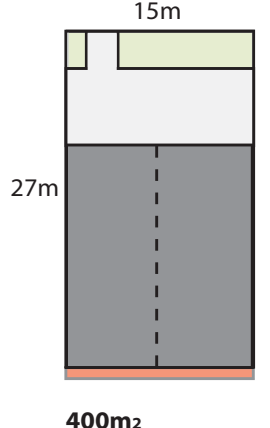
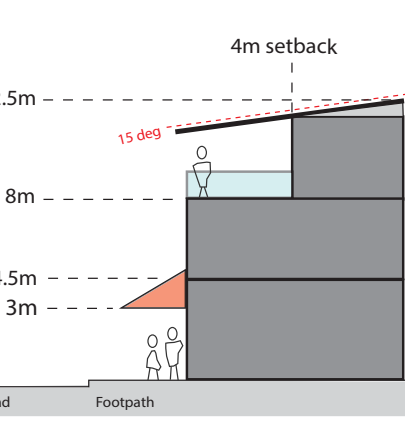

PLAN	SECTION	DESCRIPTION	EXAMPLE
<p>COMPACT RESIDENTIAL</p> 		<p>Compact residential lots between 150-300m² are encouraged to maximise density close to the Ngaruawahia and Tuakau town centres and adjacent to multifunctional public open space providing active and passive recreation opportunities (e.g. Dr Lightbody Reserve).</p> <p>With dedicated outdoor living space located to maximise sun, the built form on these compact lots could consist of:</p> <ul style="list-style-type: none"> - a one or two storey single dwelling - a one or two storey duplex - a terraced dwelling 	
<p>RESIDENTIAL</p> 		<p>Low density residential lots with an average area of 600m-800m² are encouraged to respond to existing market demand and maintain consistency with existing character. The built form on these lots will generally consist of a one or two storey single dwelling, with dedicated outdoor living space located to maximise sun.</p>	
<p>RURAL RESIDENTIAL 1000m² or greater</p> 		<p>Rural residential lots are provided for in a number of areas surrounding Ngaruawahia and Tuakau. Generally, the overarching principles of public realm relationship for all residential should also apply to rural residential. Further, subdivision and site layout should not preclude future intensification should this be deemed appropriate (i.e. as the growth occurs).</p>	
<p>MIXED USE RESIDENTIAL</p> 		<p>Good quality, mixed use buildings are encouraged within Ngaruawahia and Tuakau town centres, with retail space below and residential above. This will assist to create greater vibrancy within the town centres over time. This layout will also help to maintain a level of safety on commercial streets through passive surveillance during both the day and night. Good quality, high amenity indoor and outdoor (i.e. verandah) living space, and acoustic insulation, is essential to creating liveable town centre environments.</p>	

Figure 19. Example of residential typologies (Adapted from Waipa District Council Town Concept Plan).

3.3 Movement and connectivity

Overview

The way in which movement networks are laid out is one of the most influential ‘drivers’ of urban form and how successful a place will be. This is because, unlike land uses and allotments, roads and networks can’t be easily moved, changed, or removed. The nature of street use requires careful consideration at the time of structure planning and subdivision, and must provide for a hierarchy that continues to recognise the importance of a pedestrian and cycle friendly environment. Building a hierarchy of street types over a grid network will provide pedestrians, cyclists and drivers with options as to the safest routes available to avoid conflict with one another. Subdivision design should provide for alternative routes (e.g. pedestrian routes, shared surface roads and local collector roads) while remaining sympathetic to an overall notion of a pedestrian and cycle friendly environment.

Blocks that are too deep or too long limit the number of connected routes within a neighbourhood and increase the distances residents need to travel to services and amenities. This lowers the feasibility of pedestrian movement, and can add unnecessary vehicle kilometres travelled. Over a period of 10 or more years, this can add up to thousands of kilometres (and thousands of petrol litres) saved.

The movement networks will also determine the way in which developments provide better or worse opportunity for safety, community, and social contact, privacy, and areas of intensity that will support local shops and amenities.

A connected network of roads, lanes, and paths as opposed to a series of unconnected cul-de-sacs, increases accessibility for residents, allows for safer and more efficient movement of vehicular and non-vehicular traffic, and enables more efficient infrastructure provision. Over the longer term, it also delays the need for substantial arterial route widening to manage poorly distributed peak traffic flows.

While subdivision applications are submitted on a site by site basis, there needs to be consideration of future connections, to ensure the neighbourhood and future developments are integrated and accessible. This includes the provision of roads, footpaths, cycleways, open space linkages and community facilities.

Key issues identified in the Tuakau and Ngaruawahia context

- Cul-de-sacs and dead-end roads, particularly in recent development, are reducing connectivity and permeability
- Lack of sustainable transport opportunities, e.g. walking and cycle routes
- Limited/poor pedestrian crossings
- Lack of a transport hub within the town centre

Objectives

- Increase pedestrian and cycle activity, and reduce vehicle dependence for local trips, through appropriate subdivision design.
- Ensure subdivision is integrated with the surrounding context, including existing residential and open space.
- Provide possibility for social, health and environmental improvements (e.g. less energy consumption, less emissions).
- Provide a variety of routes and choice particularly for vulnerable groups such as children, young women and the elderly.

Design Principles

- Wherever possible, walkways, cycle routes and streets should form part of a wider movement network, facilitating strong connections to the rivers, local amenities and other attractions. The Tuakau and Ngaruawahia environs have an abundance of existing amenities that have the potential to provide for the needs of future residents. Subdivision design should anticipate future development beyond its own boundaries and provide walkways, cycle routes and streets that can be connected to in the future. Cul-de-sacs should generally be avoided within subdivision design.
- Subdivision that makes strong connections with existing routes and anticipates future routes and connections is highly encouraged. In particular, new routes should be established to enhance existing walkways and cycle routes that connect with local neighbourhood and town centres.
- All roads should be designed to cater for cyclists and pedestrians, including children, the elderly, the disabled, and parents with prams.



Figure 20. Formal grid patterns can maximise the relationship between open space and adjoining land uses

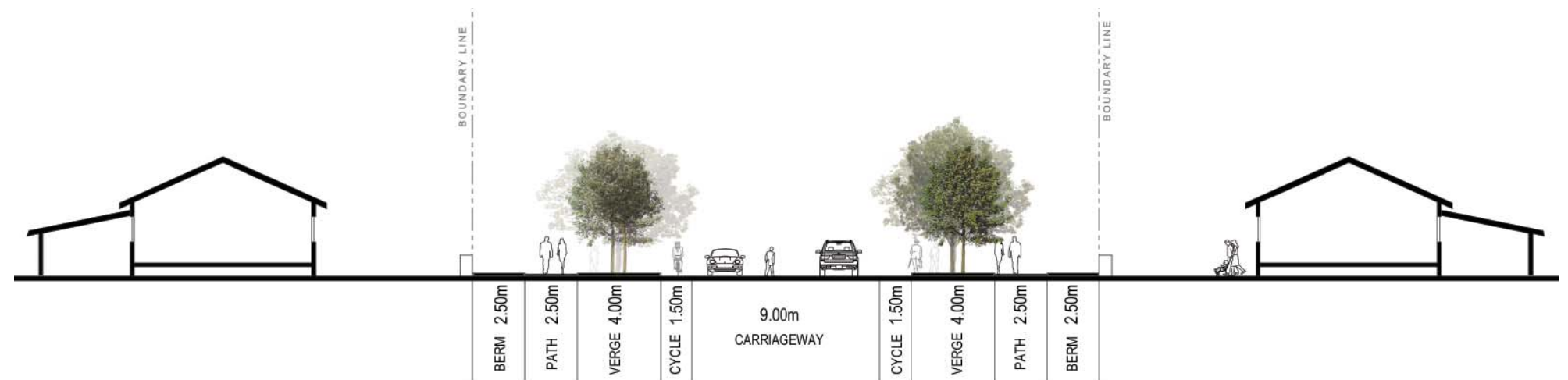


Figure 21. Indicative street layout, showing preferred uses within a 20m carriageway, with dwellings overlooking street.

3.0 Design Guidelines

- Intersections should provide pedestrian crossing points, including safe curb crossings and tactile paving.
- Separate cycle and pedestrian paths may be appropriate where an attractive longer route can be achieved without intersections - e.g. along esplanade reserves, as identified within the draft Tuakau structure plan.
- Consider where schools, sports uses, and other facilities are located, and the desire lines between these and other attractors (e.g. Tuakau and Ngaruawahia town centres; future train stations), to determine where walkway and cycleway connections are optimally suited.
- Design roads according to the anticipated traffic volume and desired vehicle speed. Determine the role of each route based on the wider environmental movement context, either as a local road or collector/ arterial road, and ensure the design is appropriate for that purpose.
- Footpaths should take precedence over vehicle crossings – the gradient and material of the footpath should be uninterrupted.
- Design tight intersections to slow and control traffic. Intersections need to be designed for the safety of pedestrians, cyclists, and mobility scooters.
- Roundabouts can be unsafe for pedestrians and cyclists and should only be used after other intersection designs have been explored
- The width and positioning of walking and cycle routes should not adhere to a rigid standard, but rather should respond to their particular location and function. Notwithstanding this, the following principles should be adhered to during the design process:
 - Passive surveillance should be facilitated through subdivision design that provides for dwellings overlooking streets, pedestrian and cycle networks
 - Low and/or see through fences should be provided for along property boundaries
 - All walkways and cycling routes should be attractively designed so as to attract users
 - Routes along high fences or to the rear of buildings should be avoided
 - Provide for clear signs along the length of all routes.

3.4 Public open space and streetscape

Overview

Parks, open spaces and the streetscape are important elements of a town centre and residential neighbourhoods. They provide opportunities for recreation and social interaction, and their spaciousness contrasts with the built form of the urban areas. The manner in which a subdivision relates to or provides public spaces (such as roads, parks, and streams) is very important for visual amenity and safety. Too often parks are inconveniently located, inappropriately sized or poorly overlooked, being comprised of left-over land from the lot design process.

The standard and appearance of street trees, plantings, paving, walls, fences, seats and other structures play an important role in establishing the identity, quality, amenity, visual interest and character of a subdivision.

Key issues identified in the Tuakau and Ngaruawahia context

- Limited public open space within existing and proposed residential areas.
- Lack of relationship between open space and surrounding land uses.
- Limited amenity landscaping within new neighbourhoods.
- No obvious links between open spaces / parks.

Objectives

- Enable environmentally cost effective and responsive design.
- Enable opportunities for contact between residents and social interaction.
- Identify and accommodate natural and cultural elements in and around the site, creating a unique identity.
- Maintain and enhance ecological values.
- Create unique identity that responds to the existing characteristics of the area.
- Maintain natural storm-water paths.



Figure 22. Roads can be constructed to connect with future development.



Figure 23. Playgrounds and other amenities should form a central focus for local neighbourhoods.

Design Principles

- Provide open spaces based on what type of space would add the greatest value to the neighbourhood. In some instances, high quality ecological corridors or pedestrian linkages are more desirable than neighbourhood reserves if there are existing ones close by.
- The number of parks and open spaces in a neighbourhood and their amenities need to be based on:
 - The needs of the community reflected by population density and demographics
 - The types of users and their requirements
 - The participation rates for selected activities
 - Use and access to existing facilities, and gaps in amenity provision
 - Opportunities for dual purpose functions (active and passive recreation).
- Locate open spaces where they are highly prominent and accessible within the local area. Open spaces should be located within walking distance of all allotments, positively contributing to residential amenity; typically aim for no more than 400m of actual walking route distance, but 200m wherever possible.
- Use open spaces as a design feature, adding value to the lots by strategic location of dwellings in relation to open spaces. Parks should not be made of 'left-over' land. The location and design should be informed by the neighbourhood context and site analysis.

- Open space design should always seek to offer the following qualities:
 - Be usable and functional, allowing for a variety of passive and/or active recreational activity, including children's play, sports, and social gatherings
 - Provide for seating and, where appropriate, toilet and changing facilities
 - Be of ecological value, by connecting to and extending adjoining habitat areas and green spaces; preserving habitat areas on site (e.g. mature trees, wetlands and water courses) and incorporating ecological planting of native species
 - Where appropriate, assist in the implementation of sustainable drainage strategies
 - Be centrally located, as opposed to peripheral
 - Be integrated with existing walkways and cycle routes
 - Be overlooked and positively addressed by adjacent streets and/or walkways
 - Be designed so as to be physically accessible to all residents
 - Be visible from adjoining streets and residential development, so as to enhance safety
- Locate and design parks to take advantage of existing trees and features of interest (natural and cultural), adding identity to the neighbourhood.
- Any significant areas of vegetation on site should be retained and enhanced. Such retention may be incorporated into boundary treatment or site features and should, wherever possible, form part of a wider green network.
- Provide open spaces overlooked by streets and dwellings, to improve safety and encourage use of open spaces (refer figure 24). Evidence shows that open space overlooked by streets *and* dwellings benefits from greater use over longer periods of the day. In particular, the movement of vehicles past open space, along with the coming and going of residents and overlooking dwellings, increases passive surveillance, reducing the likelihood for crime. In this regard, it is recommended that at least 50% of open space edges should front public streets (with residential land use on the opposite side).

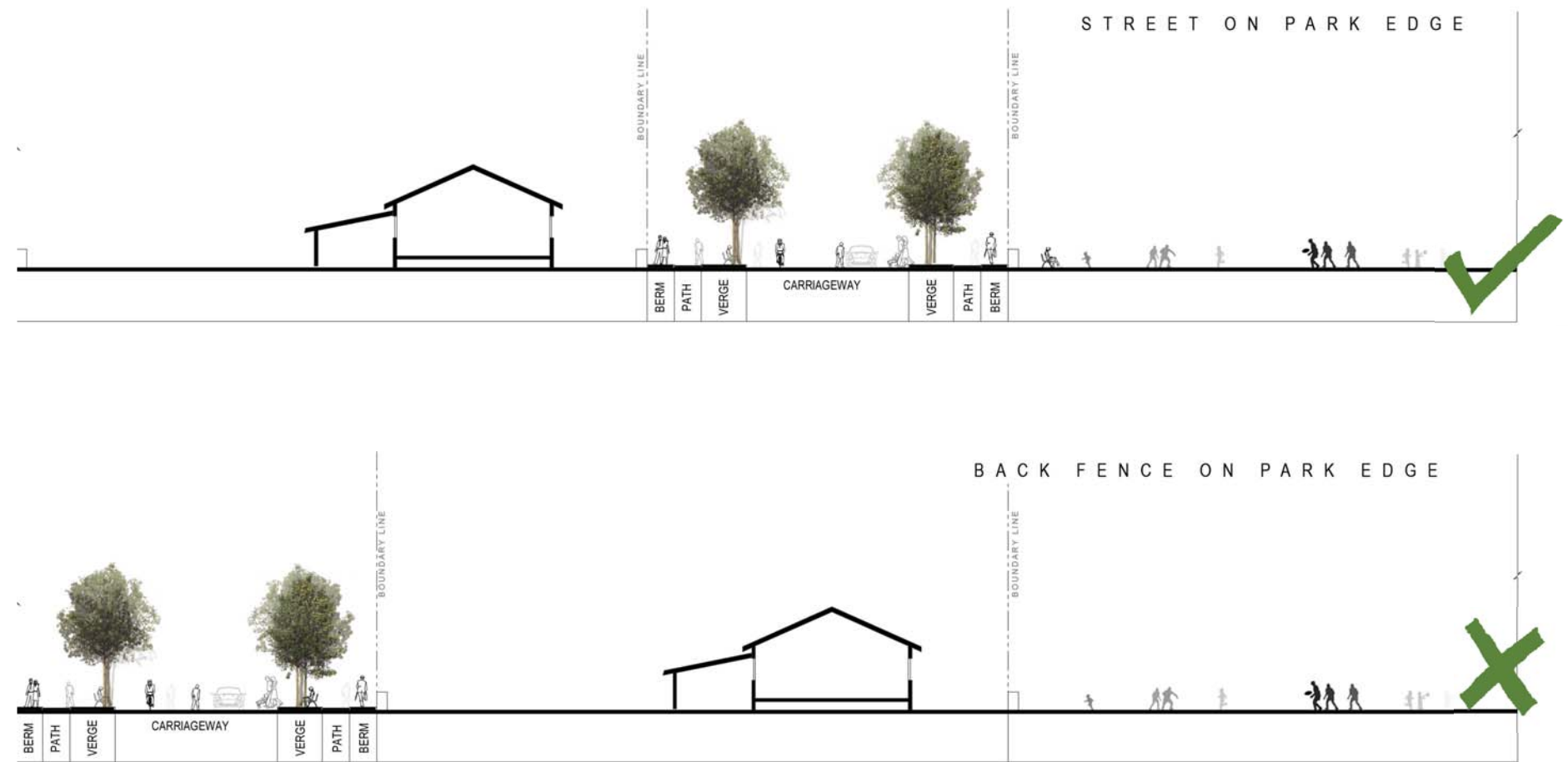


Figure 24. Open space should be located so that it's visible from the street, and not located to the rear of dwellings.

3.5 Maori Urban Design Principles

Given the significant Maori cultural values and population that exists through Tuakau and Ngaruawahia and environs, it is appropriate that structure planning, subdivision and detailed design give regard to Maori urban design principles, to further enhance the social, cultural, economic and environmental wellbeing of both Maori and non-Maori. The following principles (adapted from the Auckland Council Urban Design Manual) have been tested in various design projects throughout New Zealand and provide a concise response to the key issues often found in projects. These principles should provide a guiding hand to design professionals, the Waikato District Council and stakeholders moving forward, but also be applied through the design process with the assistance of local iwi as key stakeholders.

Whakapapa - Names & Naming

- Recognise and celebrate the significance of mana whenua ancestral names
- Recognise ancestral names as entry points for exploring and honouring tūpuna, historical narratives and customary practises associated with development sites and their ability to enhance sense of place connections

Tohu - The wider cultural landscape

- Acknowledge a Māori world view of the wider significance of tohu / landmarks and their ability to inform the design of specific development sites
- Support a process whereby significant sites can be identified, managed, protected and enhanced
- Celebrate local and wider unique cultural heritage and community characteristics that reinforce sense of place and identity

Taiao - The natural environment

- Sustain and enhance the natural environment
- Local flora and fauna which are familiar and significant to mana whenua are key natural landscape elements within urban and / or modified areas
- Natural environments are protected, restored or enhanced to levels where sustainable mana whenua harvesting is possible

Mauri Tu - Environmental Health

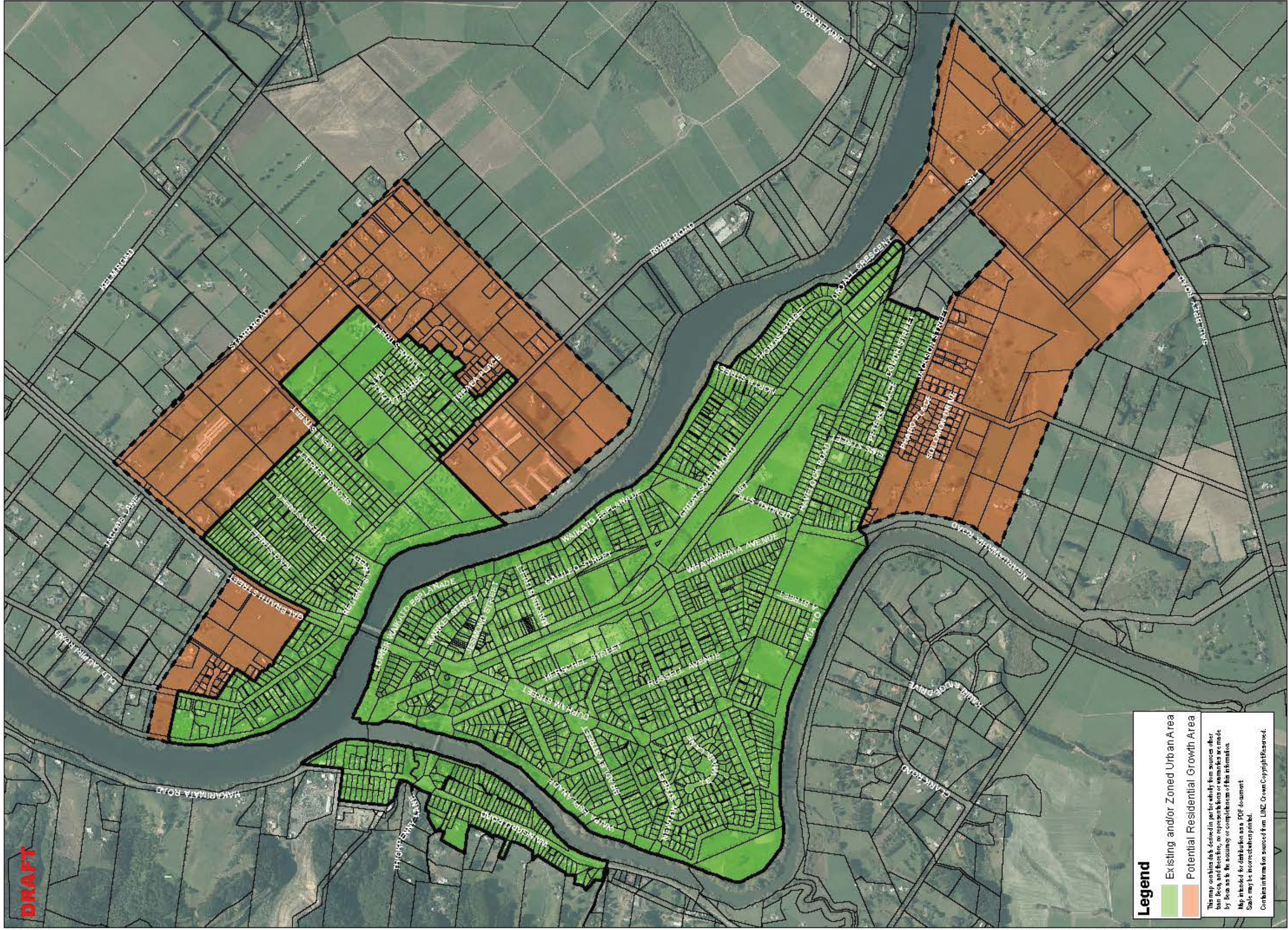
- The wider development area and all elements and developments within the site are considered on the basis of protecting, maintaining or enhancing mauri
- The quality of wai, whenua, ngāhere and air are actively monitored
- Water, energy and material resources are conserved
- Community wellbeing is enhanced

Mahi Toi - Creative Expression

- Ancestral names, local tohu and iwi narratives are creatively reinscribed into the design environment including: landscape; architecture; interior design and public art
- Iwi / hapū mandated design professionals and artists are appropriately engaged in such processes

Ahi Kā - The Living Presence

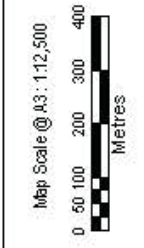
- Mana whenua live, work and play within their own rohe
- Acknowledge the post Treaty of Waitangi settlement environment where iwi living presences can include customary, cultural and commercial dimensions
- Living iwi/hapū presences and associated kaitiaki roles are resumed within urban areas



Legend

- Existing and/or Zoned Urban Area
- Potential Residential Growth Area

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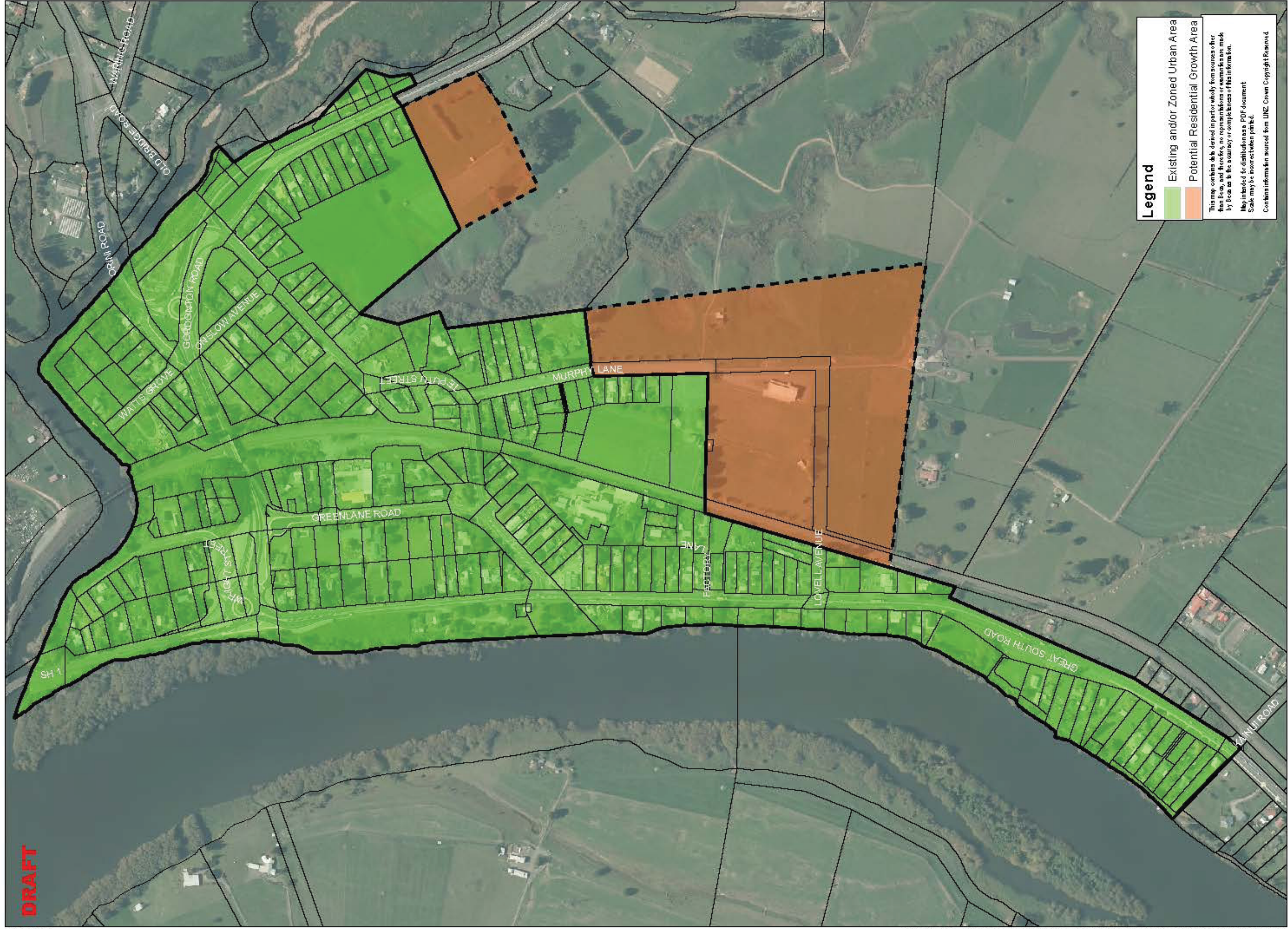
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Project:	WDC Structures	Drawing No:	GIS-341193-003



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- Potential Residential Growth Area

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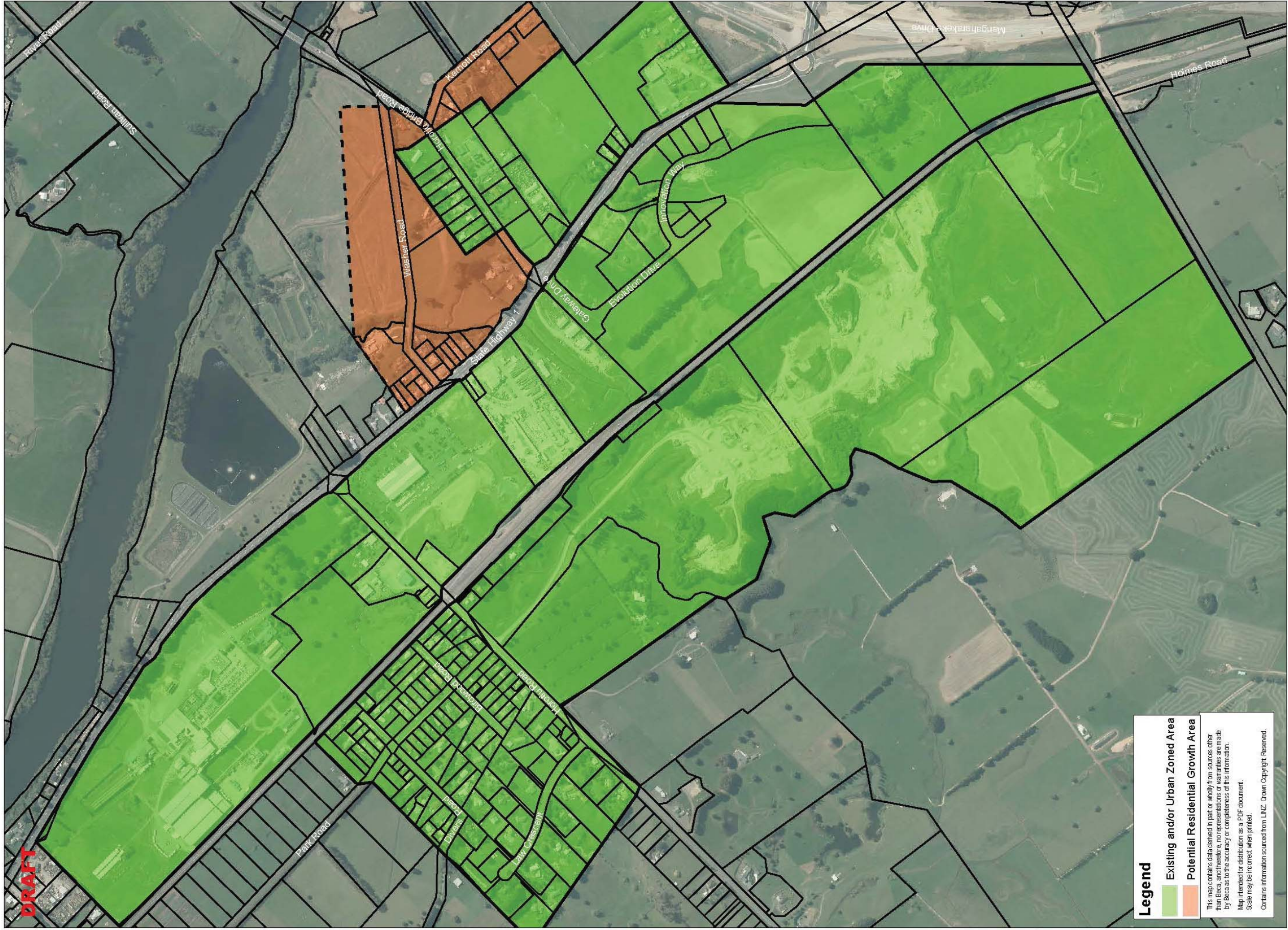
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Project: **WDC Structures**

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