

Maunu and Hora Hora

Structure Plan

Adopted February 2009

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1 Introduction

The Urban Growth Strategy, which was commissioned in 2002, identified a number of urban development issues around Whangarei City that needed addressing by Council and the Community. The resulting recommendations were adopted in 2003 as an official Council working document.

The Urban Growth Strategy divided Whangarei City environments into eleven distinct areas for ease of reference and administration. These areas became known as Structure Plan Study Areas, with each having its own detailed study for planning purposes.

In each of these study areas, a number of public meetings were held with local residents and interest groups to discuss specific planning proposals.

The land use proposals discussed in this report reflect the views of the community and Iwi, which were expressed from consultation meetings held in the Maunu area.

Council commissioned a number of technical studies to determine the physical opportunities and constraints to development. These include, but are not limited to, geotechnical reports, landscape reports, natural hazards assessments, transportation, and heritage assessments. In addition, residents' views and aspirations were collated and analysed against these report by technical experts from relevant Council departments for feasibility and funding perspective and the possible prioritising of potential development activities.

It is important to note that these proposals are long term and their implementation depends on their eventual incorporation into the statutory planning documents, such as the District Plan and the Long Term Council Community Plan. It is also important to note that further feasibility studies maybe required at the time of implementation of some of the proposals as circumstances changes with time.

Land identified for particular use in this Structure Plan is subject to legal processes of negotiated agreements, acquisition or designation. Council will follow due process in making sure that all necessary procedures are followed before any land use change takes place, as proposed in this Structure Plan.

Landowners or developers are free to apply for District Plan Changes using the recommendations identified in this Structure Plan where Council does not have such plans in terms of its policy on public/private plan changes initiatives.

1.1 Purpose of a Structure Plan

Structure Planning is an important tool in managing the orderly growth of the community to assure that adequate public services are provided, important natural and cultural assets are protected and the area remains competitive for jobs and investment. This Structure Plan is an example of 'integrated management' that brings together all of Council's functions in a plan for the Maunu/Hora Hora area.

The general purpose of this Structure Plan is to provide for the sustainable management of the natural and physical resources of the Maunu and Hora Hora area, in accordance with the aspirations of the local community and to the benefit of the wider Whangarei District.

The goal of all Structure Plans is to make progress toward sustainable communities with high quality of life, safety for all residents, efficient use of ratepayers' dollars and assurance of the long term viability of residential and business investment.

All Structure Plans are guided by three simple principles of land development to achieve these goals:

- **Transition** provide for a more **gradual** transition of densities from urban to countryside and **limit impacts on the state highway system and economic viability of agriculture.**
- **Contiguous** allow **long** term consolidation of the urbanised areas by allowing densities to increase on the fringes in the future as the **market demands.**
- **Infill** promote **infill** development in **areas that are now, or are planned to be, serviced.**

This approach to designating land for new urban development will help protect the essential economic, environmental, social and cultural values of the District and contribute to long term sustainable growth.

To achieve sustainable and integrated management, the Plan will:

- provide an overall land use plan for growth which is compatible with the infrastructure and environmental capacities of the area to sustain urban and urban fringe development
- show how economic, social and cultural matters are being provided for and managed alongside environmental considerations, and to
- provide a co-ordinated approach to the provision of roading, sewage, water, parks and other services within the study area.

By specifying those aspects identified above, the Plan will provide higher levels of predictability to developers, the Council, the public and interested parties regarding the layout, character and costs of development for areas earmarked for growth or redevelopment within the study area.

1.2 Legal Status of Structure Plan

It is important to keep in mind that the Structure Plan is a non-statutory policy document. This means that the Plan is not required or enforced by legislation and the provisions in the Plan do not have statutory or legal status until they are incorporated into Council's statutory documents, such as the Long Term Council Community Plan (LTCCP), District Plan and Asset Management Plans.

However, Structure Plans are a technique that has gained acceptance in the Environment Court as a way of promoting the integrated management of environmental effects, and providing for the well-being, health and safety of current and future residents. While not a legal document, Structure Plan provisions may be considered as an 'other matter' when assessing a resource consent application.

The Structure Plan itself, and the provisions contained in the Plan, are indicative only and are intended to guide future action. The Structure Plan will often seek to manage matters that are wider than those covered in the Resource Management Act and therefore are outside the scope of the District Plan.

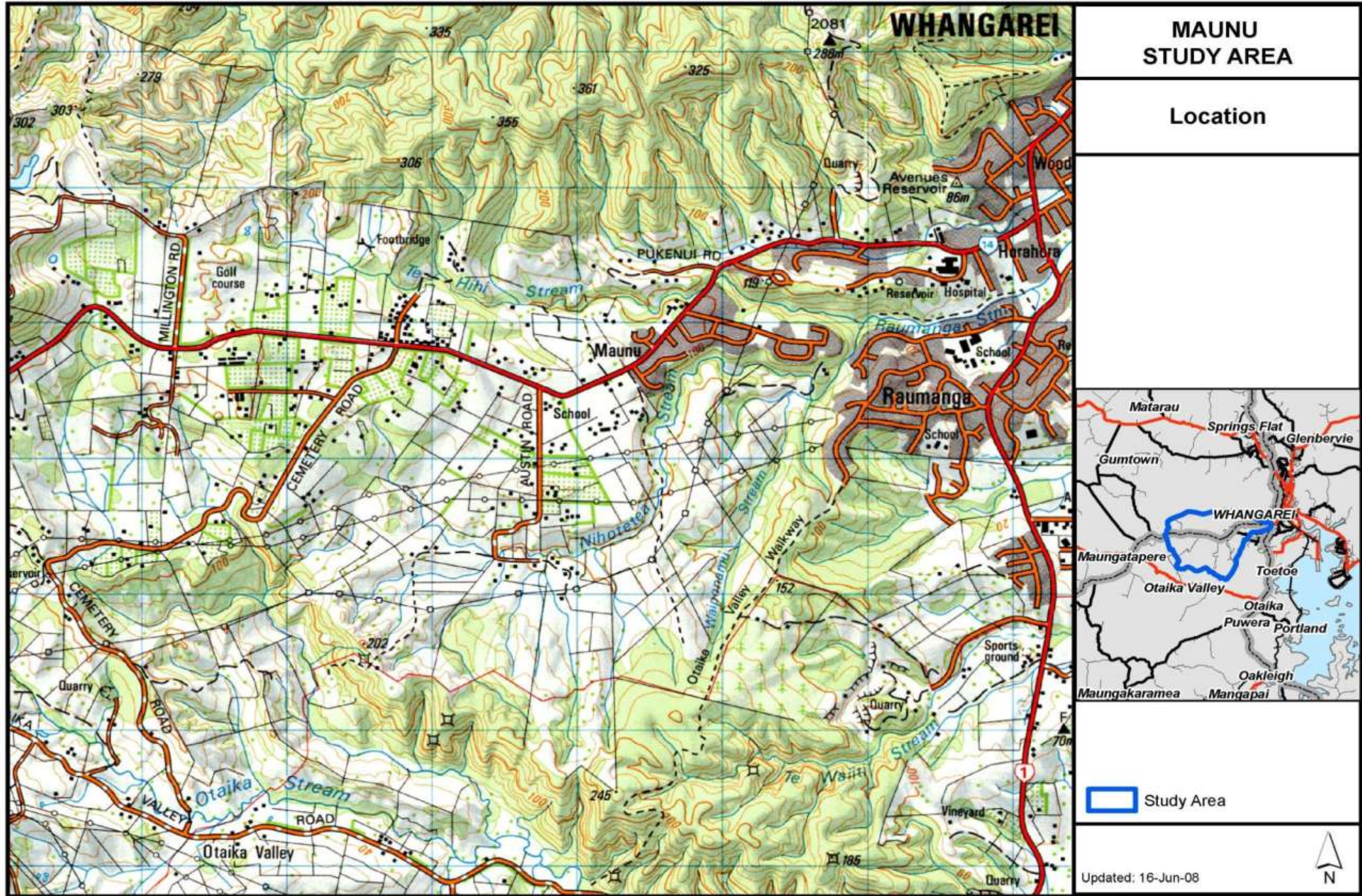
The Structure Plan is an 'ideas' document, while the District Plan is a statutory document – the 'action' plan. For the ideas in the Structure Plan to become actions they have to be transferred from the Structure Plan to the various statutory documents by following a prescribed statutory procedure. This procedure provides opportunity for further public input and further changes to the Structure Plan's provisions, if required. The public will be notified of the consultation process for this future stage of the process.

1.3 Study Area

The study area is to the west of Whangarei City and encompasses the urban areas bordering State Highway 14, including the hospital and shopping centre, and the more rural areas adjoining these. It borders the Pukenui/Western Hills Forest to the north, and the Otaika Mineral Extraction Area to the south. The area begins in the east at the intersection of State Highway 14, State Highway 1 and Maunu Road, and to the west it stretches almost to Maunu Mountain. (Figure 1)

In 2006, the study area had a population of approximately 4,749 people and contained a range of residential, recreational, commercial, industrial and rural land uses.

Figure 1 Maunu Area - Location



1.4 Public Participation

In addition to the wide-ranging consultation undertaken for the Urban Growth Strategy (refer *Urban Growth Strategy – Consultation Report*), the Maunu and Hora Hora communities were also consulted for this Structure Plan. The intention was to use their visions for the future of their communities as guidelines for this structure plan.

A public workshop was held at Pompallier College in February 2004. The 50-plus attendees at the workshop were asked to write and draw their ideas for the study area over the next 20 years and beyond.

Meetings were also held with the Maunu Ratepayers Association and Heritage Park, whose plans for the Museum and Kiwi House were discussed.

Council's asset managers were involved in determining limiting factors for growth, such as physical constraints like flooding. They also identified projects that were planned for the area, for example the construction of a link road to Raumanga.

Utility operators (phone, gas and electricity) in the District were consulted with to determine constraints to growth and any expansion or upgrade projects they were planning in the study area.

A summary of consultation for the Structure Plan can be found in the report: *Maunu, Hora Hora Structure Plan – Consultation Report*.

The issues and ideas raised were collated and analysed. In conjunction with earlier consultation, this consultation forms the basis of the Structure Plan.

Further public and Iwi consultations were carried out in 21 April, 19 May and 22 October 2008, on the draft Structure Plan proposals. Feedback from the public was received and taken into consideration in the drafting of the final land use proposals. A select group of Councillors and Staff known as the Focus Group met on 15 February, 25 March and 8 September 2008 to discuss the proposal before releasing them for public input and feedback.

1.5 Tangata Whenua

Tangata Whenua are the traditional guardians of the natural and physical environment. Despite the development of the local governance system and its responsibilities, Maori people have continued to play their part in management of resources in the traditional way and are active in protecting the natural integrity of the District's resources for future generations.

Council recognizes this special relationship of Maori people with their land and includes them as partners in management of these resources. There are many places of spiritual and cultural importance to Tangata Whenua in Whangarei District, including waterways, waahi tapu, pa sites and other taonga.

Tangata Whenua were specifically consulted with for their input on the future of Whangarei as part of the Urban Growth Strategy carried out by Council. Three hui were held in May 2007 at three different venues: Pehiaweri Marae, Tarenga Paraoa Marae and Ngararatunua Marae on the 12th, 19th and 26th of May 2007, respectively. Further consultations were also carried out at Toe Toe in May 2008. Contributions from the attendees were collated and a feedback meeting was held with Kaumatua for a debriefing on the issues raised at the meetings. A record of the issues was sent to Council's Iwi Liaison Committee as part of the agenda.

A summary of issues raised by Tangata Whenua is listed in the *Iwi Consultation Report*. Proposals on the implementation of some of the issues are discussed in the Land Use Proposal section of this Structure Plan.

1.6 Long Term Council Community Outcomes

Ways in which the Structure Plans address LTCCP Community Outcomes:

1.6.1 A Sustainable, Environmentally-Responsible District which values its Natural Uniqueness

Structure Plans guide land use of the District by proposing new zoning in areas best suited to support development. They strive to minimise loss of native biodiversity, productive soils, natural watercourses, scenic coastlines, and the sensitive aesthetic qualities of the District. Agriculture and forestry are considered as environmental as well as economic qualities as they are natural, resource-dependent industries. Structure Plans also promote alternative transportation modes which improve air quality, reduce green house gas emissions, and allow access to natural areas for more people.

1.6.2 A District which is safe and crime-free.

Structure Plans indicate areas where new neighbourhoods will grow and those which will receive new investment. This new activity and investment enhances security by encouraging pedestrian traffic in commercial areas, increasing diversity, giving people new pride in their communities, and encouraging families to use community facilities close to home

1.6.3 A Community which is healthy and educated

Structure Plans guide planning for new schools and community centres to areas where families are likely to settle. They also provide for recreational reserves, cycleways and footpaths for an active outdoor lifestyle, and reduced auto dependence. Preserving natural areas contributes to air quality improvement, provides respite from urban life, and underlies the District's high quality of life. Structure Plans also identify areas that will be serviced so that waste and storm water will be handled in a safe and sanitary manner.

1.6.4 A Vibrant and Growing Local Economy

Structure Plans identify areas that are suitable for business investment based on highway, water, rail and transit access; concentrations of compatible industries; identifying areas for new housing that is convenient to jobs; and recognizing growth trends in the District's major industries while minimising reverse sensitivity among land uses. By recommending preservation of rural lands, the Plans also recognise the importance of productive horticulture, agriculture and forestry to the District's economy.

1.6.5 District with Community Programmes and Facilities for All

Structure Plans identify areas for new residential development where community facilities can be planned to serve new populations most efficiently. The Structure Plans include population projections to determine whether existing facilities are adequate for their areas.

1.6.6 A Community which values its Culture and Heritage

Structure Plans take into account the sensitive nature of taonga and waahi tapu and seek to minimize impacts on it, while increasing knowledge and appreciation of the District's rich cultural heritage. Focusing new development around the urban area provides additional support for existing museums, the arts and tourist amenities. Preservation of environmental qualities – intact landscape, biodiversity, high-class soils, scenic values and coastlines – is a primary purpose of Structure Plans.

2 Development Strategy

2.1 Development Goals and Objectives

The recommendations conveyed as part of the Urban Growth Strategy have formed the basis for the urban structure plans. The Urban Growth Strategy identifies 16 Key Issues that require particular attention to achieve the vision for Whangarei. These issues have been translated into specific objectives that will need to be accomplished in order to reach this vision. The objectives are supported by a range of policies and implementation methods that put these policies into action. Appendix 4, at the conclusion of this document, portrays a table presenting the entire list of objectives and policies.

Strategic issues for each of the Structure Plan areas were identified in the Urban Growth Strategy. The following list shows the strategic objectives that apply to the Maunu study area in particular, and presents the relevant policies.

The characteristic amenity values and the identity of each locality are maintained and enhanced:

- To ensure that changes to urban form are compatible with the character, amenity and identity of the surrounding environment.

Accessible and convenient suburban centres are provided:

- To ensure suburban centres are accessible and convenient without detracting from the central business District.

Establish, maintain and enhance a safe and efficient road network:

- To reduce conflicts between heavy vehicles and other users of the roading network
- To continue to develop a safe and efficient roading network to meet the demands of urban development
- To minimise the effects of land use and subdivision on the safety and efficiency of the roading network
- To ensure adequate provision of parking in the central business District and in suburban shopping centres.

Public transport, pedestrian walkways and cycleways are provided, maintained and enhanced:

- To ensure that safe and effective cycleways are provided within the city, linking to - and between - suburbs
- To promote, develop and improve pedestrian walkways within urban areas
- To encourage the further development of public transport services.

The provision of infrastructural services to existing and newly-urbanised areas in an efficient and effective manner:

- To maximise development potential through the efficient provision of upgraded or new infrastructural services
- To avoid damaging environmental resources through ineffective, or lack of, infrastructural services
- To provide infrastructure in a way, and as necessary, to ensure the safety and wellbeing of the community.

The risk associated with natural hazards is not increased by urban development:

- To identify areas subject to natural hazards where urban development is likely to occur
- To mitigate, where possible, the effects of urban development on the risk of natural hazards occurring
- The loss of productive soils and economic farming units is minimised.

The effects of urban-type subdivision on rural character are avoided, remedied or mitigated:

- To recognise the value of productive soils and economic farming units to the District's economy
- To minimise the effects of urban-type subdivision on rural amenity
- To create a new zone for rural residential use.

Avoid conflict between incompatible land use activities as a result of subdivision and urban development:

- Ensure that subdivision development is located and designed to reduce the potential for conflicts with the effects of existing activities
- To facilitate the separation of incompatible land uses through the location of District Plan Environments and Resource Areas, and specific requirements of subdivision and land use activities, e.g. separation distances.

The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna.

The protection of the life-supporting capacity of ecosystems through the avoidance, remediation or mitigation of adverse effects:

- To protect significant indigenous vegetation and significant habitats of indigenous fauna from the effects of urbanisation
- To ensure the protection of the life-supporting capacity of ecosystems through avoiding, remedying or mitigating adverse effects.

Sufficient open space is provided to meet community, conservation and recreational needs:

- To provide sufficient open space to meet community, conservation and recreational needs
- To ensure linkages are created between areas of existing open space and any new areas created.

Form a partnership with Tangata Whenua that enables effective participation by Tangata Whenua in planning processes:

- To establish consultation protocols with Tangata Whenua which are agreed to by all parties
- To improve the relationship between Council and Tangata Whenua.

The prevention of the degradation and loss of historic and cultural sites of significance from urban development:

- To prevent urban development occurring in locations, or in a manner, that will have adverse effects on sites of significance to Tangata Whenua. To avoid, remedy or mitigate the adverse effects of urban development on heritage areas significant to Maori and on Sites of Significance to Maori
- To encourage the development of a procedure for the identification and recognition of sites of cultural significance to Tangata Whenua
- To protect historic places, sites (including archaeological sites), buildings and trees from the adverse effects of urban development and subdivision

Access to recreational, artistic and cultural opportunities is enhanced as a result of urban growth:

- To encourage the provision of education and employment opportunities
- To encourage the provision of recreational, artistic and cultural opportunities.

2.2 Strategic Options

Council has a legal responsibility to manage future growth and development of the District, and it has several tools at its disposal to do this. These are:

- Develop plans and policies to guide development to maximise quality of life and minimise impact on neighbours and the environment
- Enact subdivision regulations that control the specifics of section sizes and layout, guide provision of public infrastructure and ensure health and safety of the District's residents and businesses; or
- Do nothing and allow each individual free choice in determining what, where and when development takes place.

Council has chosen to develop plans such as this one, in combination with subdivision regulations, in the recognition that the private market serves the District by providing living and job opportunities to its citizens. Such policy documents as this Structure Plan and other policy plans facilitate:

- Co-ordination of development, over time, to sustain the District's unique identity, its economy and neighbourhoods
- Efficient investment of the public's resources for new infrastructure

- A degree of predictability for residents and developers as they make location and investment decisions; and
- The participation of citizens in their government's decision-making.

This Plan has been prepared to create a better living environment for the residents of Whangarei District. What follows is a detailed explanation of the existing situation and proposed changes for this study area.

2.3 Spatial Development Strategy

The overall proposed Spatial Strategy is based on the following broad directions:

- Providing a progression of living environments, beginning with medium-density urban areas and then to rural-residential zoning on fringes of urban areas, and retaining rural zoning beyond the rural-residential zone
- Recognising that there need to be restrictions on urban and rural residential development in sensitive ecological, geological and landscape areas
- Recognising that there need to be restrictions on urban, rural residential and commercial development in areas subject to natural and man-made constraints e.g. instability areas, flood prone areas, contaminated sites and aquifers
- Developing a commercial node to serve the community, (e.g. a supermarket, doctor's rooms, butcher's, fruit and vegetable and bakery shops) and allowing for more linkages to the CBD via an efficient roading network and an effective public transport system
- Providing for a network of pedestrian and cycle links throughout the study area to attractions such as Pukenui Forest and to surrounding suburbs and the city.

3 Current Profile

3.1 Regional and District Context

The Whangarei District covers the south-eastern part of the Northland region. Whangarei is a growing city of over 48,000 people within a District of approximately 74,250 people. About half of the total Northland population lives in the Whangarei District and Whangarei City is the largest urban centre in Northland.

Whangarei District is less dominated by urban growth than Auckland and other regions in New Zealand. About 65 per cent of the District's residents live in the urban centre of Whangarei. However, two out of three new residences are being built outside the urban centre.

The economy of the Whangarei District has been steadily growing in recent years. The leading growth industries are agriculture, forestry, wood processing, healthcare, tourism, fishing, property and business services and education.

In October 2003, Whangarei District Council adopted the *Whangarei Urban Growth Strategy*. This document recognised the need to manage growth sustainably in the District. The following vision for Whangarei was adopted:

To be an accessible green city, where people can live, work and shop in safe and clean surrounds, where art and culture are celebrated, and leisure opportunities abound.

The Urban Growth Strategy recognises the influence of national and regional strategies and policies. The Regional Policy Statement for Northland, the Regional Coastal Plan for Northland, the Regional Water and Soil Plan for Northland and the Regional Land Transport Strategy are identified as having significant relevance.

The Maunu/Hora Hora area was one of eleven identified in the Urban Growth Strategy as requiring structure planning to plan for and manage growth. At the time of this Plan's writing, the Maunu/Hora Hora Structure Plan is being prepared simultaneously with four other urban fringe Structure Plans - Kamo, Otaika, Tikipunga and Onerahi - along with ten Structure Plans for coastal areas. While each plan is a stand-alone document for its area, all of the plans must be considered in the context of general growth trends of the Whangarei District as a whole. This means that recommendations for each Structure Plan area may have been made with consideration of conditions or changes for the other Structure Plan areas. District sustainability and integrated management can only be achieved by upholding a broader vision.

Six additional Urban Structure Plans will be prepared in the future.

3.2 Profile of Study Area

3.2.1 Historical Background

The original settlement of Whangarei began with the Nga Puhi tribe, who were descended from the voyagers of the Mamari Canoe that arrived at the Hokianga Harbour to establish the Tangata Whenua of the north.

It is recorded that a Maori explorer, Tapere, with his lieutenant Maunu, first discovered and named the two adjacent volcanic cones, Tapere and Maunu.

The Maunu plateau was occupied by Europeans much later than other areas around Whangarei, as there was a chain of Maori hapu living from Raumanga to Poroti. The chief of all these hapu was Taurua Kukupa. Identified Maori heritage sites and archaeological sites illustrate the heritage and cultural values of the wider Maunu area.

In the 1870s the first European settlers arrived. These included the Clearys, the Secombes and Mathew Armstrong. General farming and dairying were the main industries of the early Maunu European settlers from the 1890s. The Maunu area is now characterised by stone walls that were made from volcanic rocks that were collected and cleared from the land to allow for that farming, with the earliest walls dating back to 1850. Many of these stone walls were built by the Dalmatians during World War I and the Depression, when work ran out on the gum fields.

Maunu School was opened in 1884, while St John's Anglican Church was dedicated in the early 1900s.

In 1894, Whangarei's first hospital was built in Hora Hora. The current hospital stands on the same site.

In the 1980s, Whangarei District Council purchased land to relocate the Agricultural and Pastoral Society Show and other animal-related events from Kensington Park. This land is now known as Barge Showgrounds.

The Maunu area is bounded to the north by a number of reserves, including the Millington Road Reserve, Pukenui Forest Park, Water Supply Reserve and the Coronation Reserve.

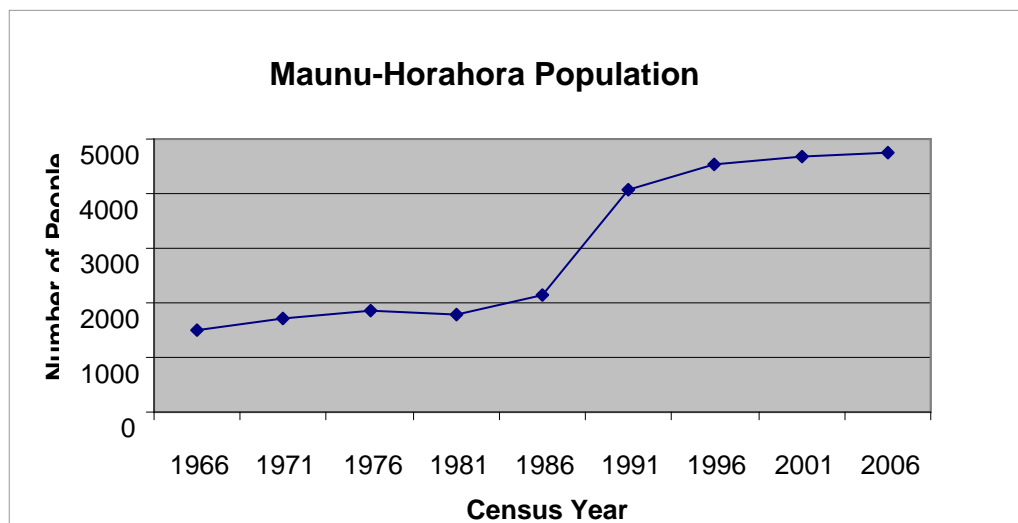
Today, Maunu and Hora Hora are suburbs of Whangarei, with medium-density residential living closer to Whangarei City and rural-residential and rural living further out towards Maungatapere.

3.2.2 Population

In 2006, the population of the Maunu area was 4,749 (Figure 2), with approximately 1,955 dwellings, giving an occupancy rate of 2.4 people per household. Since then there has been a steady increase in the population of the area.

The jump in population shown in Figure 1, between the 1986 and 1991 censuses, resulted from a change in the recording of population numbers. Because the City and County Councils amalgamated in 1989 to form the Whangarei District Council, population statistics were then collected for the Maunu area which had previously been part of a larger rural area and not included in the earlier figures.

Figure 2 Maunu-Hora Hora Population



Source: Statistics New Zealand 2006

3.2.3 Natural Features

a Topography and Landscape

The landscape of the study area has various important amenity values and contains areas of ecological significance. For instance, in the more rural Maunu area the gently undulating countryside is characterised by stonewalls and patches of bush.

The dominating landforms in the area are Maunu Mountain and the ridges that contain the Western Hills Forest. Areas to the south of the study area are also quite steep.

The study area roughly comprises the catchments of the Kirikiri Stream (which flows into the Waiarohia Stream), and the Te Hihi, Nihotetea and Waipounamu Streams (which flow into the Raumanga Stream). Significant fingers of bush extend south from the Pukenui Forest and link with vegetation associated with the Te Hihi Stream. Elsewhere, scattered pockets of bush exist, particularly in the southern and eastern portions of the study area.

The Whangarei District Landscape Assessment (LA4, 1996) describes the majority of this area as a Heritage Landscape. The northern edge of the study area includes a portion of the Pukenui Forest. The assessment notes that the construction of telecommunications masts and mining in the foothills of Pukenui Forest is having an appreciable impact on the natural appearance of the bush, both of these activities being highly visible.

When considering the study area in more detail (Landscape Assessment, 2004), it is considered that there are eight distinct character areas.

These are:

- Pukenui Bush Upland

- Pukenui Undulating Vegetated/Pastoral Mix
- Puriri Park Urban Fringe
- Westwood Lane Vegetated/Pastoral Urban Fringe
- Te Hape Urban
- Maunu Road Undulating Vegetated/Pastoral Mix
- Pompallier Undulating Vegetated/Pastoral Mix, and
- Cemetery Road Undulating Vegetated/Pastoral Mix.

The visual quality, capability for visual absorption and the opportunities and constraints for these eight character areas is shown in the following table.

In summary

- The topography of the area allows opportunities for residential and commercial/industrial use
- Parts of the area that contain sensitive environments, such as high-value landscapes and natural hazards, have been identified and need to be considered in planning for the area
- The Puriri Park area has the highest capability to absorb development, visually. However, it is currently considered to have low visual quality
- The Westwood Lane and Cemetery Rd areas have moderate-to-high capability to absorb development, visually.

b Land capability Classification

To enable an assessment of the land's versatility for sustained production, and its total degree of physical limitation, soils are grouped into land use capability classes (LUC). The classes range from I to VIII.

As a guide, limitation is nil or negligible in Class I, so the land there is highly productive. At the other end of the range, the extreme limitation of Class VIII means production is very limited.

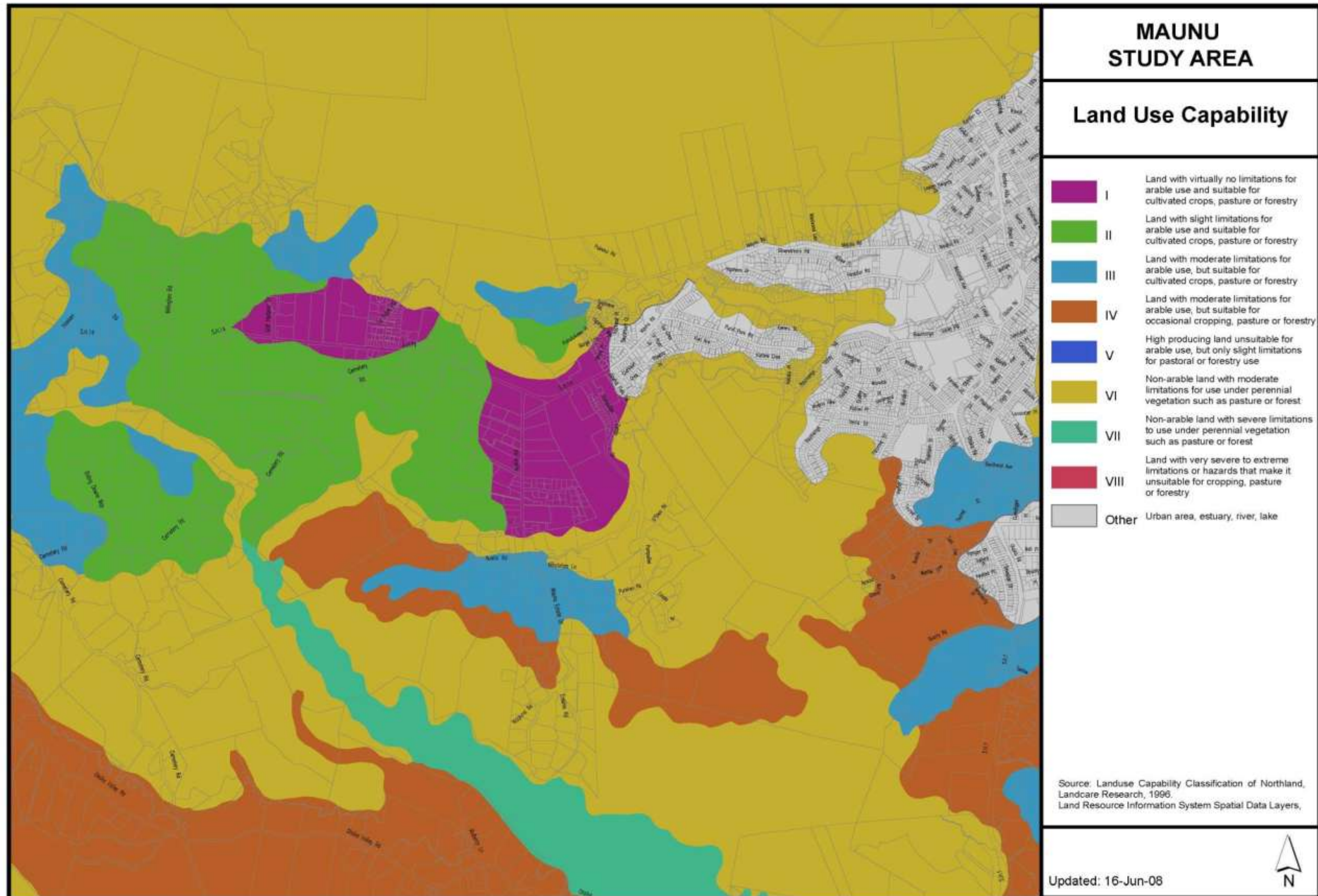
The study area has a mixture of areas of highly productive land (LUC 1-2), moderately productive land (LUC 3-4) and less productive land (LUC 6-7). (Figure 3).

The flat-to-gently undulating areas on either side of State Highway 14, and down Cemetery Rd, are the most productive (LUC 1-2). The areas of land around Austin Rd and Te Hape Rd are LUC 1, highly fertile and of limited extent in the Northland region. Soils include red and brown loams and are suitable for a range of land uses including grazing, cropping and production forestry.

Areas of LUC 3 and 4 are less flat and occur adjacent to the areas mentioned, above, as well as around the lower part of Austin Road. Soils in these areas include brown and red loams, yellow-brown earth, brown granular loams and clays. Possible land uses also include grazing, cropping and production forestry.

The steeper areas (LUC 6 and 7) in the study area occur to the north toward the Pukenui Forest, to the west around the Raumanga Stream, to the lower south and a small area to the east. Soils include yellow-brown earths, recent soils, gley, and brown and red loams. Land use is limited to grazing and production forestry, and limited production forestry for erosion control in LUC 7.

Figure 3 Land capability Classification



c Geology

The soils are, on the whole, a result of the weathering of the underlying (parent) rock. There are five dominant groups of geological material in the Structure Plan area, these are:

- Waipapa Group a strong, shattered greywacke and argillite which outcrops in the east of the area
- Te Kuiti Group consists of Whangarei Limestone, and Ruatangata Sandstone
- Northland Allochthon a mixture of sheared and crushed, or calcareous and siliceous mudstones, siltstones, sandstones, muddy limestones (marls) and limestones that outcrop in the east of the area
- Kerikeri Volcanic Group mostly basaltic lava with some scoria cones
- Holocene sediments typically alluvium in low lying areas, valleys and palaeovalleys.

Much of the upper slopes and ridgelines of the Western Hills are underlain with the greywackes and argillites of the Waipapa Group origin. In general, the Waipapa Group weathers to a soil mass (or regolith) of very stiff to hard gravel- and clayey silts. The residual soil derived from these materials (typically very stiff, silty clays and clayey silts) tends to contain non-swelling clays (i.e. they are not subject to large changes in volume due to changes in moisture content). This, together with a relatively high-strength underlying rock mass and groundwater that is usually deeper than five metres, means that the introduction of effluent should induce less slope instability problems than other lithologies.

In the Maunu area, the Waipapa Group has weathered to clay loams and stony clay loams. These are generally imperfectly drained but are fairly stable and have a moderate potential to accept effluent.

Of the Te Kuiti Group, Ruatangata sandstone and Whangarei Limestone can be found in the study area. The Ruatangata sandstone weathers to clays and clay loams which provide a poor and moderate effluent disposal potential, respectively. The parent rock, itself, is of sufficient porosity and permeability to be a fairly good aquifer. However, Ruatangata sandstone is the least stable of the Te Kuiti Group, and although there are areas where the sandstone forms steep bluffs, there are others where the sandstone has weathered and landslides have occurred.

Several patches of Whangarei Limestone also exist in the study area that weather to a heavy clay. Any joints that form in the rock also tend to be infilled and coated with clay and silt soils. The infill can result from the weathering of the limestone, itself, or from the collapse of other overlying sediments into the large fractures in the limestone.

Groundwater lies at a relatively low level within the limestone due to the high rock mass fracture permeability provided by the open-to-cavernous joints within the strata. Whangarei Limestone tends to act as a natural under drainage layer, and therefore may have a strong controlling influence on the groundwater regime.

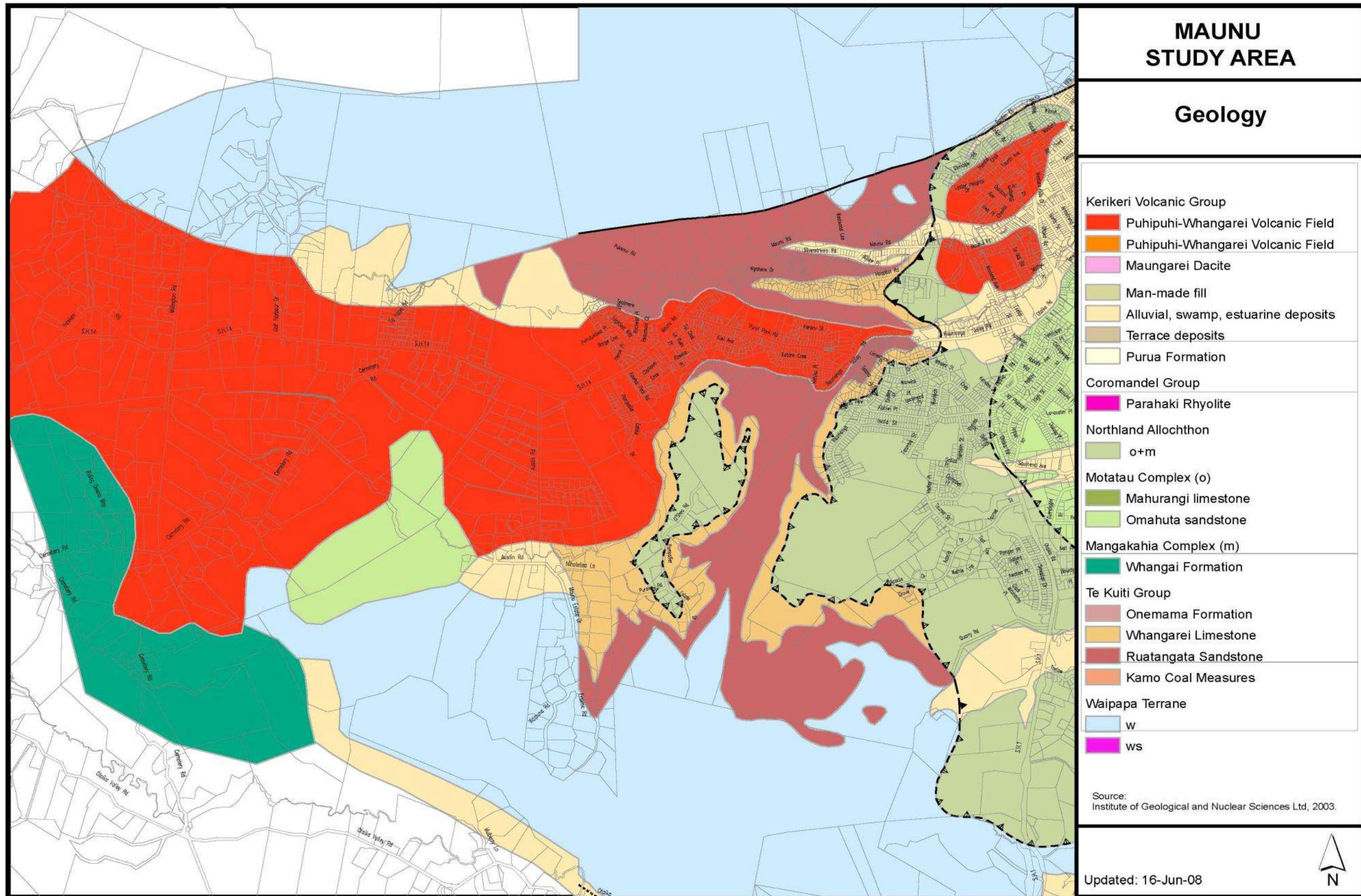
The soils derived from the Northern Allochthon include clays and clay silt. These soils have a tendency to be poorly drained, and are also generally highly plastic and of low material shear strength. This is due to the shear fabric of the parent material being preserved in the soil mass, creating defects.

These soils have a very poor effluent disposal potential, particularly the clays. This is due to a low ability of the soil to take up the liquid that is introduced and the ground may be further destabilised by the introduction of fluids.

The remaining areas of the study area are Holocene alluvial sediments which are the result of estuarine and fluvial deposits during the Holocene age and generally cover low lying ground. The silty clays and clay loams that have developed have a fairly poor effluent disposal potential.

The Maunu volcanic cone, which is just outside the study area's western boundary, is noted as an important geological landform.

Figure 4 Maunu Area – Geology



d Hydrology

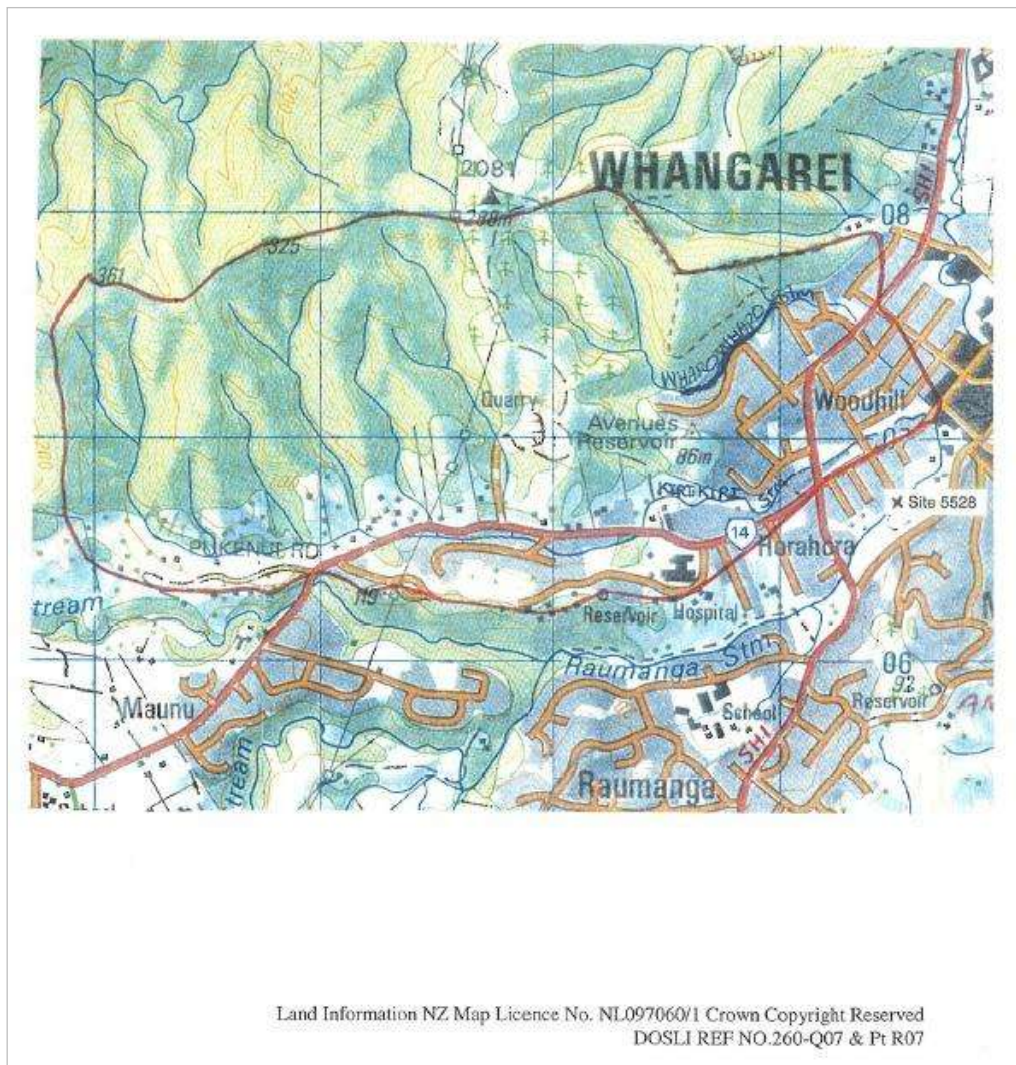
The Northland Regional Council has identified an aquifer within the study area that has a high actual or potential demand for water extraction. The term 'aquifer', which comes from the Latin words aqua, meaning water, and ferre, meaning to bear, describes a porous geological formation that yields water.

There are important considerations for development on and around this aquifer, particularly as there is potential for the aquifer to be contaminated by effluent disposal and for water extraction to exceed the recharge capacity of the aquifer. Council has defined two main catchments in the study area for catchment management purposes: Kirikiri and Raumanga.

The **Kirikiri Catchment** (Figure 5) lies to the west of Whangarei City, with the Waiarohia Stream catchment to the north and the Raumanga Stream to the south. The majority of the catchment is in scrub and native bush. The rolling part of the catchment adjacent to the Kirikiri Stream is largely rural. The lower flat reaches of the catchment are on the outskirts of the city and are urbanised.

Soils vary from yellow-brown earths, which are generally moderately well drained, to limestone and mudstone which are less permeable. There are also soft clays, which tend to be unstable even on gentle slopes.

Figure 5 Kirikiri Catchment



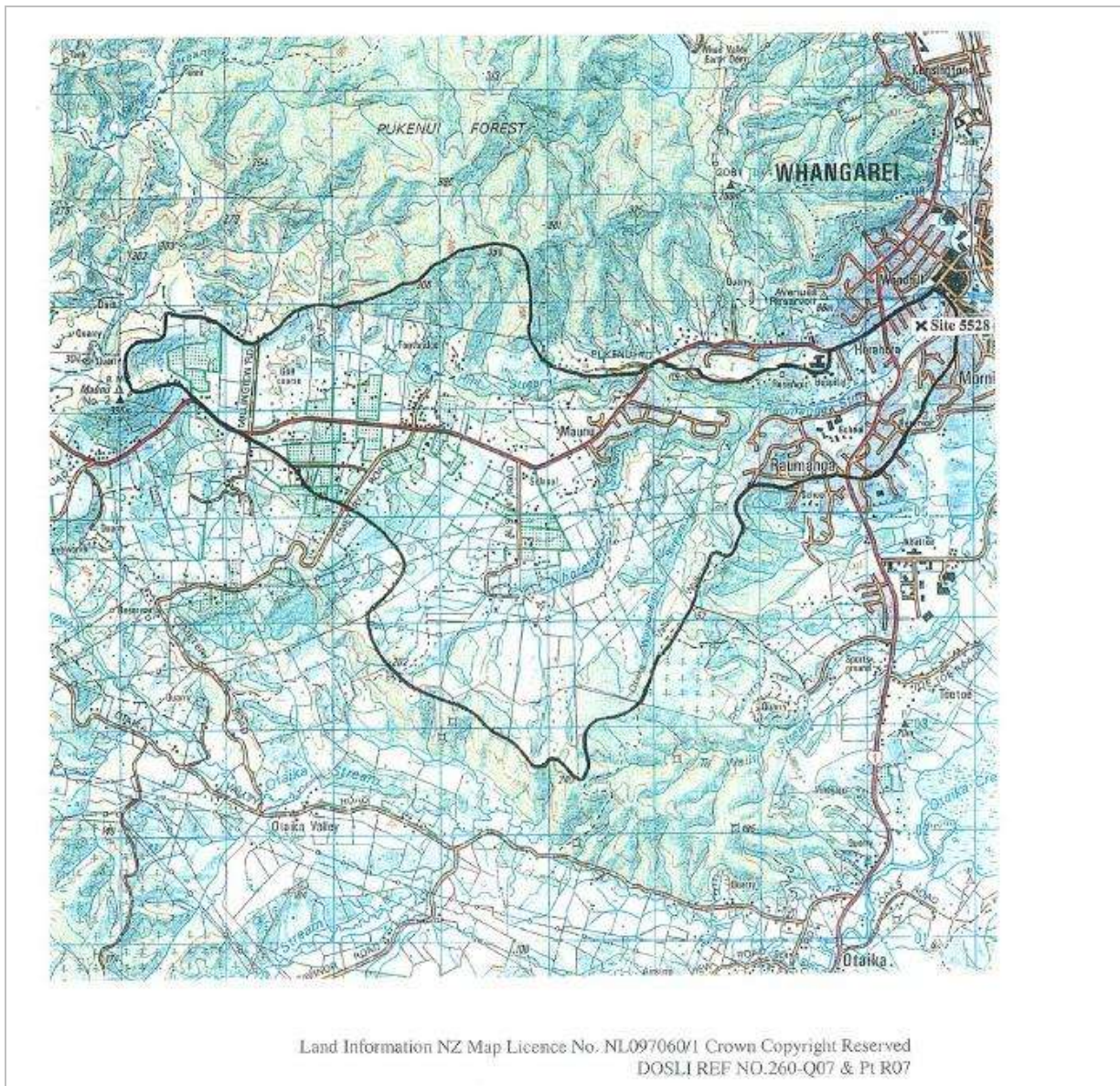
Source: Kirikiri Catchment Drainage Plan, BECA, April 2001

The **Raumanga Catchment** (Figure 6) lies to the south of the Kirikiri Catchment. The major streams discharging into the Raumanga Stream are the Te Hihi, Nihotetea, Waiponamu and Kirikiri Streams. Raumanga Falls is a waterfall of scenic attraction, and there is also a waterfall on Te Hihi Stream.

The catchment is predominately rural, with some areas of native bush protected as scenic reserve in the southern extremity of the catchment. This catchment provides a water supply to the north. The lower flat

catchment areas, and areas in the Raumanga Stream valley, are urbanised. Soils in this catchment vary from yellow-brown earths, which are generally moderately well drained, to silt and clay loams which are generally well drained.

Figure 6 Raumanga Catchment



Source: Raumanga Catchment Drainage Plan, BECA STEVEN, May 1999

The District Plan classifies flood-susceptible areas in the study area. These follow streams and major water courses. The Kirikiri and Raumanga Catchment Management Plans recommend measures to address flooding within the catchments.

The Plans also recommend measures to address erosion within the catchments, including:

- restricting cattle from stream banks and channels
- planting stream banks with non-invasive plant varieties
- continuing erosion control works such as gabion baskets; and
- inspection and assessment of problem areas after significant storms and/or annually.

With regard to storm water quality, the Plans recommend:

- introducing water quality management techniques and commencing willow eradication and in-channel vegetation removal
- planting riparian margins as willow/vegetation removal progresses downstream
- requiring source controls and development controls on all new developments and subdivisions
- liaising with Transit NZ regarding storm water controls on SH1 and SH14; and
- implementing source controls on existing commercial sites as retrofits, where practicable.

e Vegetation

The study area is identified as a modified agricultural, residential and commercial landscape and has been largely cleared of native bush.

There are a few larger areas of native forest around the volcanic cones, as well as smaller pockets scattered around the area. The northern boundary of the study area borders the Pukenui/Western Hills Forest, which contains a large area of native bush.

To the south of the study area, and beyond the southern boundary, is the Otaika Reserve which also contains native forest.

f Ecology

Ecological areas have been identified as part of the Protected Natural Area Network. While the priority areas for protection are those containing volcanic broadleaf forests, freshwater wetlands, riverine flood forests, estuarine systems and areas of kiwi habitat, other habitats throughout the wider urban area are also recognised in the Protected Natural Area Study.

The aim of the Protected Natural Area Programme (PNAP) is to identify, by a process of field survey and evaluation, natural areas of significance throughout New Zealand, so as to retain the greatest possible diversity of landform and vegetation patterns (and, thereby, habitats).

To achieve this, representative biological and landscape features that are common or extensive within an Ecological District are considered for protection, as well as those features that are special or unique.

The study area has several significant areas of bush as well as remnant patches of bush. Pukenui Forest is partly included on the northern side of the study area, and is a very large area of bush that contains a high density of vegetation types. It is habitat for kiwi and other threatened and common bird species, as well as the long tailed bat. The forest is also part of the catchment for the Whau Valley dam.

The south-eastern part of the study area includes Raumanga Valley, which contains riverine vegetation and kowhai – karaka forest. It is habitat for threatened bird species, a regionally significant plant species (hard beech), as well as the long finned eel.

On the southern boundary of the study area is the Otaika Valley Bush, a diverse and large area of forest that provides habitat for a number of threatened bird species, including kiwi and fresh water fish species.

Bush remnants in the study area contain volcanic broadleaf forest and swamp/riverine forest that are habitats for threatened bird species.

The Structure Plan study area is in the Whangarei Ecological District. The following PNAP areas are found within study area:

07/022	Pukenui Forest
07/023	Otaika Valley Bush
07/048	Raumanga Valley
07/055	Millington Road Remnants
07/056	Cemetery Road Remnants
07/060	Te Hihi Stream

g Land Use and Zoning

The land use pattern of the study area is influenced by topography, geomorphology, climate, historical elements and proximity to Whangarei City.

The zoning of the study area reflects current and future land use. The current District Plan zoning is depicted in the map below.

Broadly, the land use/zoning pattern is characterised by:

- Residential development around the hospital and ribbon development along State Highway 14
- Rural-residential development occurring about three and half kilometres from the State Highway 1 turnoff, especially around Austins Road, Millington Road, Cemetery Road and Gulf Harbour Drive
- Commercial development in the form of suburban shops at the corner of West End Avenue and Maunu Road and at Tui Crescent.

There is no industrial-zoned land in the area, although some self-employed contractors and timber processors do operate in the area.

h Residential

There are two residential zonings or Environments in the study area:

- Living 1 Environment – general urban areas with a minimum lot size of 500m², where connected to reticulated sewerage.
- Living 3 Environment – larger lot residential areas where development is restricted due to the physical nature of the land, a lack of infrastructure or because of landscape or other values of the area. Minimum lot sizes are 2000m².

The residential area occurs from the intersection with State Highway 1 for about three and a half kilometres along State Highway 14, and along the hillside suburbs that are accessed from the State Highway.

There is also land zoned for large residential lots' development. Those areas zoned Living 3 Environment occur to the north of State Highway 14, up towards Pukenui Forest, and in an area to the south of State Highway 14 around Austin Road and behind Kiwi Avenue and Kotare Crescent.

It is difficult to define the extent of rural-residential as there are many sites of a size that may be considered rural-residential (i.e. less than two hectares) which are currently zoned rural, in particular areas around Pompallier Estate Dr, Austin Road, Golf Harbour Drive and Cemetery Road.

i Retail/Commercial

There is only one Business Environment applying to the study area:

- Business 3 – the shopping centres outside the CBD, as well as commercial areas that are in close proximity to Living Environments. Minimum lot size is 100m².

There are two retail areas in Maunu, a reasonably-sized group of shops at the corner of West End Avenue and Maunu Road and a smaller group of shops at the corner of Tui Crescent and Maunu Road.

There is also a land-locked area of commercially zoned land that was rezoned for a tourist venture that never eventuated.

j Social, Community and Iwi Facilities

There are five schools in the study area: Hora Hora and Maunu Primary Schools, Blomfield Special School and Resource Centre, Northland Health Camp School and Pompallier College. There is also Maunu Road Pre-School and Baby Centre, and the Hora Hora Playcentre.

The Museum and Heritage Park and Barge Showgrounds are also in the study area. The showgrounds host the Whangarei Riding Therapy Centre, the Maunu Pony Club, the A&P Show and other shows.

The Hora Hora Rugby Union Football Club and the Sherwood Park Golf Club are also present in this study area, as well as several places of worship.

There are several marae that provide meeting places for the Tangata Whenua, including the Central Whangarei Marae and Terenga Paraoa Marae.

There is only one medical centre in the area, but the Whangarei Hospital is also in the study area, as is the cemetery. Several retirement villages and veterinarians are located here, but apart from the Accident and Emergency Department at the hospital, there are no emergency services stationed in the Maunu area.

In summary, a range of activities exist in Maunu, although more facilities could be developed in and around the area, such as another commercial centre to service the rapidly growing rural-residential area.

k Open Space and Recreation

There is a single recreation/conservation Environment in the study area.

Open Space Environment covers land owned by Council, the Department of Conservation or other organisations for recreational and conservation purposes.

Open Space Environments are scattered throughout the study area and include active and passive recreation areas and esplanade reserves:

- Some of these are large areas of land including Pukenui Forest. Others are small neighbourhood parks dotted among the residential areas
- The Hora Hora Sportspark on Te Mai Road has rugby and touch rugby clubs
- Sherwood Park Golf Course is off Millington Road
- Barge Showgrounds, which has already been mentioned above, is a large recreation area managed by the A&P Society. Many events are held here, including sporting (e.g. equestrian events) and social/cultural (e.g. the Wine & Food Festival).

Figure 7 Current District Plan Map

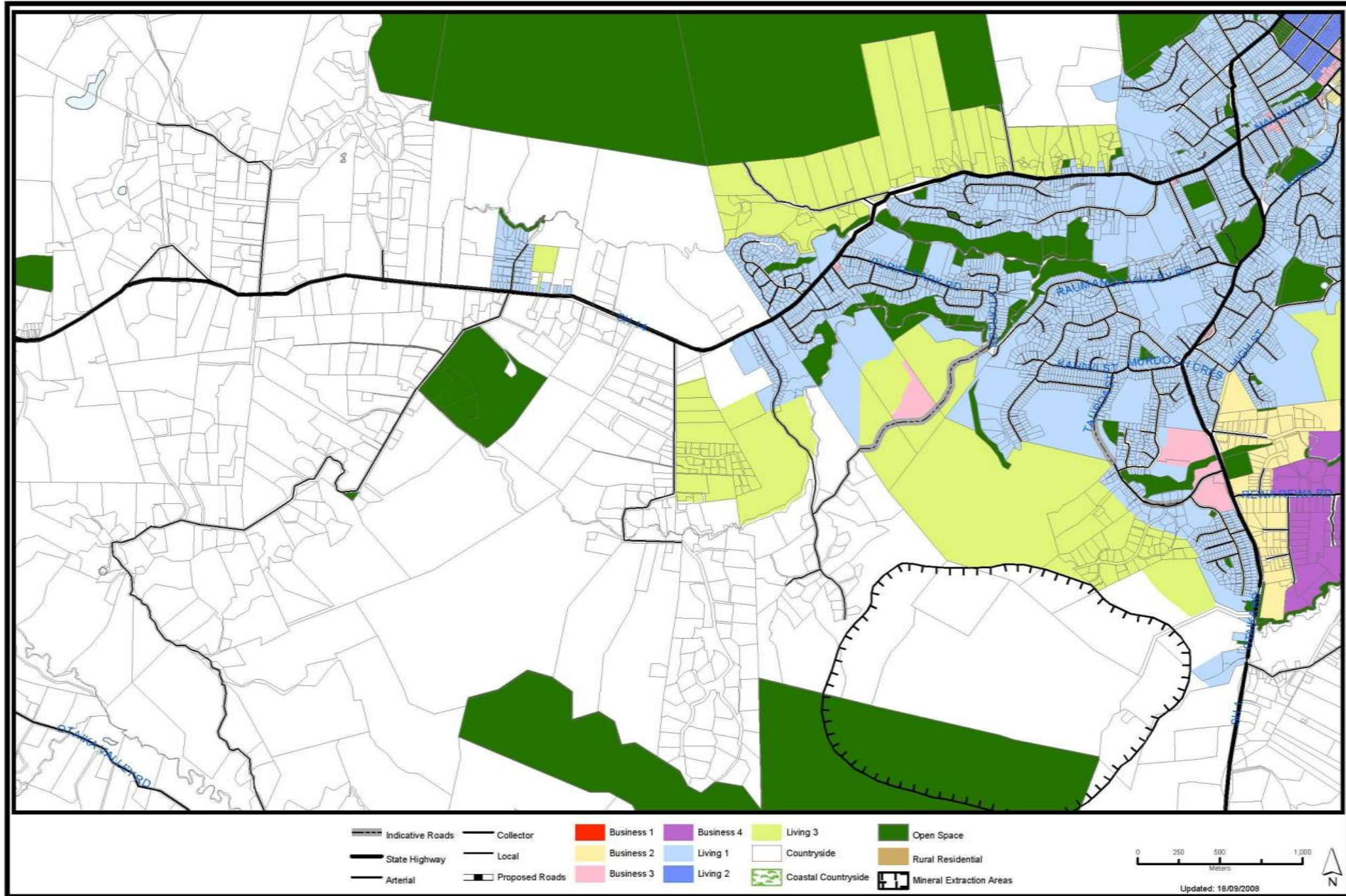
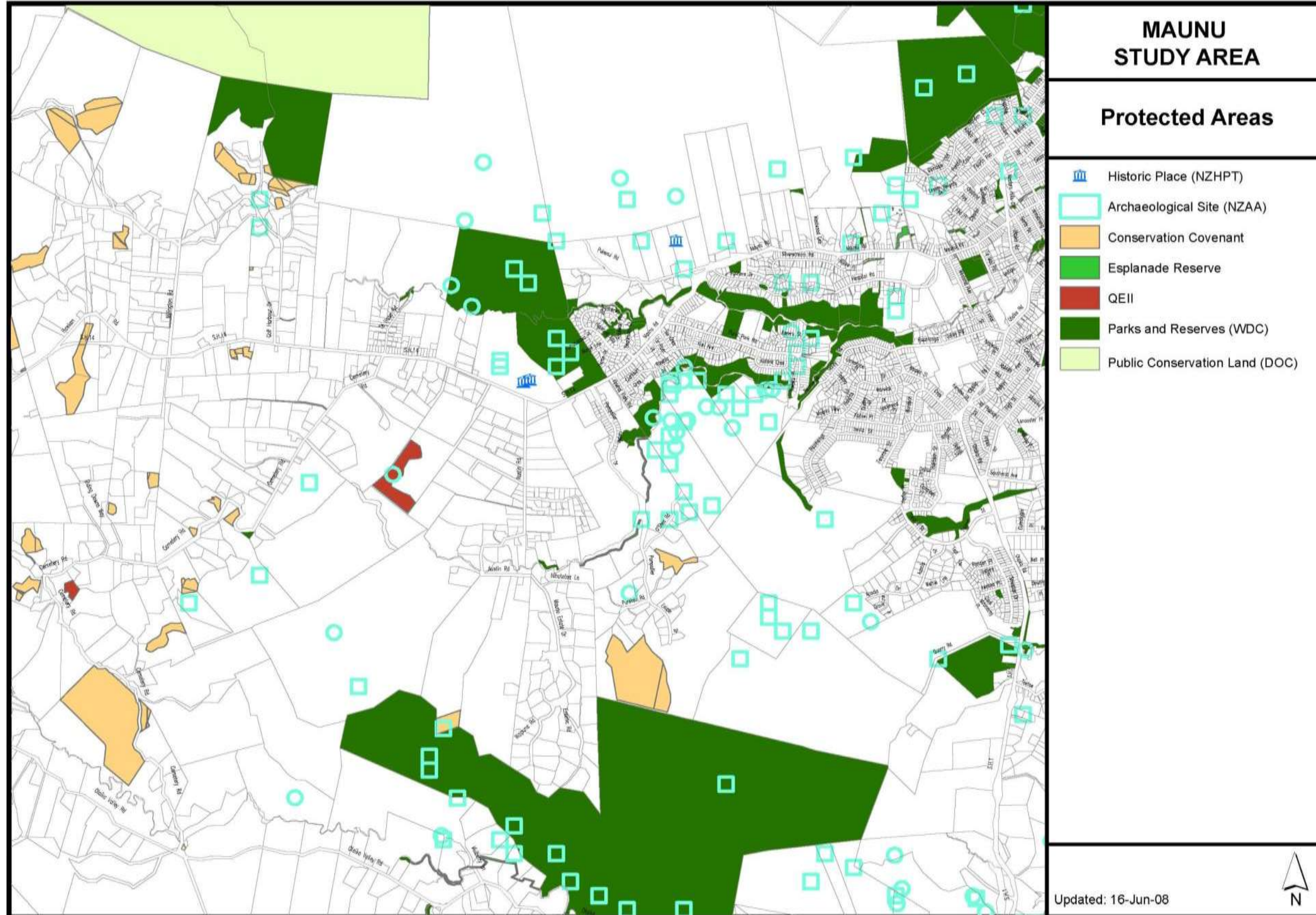


Figure 8 Protected Area



l Agriculture

There is one rural Environment in the study area. This is identified as:

- Countryside Environment - applying to the rural areas and with a minimum lot size of 2 hectares and 4 hectares as a discretionary activity.

This Environment covers a large part of the study area, beyond the residential and rural-residential areas. Agricultural farming and horticulture occur in the area. Smaller farms serve as lifestyle blocks, though these may also operate small-scale farming.

m Resource Areas

There are also a number of Resource Areas classified under the District Plan. These are areas where the land has special characteristics, such as outstanding landscape areas, flood susceptible areas, esplanade priority areas, heritage trees and sites of significance to Maori. (Figure 9)

Much of the hilly terrain is dominated by either exotic or native forest. The high value of particular local landscapes is reflected in their inclusion as Resource Areas in the District Plan. These include:

- an Outstanding Natural Feature on Maunu Mountain; and
- areas of Notable Landscape in Pukenui Forest and to the south of the study area and beyond, including the Otaika Walkway.

The various flood-susceptible areas that have been noted in the study area follow the major drainage paths and the streams in the area. The flood-susceptible areas are largely unsuitable (without major works) for intensive urban development, in that they would be adversely affected by flooding or would affect flood paths.

In this study area, the flood-susceptible areas are identified around Pukenui Road and Nihotetea Stream, and an area around Te Hape Road running east on the south side of State Highway 14 to join up with Nihotetea Stream.

The Raumanga Stream is identified as an esplanade priority area in the District Plan. This area is recognised as being of outstanding recreational value and therefore a priority to be protected by Council.

There is one Mineral Extraction Area, Otaika Quarry, which is situated on the southern boundary of the study area. Mineral Extraction Areas provide for the activity of mineral extraction and recognise that the effects of the activity may not always be contained within the boundaries of the property in which it occurs.

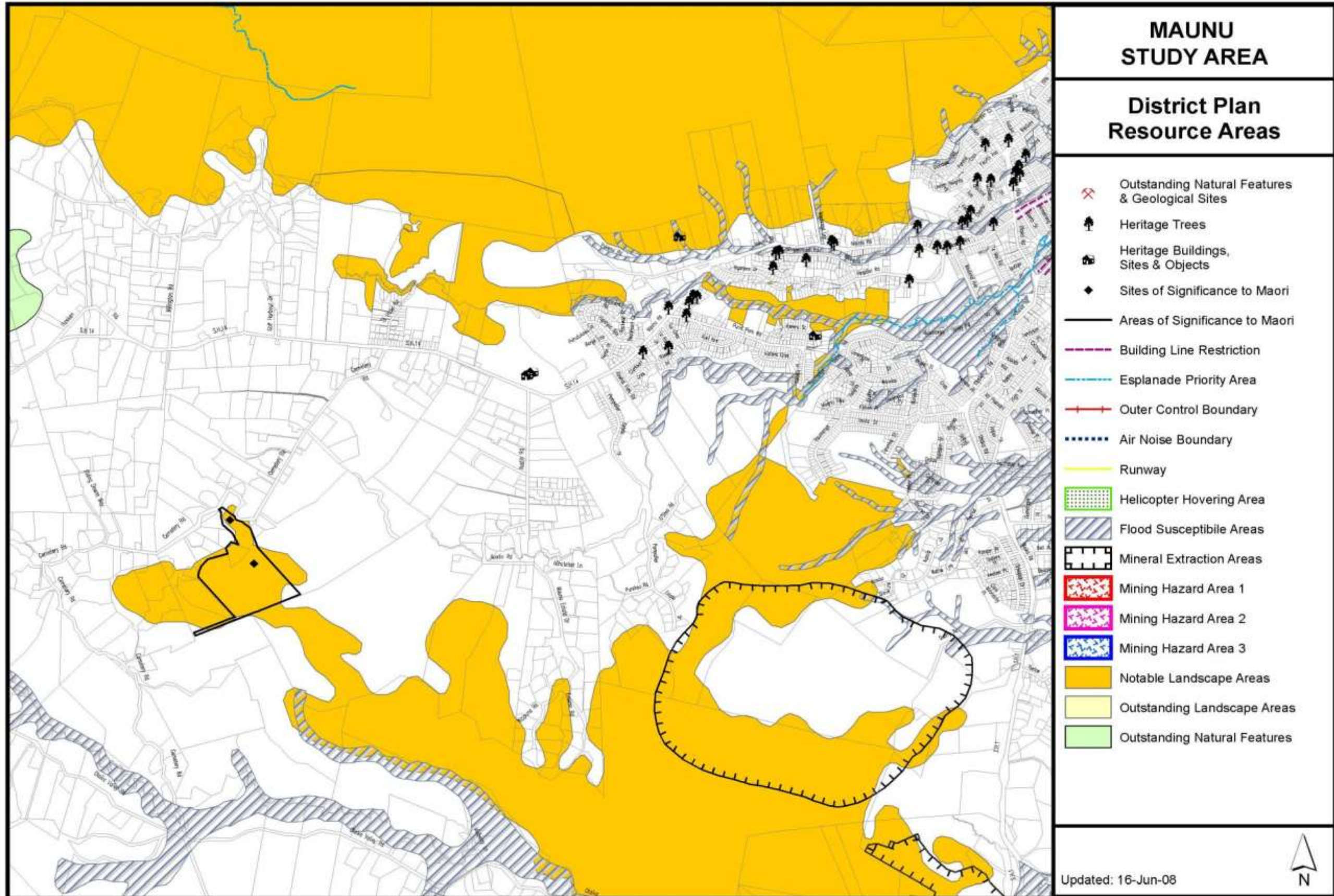
There are many Heritage Trees identified in the study area, along with four Historic Buildings and a Site of Significance to Maori.

The ecological areas identified in the study area are part of the Protected Natural Areas Programme (PNAP) proposed by the Department of Conservation (refer Ecology section, above).

n Designations

Land required for specific public works, such as schools, police stations and utilities are identified as designations in the District Plan. All designations in the study area are listed in Appendix 3.

Figure 9 Maunu Area – Resource Areas



3.2.4 Engineering Services and Infrastructure

a Water Supply

The residential areas of Maunu and properties along Pompallier Estate and Cemetery Road have reticulated water supply. The Whangarei City water supply area has four river or spring intakes: Hatea River, Poroti, Maunu Springs (DW58) and Whau Valley Dam.(Figure 10)

Council has primary water treatment plant (DW58, 59) at the water intake in Newton Road and another one in Cemetery Road. Also within the study area are water reservoirs (DW59) located in Cemetery Road and pump stations (DW58, 59, 60) in Cemetery and Newton Roads.

b Sewerage

The reticulated waste water system does not extend as far as the reticulated water supply, with the residential areas in the eastern half of the study being connected to Council's waste water system. The waste water treatment plant is situated at Kioreroa Rd, south of Whangarei City.(Figure 11)

c Storm water

The storm water lines for the study area cover the main residential areas in the study area, including Te Hape Rd. The storm water lines do not extend as far as the water lines.(Figure 12). Catchment Management Plans for the study area, and the resulting recommendations for storm water quality and flood protection measures, have been discussed in the previous section on *Hydrology*.

d Electricity and Gas

The main grid electricity supply for Northland originates at Henderson (West Auckland) where it links to Marsden Point by 220kV lines. There are three points of supply in the Whangarei District: at Bream Bay, Kensington and Maungatapere. (Figure 13)

The main North Island natural gas pipeline from Wellington terminates at Kauri, north of Whangarei. It connects with a network of over 100 kilometres of mains in Whangarei City, Oakleigh and Marsden Point.

Power supply and gas reticulation traditionally follow development and this is the case in the study area.

e Telecommunications

Telecommunication services also traditionally follow development and demand, and in this respect the study area is well catered for. Telecom has advised they are expanding the ADSL (high-speed internet or 'Jetstream') network in Northland. Trends indicate a movement toward wireless telecommunication services.

f Solid Waste

The majority of the study area has kerbside refuse and recycling collection. Council operates transfer stations located at Kioreroa Road, Hikurangi, Oakura, Tauraroa, Kokopu, Uretiti, Pipiwai, Pakotai and Ruatangata. Currently, the waste is being disposed of at a landfill in Auckland while Council seeks to develop a landfill site within the District.

Figure 10 Water Services

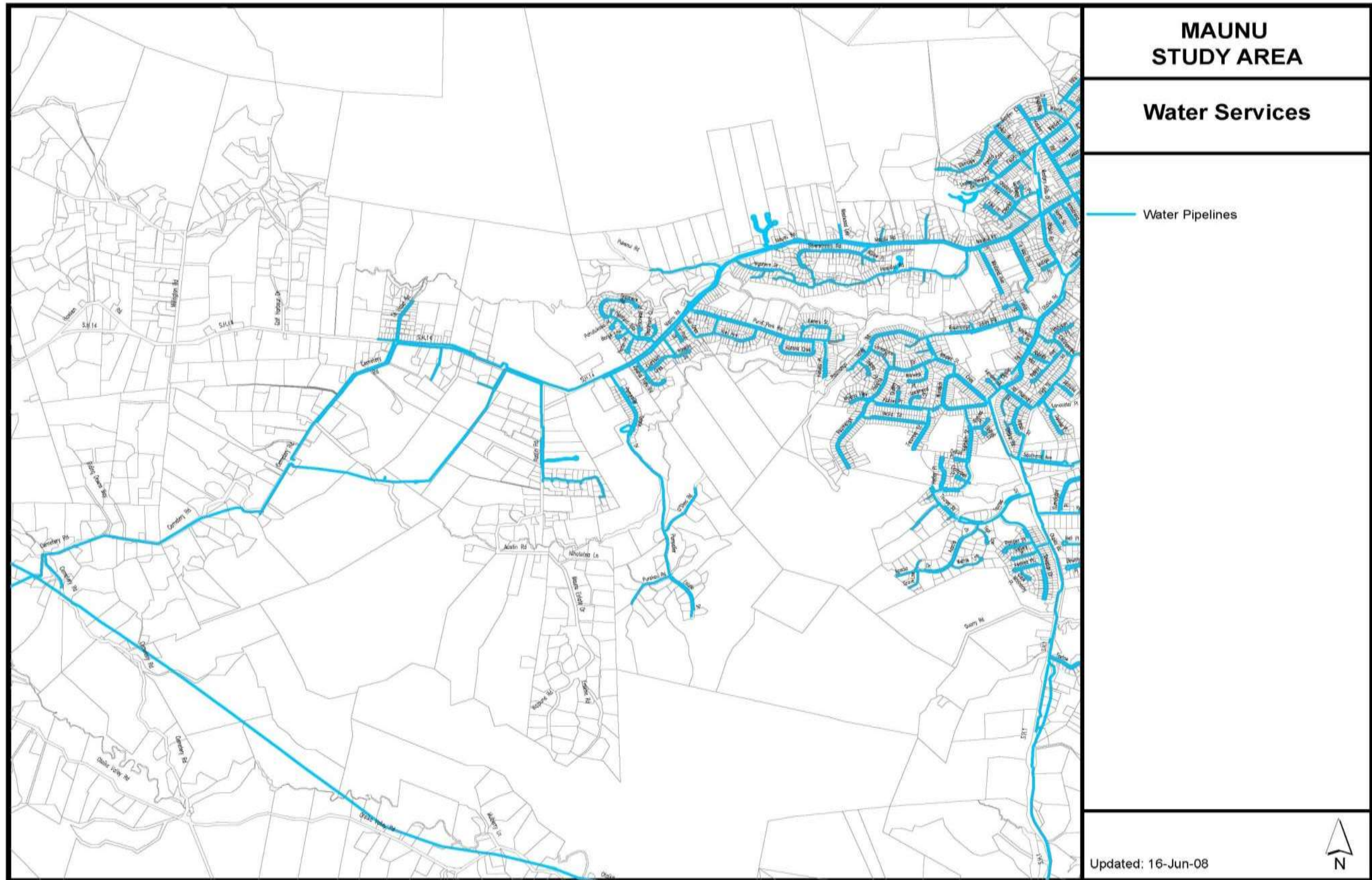


Figure 11 Wastewater Services

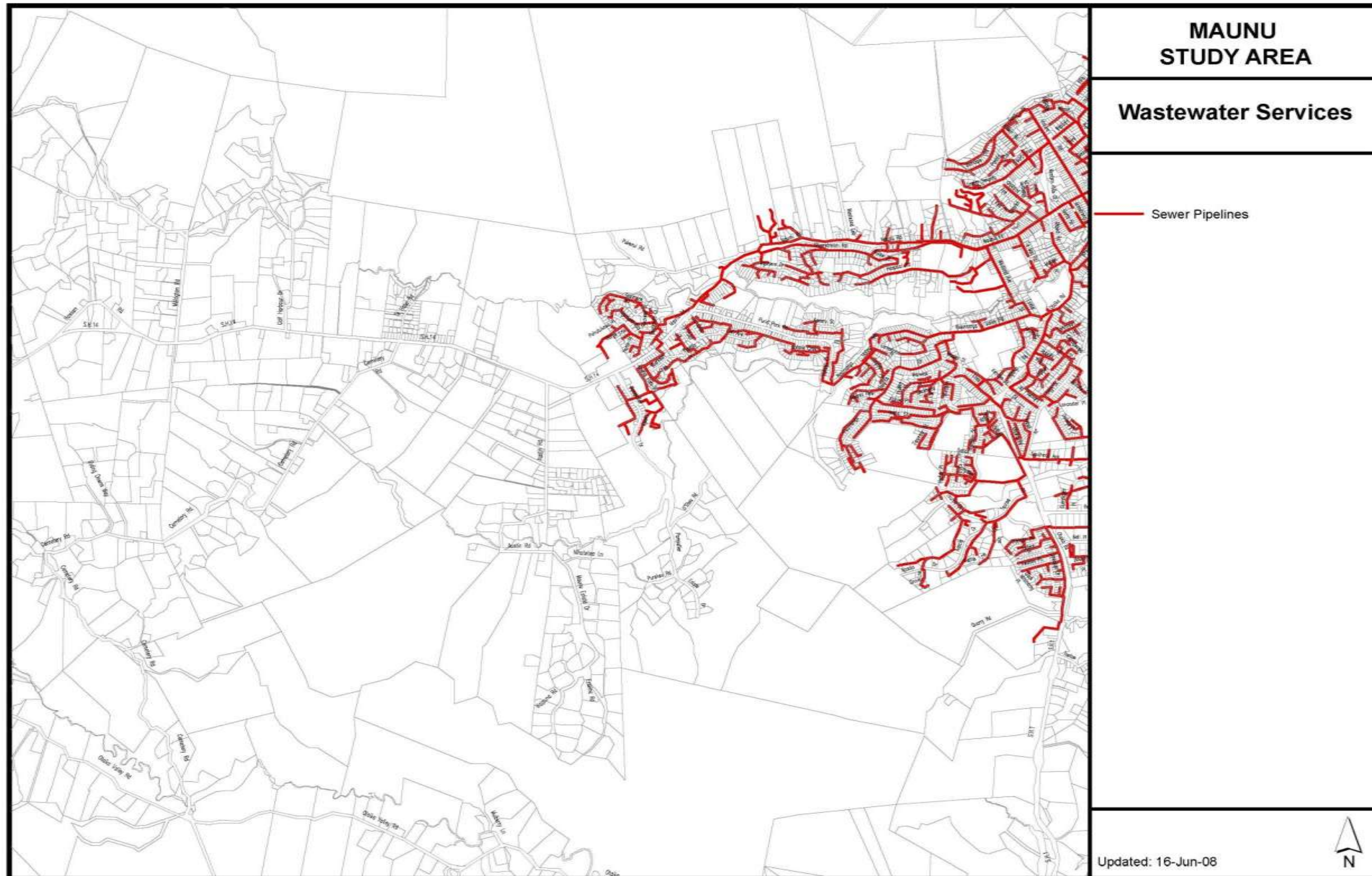


Figure 12 Stormwater Services

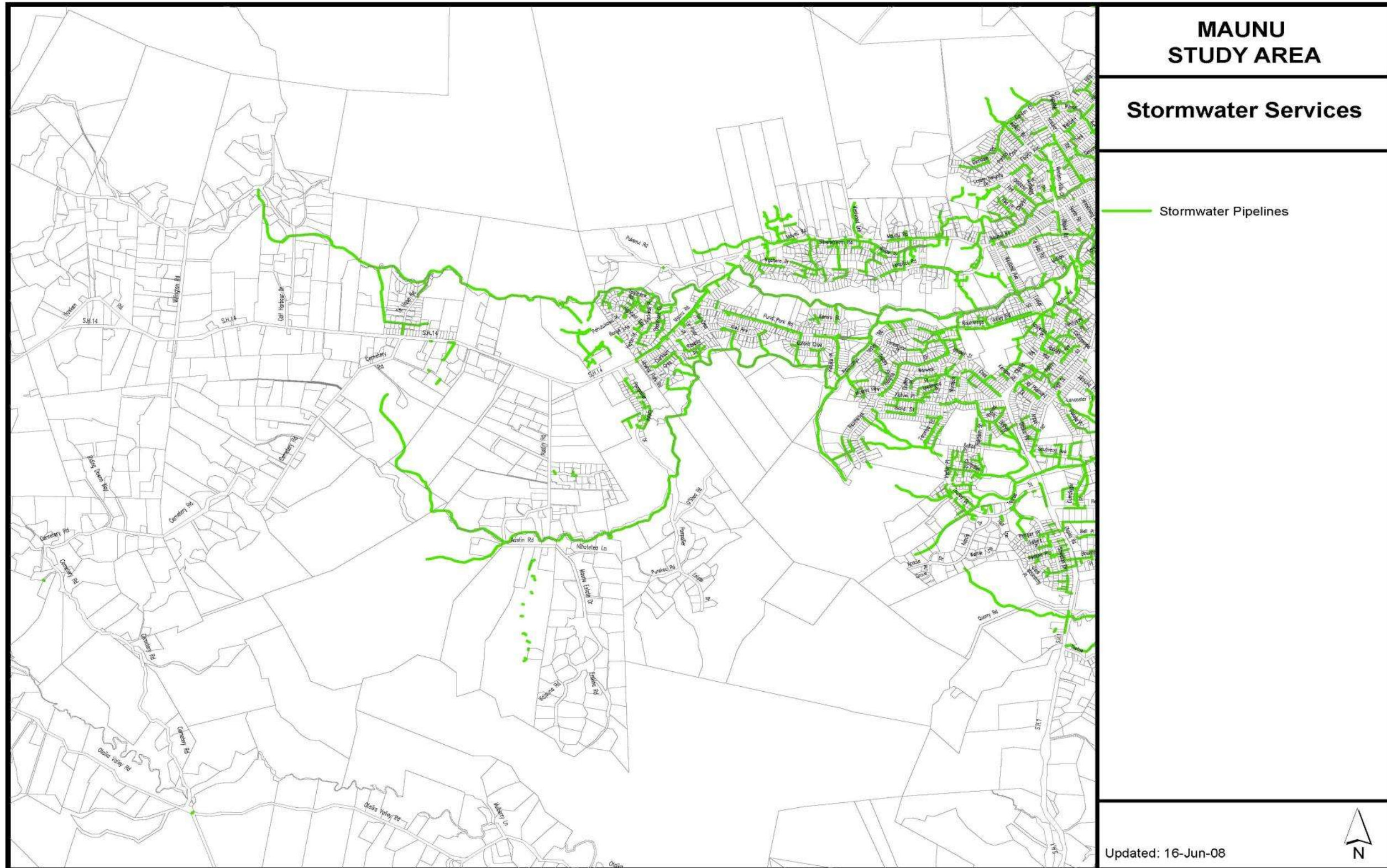
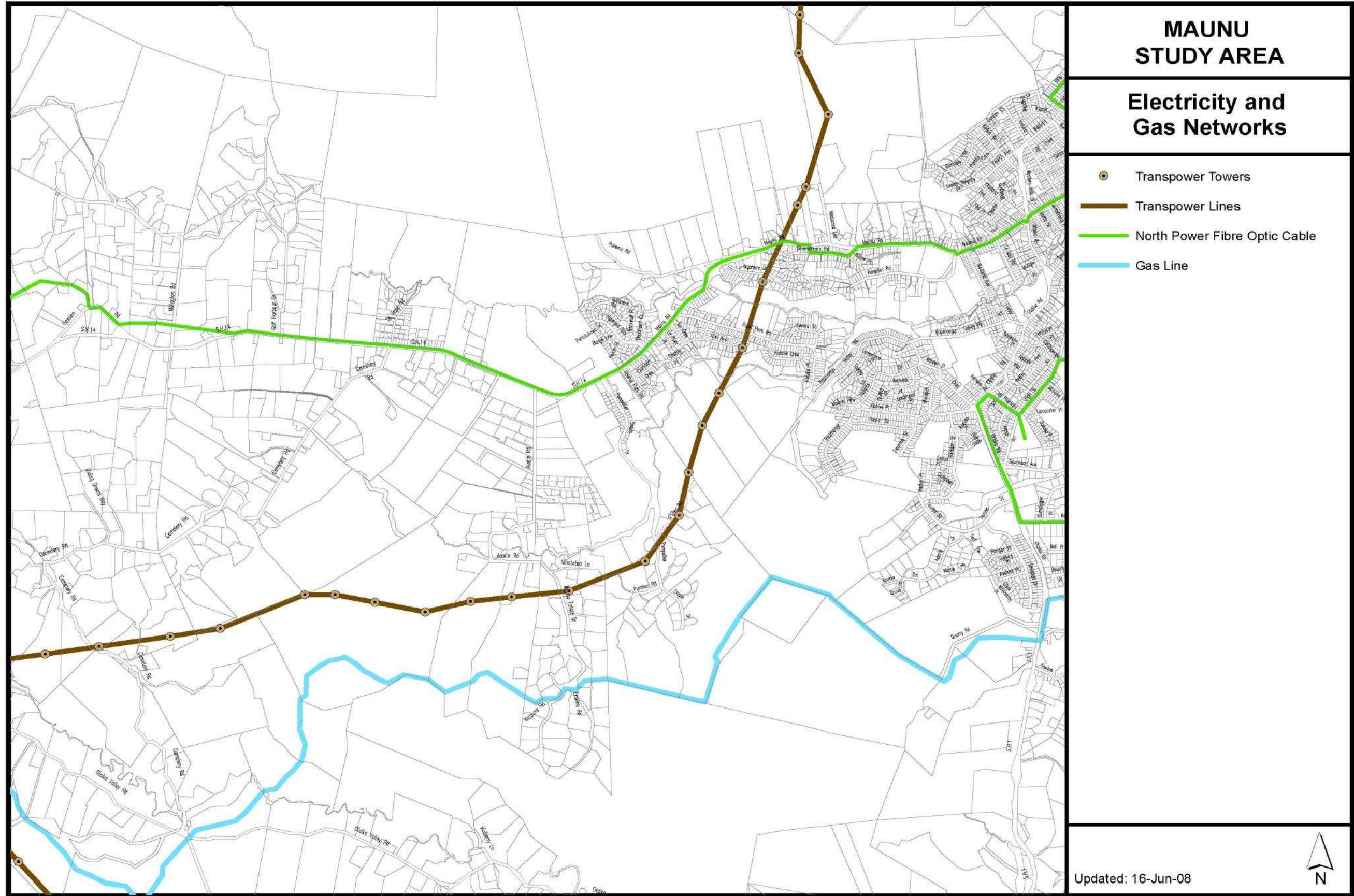


Figure 13 Electricity and Gas Networks



3.2.5 Transportation

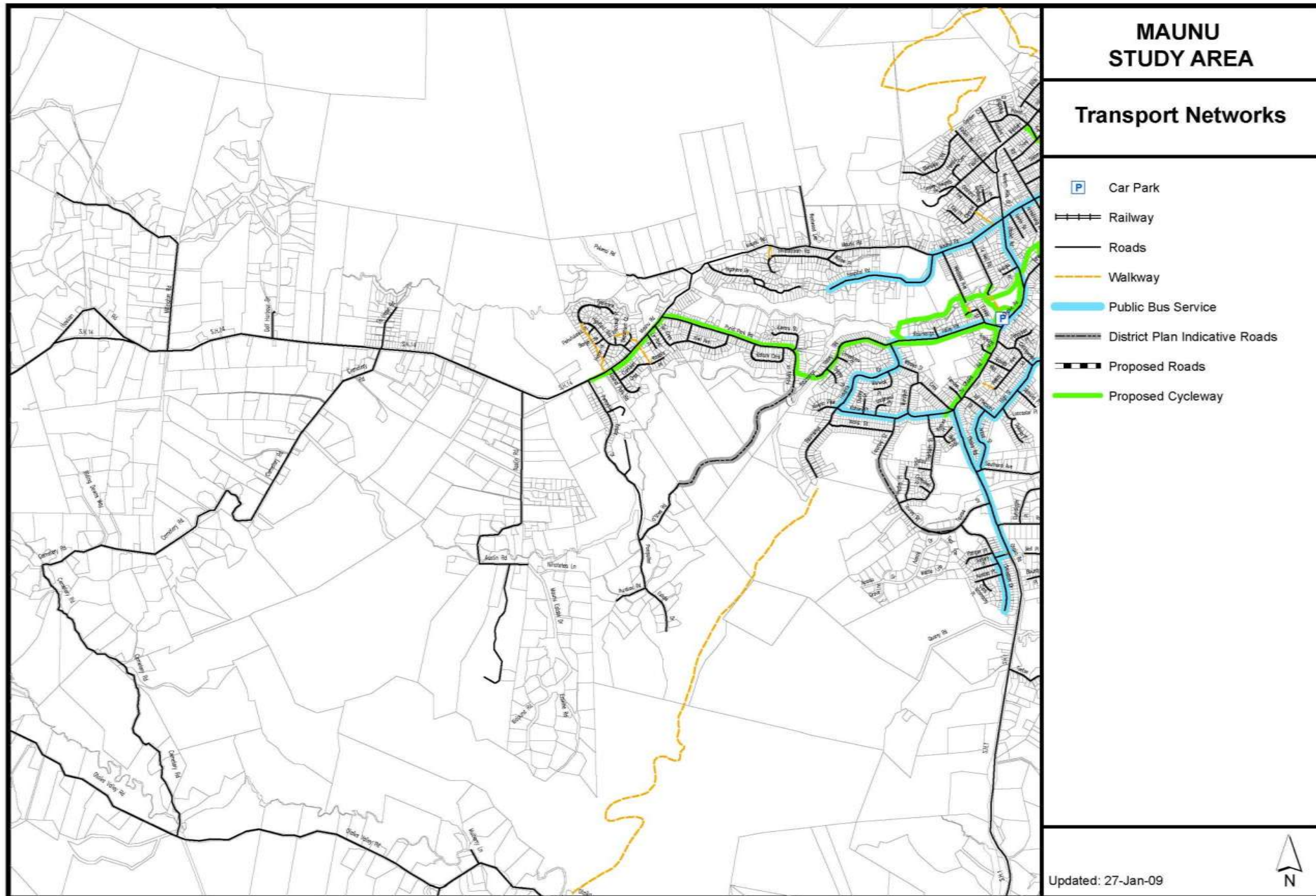
a Roding

State Highway 14 runs across the study area, beginning and ending in the west at Dargaville and in the east at Whangarei City at the intersection of Maunu Rd and State Highway 1. A number of local roads feed onto this state highway.

Capital works and maintenance programmes (including seal extensions, realignments, widening, rehabilitation of pavements and construction of footpaths) are undertaken on an ongoing basis.

While the roading network is generally considered adequate to meet present functional needs, there has been concern expressed during consultation about traffic speed through residential areas and safety concerns around the two schools in the area. Because many of these concerns feature the state highway, which is controlled by NZTA, Council cannot direct works to be undertaken. However, Council has an ongoing dialogue with NZTA and has passed on all the issues raised through consultation regarding the state highway.

Figure 14 Transport network



b Public Transport

The Whangarei City bus route includes regular buses to and from the city, Whangarei Hospital and Maunu. Consultation has indicated a wish to see the bus service increased to run further out and include Heritage Park.

c Cycleways

A cycleway runs from the Silverstream Rd intersection with State Highway 14 to the Maunu Primary School.

Council's Proposed Strategy for Bicycle Facilities 1999 shows proposed cycleways in the study area running from the western end of the existing cycleway, along Maunu Road to West End Avenue, then along West End Avenue to join up with Raumanga Valley Road and then along the Waiarohia Stream into Whangarei City.

Again, consultation has shown a wish to increase cycleways in the area.

3.2.6 Land Availability

Within the study area there is sufficient land to accommodate urban growth for well beyond the next 20 years. However, in order to plan for growth it is important to indicate the patterns of that expected growth.

The development capacity for parts of the study area has been determined using Statistics NZ mesh block boundaries, which do not fully match the study area boundaries. For the full reports refer to: *Asset Management Growth Study: Maunu, Hora Hora, Te Hihi*. The table below shows the existing undeveloped land and the potential number of allotments that could be created.

Area	Residential Lots	Countryside Lots	Additional Population Capacity
Maunu	1,867	310	4,047

3.3 Summary of Development Issues

The following issues have been identified from community consultation and analysis of background information for the study area:

The main route through the study area is State Highway 14. Discussions with NZTA have revealed they wish this to be kept as limited access, i.e. traffic from developments should not access the state highway directly but be routed through local roads that access the state highway. Therefore, the existing intersections may need to be upgraded and an indicative roading network needs to be shown. Given the growth in rural residential-type development, there is the potential for loss of rural character and economic sustainability of farming units. By setting a boundary to rural-residential development, rural character and farming units of sufficient economic size can be retained.

As what were previously rural areas develop through rural residential-type development, the level of services provided needs to be re-evaluated. Recognition of a rural-residential zone will help to establish appropriate service levels, for example, the provision of footpaths, safe and efficient speed limits and parks.

The Maunu area has a number of unique and special features. As the area develops, it is important that these features are protected. Such features include geological features such as volcanic cones, historical and cultural features like stone walls, the museum, Barge Showgrounds and natural features such as existing native bush.

Parts of the study area adjoin Western Hills/Pukenui Forest. There is potential for impacts on these important natural environments from adjacent or nearby development. The use of land buffers is an important tool.

An opportunity exists to develop a commercial hub in the study area. Re-zoning of new commercial and higher-density residential areas will allow for this.

The need for pedestrian and cycle links was also raised as an issue. Investigations are required regarding forming a network of walkway and cycleways that link attractions in the study area and are linked to other suburbs and Whangarei City.

4 Maunu Structure Plan Proposals

The land use options proposed (see Figure 15) and discussed below are the result of an extensive consultative process that took into consideration a number of factors. Some of the issues considered are but not limited to the existing development, projected population growth, community preferences, capacity of the land to accommodate new development and physical constraints to development.

4.1 Proposed Roading network in Maunu

An efficient roading network is vital to the economic and social development of a community. Population growth brings about more economic activities, with the need to link communities with their work and play places by an efficient road network. The Maunu area is characterised by ribbon development with stub roads, all leading to State Highway 14 that leads into the city. SH14 (Maunu Road) is currently the only link to the city centre from this area.

Extensive lifestyle development has taken place on both sides of SH14, putting more pressure on the state highway as most residents commute into the city for work and shopping, or go south to Auckland. The result is frequent congestion on Maunu Road from the hospital to the intersection with SH1. With the expected continuing population growth in the Maunu area, and lack of industrial and commercial activities in this area, residents will continue to commute to work and services elsewhere around the town. To facilitate this anticipated movement and connectivity, and access to the city and other parts of Whangarei, the following roading network is proposed:

- create an arterial road (bypass) from SH14 at Marian Heights, or thereabouts, leading south to the “Blue Goose” intersection of SH1
- link O’Shea Road with Kotuku Street and Raumanga Valley Road
- close the Pompallier Estates Road/SH14 intersection and access Pompallier Estates Road off the proposed bypass about 150m down the road
- widen Austin Road to service additional lifestyle development on both sides of the road and beyond
- extend Te Hape Road eastwards
- upgrade Millington Road and Golf Harbour Drive as development occurs.

The bypass will link Maunu and Otaika directly, eliminating the need for traffic to pass through the SH14/SH1 intersection and reducing the travelling distance by half. This bypass is also intended to take westbound traffic away from the city centre by diverting it at Otaika (Blue Goose). An efficient link between Otaika and Maunu will remove the need for the Maunu area to have its own industrial area. This is considered to be appropriate, as Otaika’s location along the main north-south road allows it to capture business using SH1 while being easily accessible from Maunu residential areas. The proposed link road between O’Shea Road and Kotuku Street and Raumanga Valley Road will create an alternative route into town. This will also take pressure off SH14 as more housing developments take place on the land between Maunu and Raumanga. This road will also create a short and direct link between the Maunu area and the Polytechnic and Whangarei Hospital.

4.2 Consideration of additional commercial land

Consultation revealed diverse views on the necessity for an expanded commercial area. This issue is outstanding as more research and public consultation is required. Different possible sites are being identified. For example, the possibility of expanding the commercial area around the Tui Crescent shops is being explored, as well as the corner site to the west of Austin Road.

A resource consent has been lodged for what is to be known as “Maunu Village” commercial development. This proposal is to develop land to the west of Tui Crescent Shops for retail activities, mainly food outlets. Like the earlier proposals in the Structure Plan for commercial activities, this application has attracted a number of submissions both in support and in opposition. Council is considering the application. Council has undertaken to consult further on this issue.

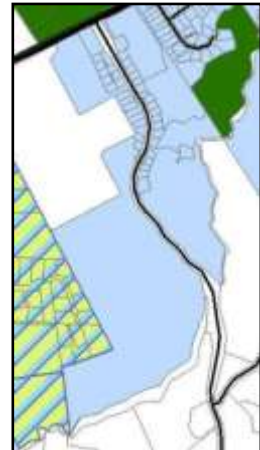
4.3 Land Use Proposals

4.3.1 Extension of Living 1 Zoning on Pompallier Estates Road

a District Plan Environment

The area is located south of Pompallier Estate School and is bounded by the Nihotetea Stream to the east and south. It is currently zoned Living 3 and comprises approximately 26 hectares. The area is little developed so far, and the majority of the land is used for pastoral purposes.

To the west of the area, medium density development has occurred, while lifestyle development has taken place to the south of the area. Residential development and school premises are present to the north of the site. To the east of the area, and to the east of the Nihotetea Stream, the zoning is intended to remain as rural within the Countryside Environment.



b District Plan Resource Areas

A 'notable landscape area' is located to the south east of this proposed Living 1 area. A separation distance of approximately 180 metres exists between the area and the notable landscape. The proposed Living 1 zone also contains a buffer zone due to the presence of the Nihotetea Stream along its southern and eastern boundary. It is therefore considered that the impact upon the notable landscape area is negligible.

c Transportation

The area is well serviced by reasonably new roading infrastructure. It can be accessed via Pompallier Estate Drive, a 'no exit' road off State Highway 14. State Highway 14 provides access to the Whangarei CBD which is located to the east.

It is considered that the proposed zoning is appropriate in light of the existing roading infrastructure, as it will allow for immediate development, keeping in mind that any internal roading requirements are to be carried out by the developer.

A cycleway leading to the Whangarei CBD is proposed in this area. This will provide an alternative access way to the town centre.

d Community Resources

The higher population density resulting from the proposed Living 1 zone is able to be supported by surrounding community resources. The area has easy access to two schools, Heritage Park, Barge Park Showgrounds and associated open space, and walking tracks along the Nihotetea Stream, all located within a one kilometre radius.

Public transport to and from the CBD is easily accessible with a bus service running along Maunu Road (SH14), and a bus stop located in Heritage Park.

Other resources in the vicinity include a medical centre, two churches, a golf course, community hall and a small number of retail outlets/convenience stores. These are located no further than four kilometres from the proposed Living 1 zone.

e Landform and geology

The topography in the western portion of the area is mainly flat to gently undulating, with the far eastern and southern areas classified as rolling, while at the same time containing a small number of steeper slopes in several locations.

Overall, the western area is considered to be at low risk of instability, while the eastern and southern parts contain areas of moderate to high risk. This means that there is evidence of past slippage or erosion.

f Threatened Environments

The majority of this area has been identified by Landcare Research as a Category 2 Threatened Environment. Category 2 consists of environments that are chronically threatened, with much reduced indigenous biodiversity. There has been a great loss of habitats for native species, and remaining indigenous vegetation provides critical habitat for threatened species.

Running in a north-east to south-westerly direction, there is a strip of land identified as critically under protected with no formal protection for what remains in terms of indigenous vegetation.

g Land Use Capability

The predominant class of land use capability for this area has been established by Landcare Research as the best classification in terms of soil quality and versatility. These soils have virtually no limitations for arable use, and are suitable for cultivated crops, pasture or forestry.

h Water, Storm Water and Waste Water Services

Reticulated water is available all along Pompallier Estate Drive. Any new development would be able to connect to these services.

In terms of wastewater, Council reticulated services are available to the boundary of the proposed Living 1 area. Any new development can be connected to these services. However, the wastewater infrastructure has been identified by as needing to be upgraded.

The proposed Living 1 zone is bounded by the Nihotetea Stream which forms a natural flow path toward which storm water will be directed.

Summary

The terrain of the area is mainly flat, which reduces development costs, and requires minimal earthworks.

Although the soils of the area are classified as highly productive, and the environments are classified as chronically threatened, due the surrounding development pattern, existing infrastructure and community resources, and a clearly marked natural stream boundary, it is considered that higher density residential development is appropriate for this area. This is supported by the urban design principles of transition and contiguous development.

4.3.2 Extension of Living 3 / Future Living 1 Zoning on Austin Road

a District Plan Environment

This area covers both the eastern and western sides of Austin Road, and extends southwards to the point at which the road crosses the Nihotetea Stream. The northern boundary is formed by State Highway 14. The total extended area comprises approximately 75 hectares. The majority of the eastern part of the area is already identified in the District Plan as a Living 3 zone with the southern boundary being extended to meet the Nihotetea Stream. In the western direction, the area is being extended to the boundary with the property identified as Lot 2 DP 85459. This property has a long, easily identifiable boundary stretching nearly the full length of the Living 3 western boundary. The proposed extension is currently zoned Countryside although a certain amount of development has already taken place.



b District Plan Resource Areas

The southern boundary of the proposed Living 3 area around Austin Road is, at its closest point, approximately 300 metres removed from a notable landscape area to the south. It is considered that the proposed development will have minimal impact of these notable landscapes.

c Transportation

The area is well serviced by reasonably new roading infrastructure, although State Highway 14 is proposed to be upgraded between Pompallier Estate Drive and Millington Road to become a four-lane highway.

All sites in this proposed zone can be accessed via Austin Road, a 'no exit' road off State Highway 14. State Highway 14 provides access to the Whangarei CBD, to the east.

It is considered that the proposed zoning is suitable in light of the existing roading infrastructure, as it will allow for immediate development at a lower cost.

d Community Resources

The proposed new zone is located within 1 to 2 kilometres from Maunu Primary School, Pompallier College, Heritage Park and Barge Park Showgrounds and associated open space. There is easy access to two churches in the area, a medical centre, community hall and golf course.

Public transport to and from the CBD is reasonably accessible. A bus service runs along Maunu Road (SH14), with the route ending at Heritage Park.

e Significant Landscape Features

The area is in close proximity to a visual amenity area in the south-west, and a number of protected natural areas to the north and south-west. The development enabled through the re-zoning of this area will not impact upon these areas to any significant degree.

A number of stone walls are located within the proposed Living 3 zone. These stone walls are of important heritage value to the area. The District Plan has rules in place that provide for a certain level of protection.

f Flood Susceptibility

In general, the newly proposed Living 3 zone is not prone to flooding. However, a minor area in the zone has been identified by Campbell Consulting Ltd as being flood susceptible. This area is located approximately 170 metres from the northern boundary (SH 14). Development proposals in this area may need to be accompanied by site-specific engineering reports, so as to identify appropriate engineering solutions that mitigate the flood risk.

g Landform and geology

A number of smaller areas have been identified as having a moderate risk of instability, meaning that there is evidence of past slippage or erosion, and that the land could be subject to inundation from landslide debris and slope deformation. These areas are located along the southern boundary of the proposed Living 3 zone, in the vicinity of the Nihotetea Stream. Any proposed development in these areas may need to be accompanied by appropriate geotechnical information and engineering solutions to mitigate instability risk.

h Threatened Environments

Most of this area has been identified by as a having threatened indigenous vegetation, with much reduced indigenous biodiversity. There has been a great loss of habitats for native species, and remaining indigenous vegetation provides critical habitat for threatened species.

In the south of the area, just north of the Nihotetea Stream, there is a strip of land identified as critically underprotected with little formal protection for what remains in terms of indigenous vegetation.

i Land Use Capability

The predominant class of land use capability for this area has been identified as being the most productive land in terms of soil quality and versatility. These soils have virtually no limitations for arable use, and are suitable for cultivated crops, pasture or forestry.

The far western boundary and south-western corner of the proposed Living 3 zone consists of soils slightly shallow with minimal limitations for arable use but are still well suited for cultivated crops, pasture or forestry.

j Water, Storm Water and Waste Water Services

Reticulated water is available along the northern half of Austin Road. Any new development in this area would be able to connect. There is also a water main running parallel on the western boundary of the proposed Living 3 environment. Wastewater reticulation system is not available in this area.

Summary

Although the soils of the area are classified as highly productive, and the indigenous vegetation is classified as chronically threatened, due to the flat topography, existing infrastructure and community resources, and a clearly marked natural stream boundary, it is considered this development is appropriate. The area meets the 'contiguous' criterion for land development as it form a natural extension of urban area. It is therefore recommended that this area be re-zoned Living 3 as an underlying environment with a future environment of Living (overlay).

Re-zoning this area to Living 3 is considered to be an appropriate trade-off to provide for growth of the community in an area where the market is favouring medium-density residential development. The area has also been identified as being suitable for future high density development as the population grows. This means that Council will have direct development in such a way that it will be compatible with future high density (living 1) development.

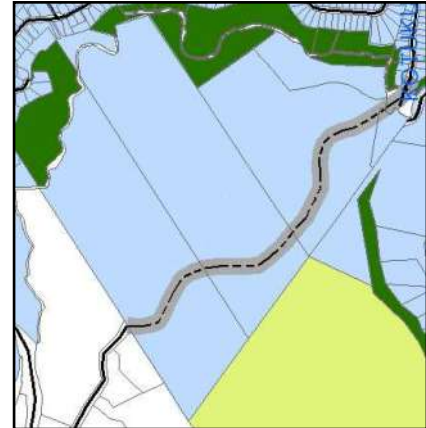
4.3.3 Living 1 Zoning at O'Shea Road / Kotuku Street / Raumanga Valley Road

a District Plan Environment

This area is currently zoned Living 3 and Business 3 and is located between the end of O'Shea Road to the west, the end of Kotuku Street and Raumanga Valley Road to the east and Nihotetea Stream to the north. The area comprises a total of approximately 45 hectares.

b District Plan Resource Areas

Apart from the Nihotetea and Waiponamu Streams, another short watercourse traverses the centre of the area (see the Flood Susceptibility section below for further details). The south-eastern boundary of the proposed Living 1 zone forms part of a notable landscape area, as identified in the District Plan.



c Transportation

An existing roading network can be utilised to service the area with access available to State Highway 14. Apart from roading infrastructure, a proposed cycleway is located in the vicinity of this Living 1 zone, as is a public bus service.

d Community Resources

The proposed Living 1 zone is well serviced by a number of parks and reserves which are located in Maunu and Raumanga. The area has easy access to a primary school and college, as well as to a medical centre, a church and a number of small retail outlets, within a two kilometre radius.

e Significant Landscape Features

A protected natural area runs along the north-western, northern and north-eastern boundary of the proposed Living 1 zone. As mentioned earlier, the south-eastern boundary forms part of a notable landscape area.

f Flood Susceptibility

The three watercourses that traverse through, or form the boundary of, the area are identified in the Flood Hazard Report as being susceptible to flooding. However, the relatively steep gradients of these watercourses create fast flowing currents which reduce inundation periods and prevent stream burst during high-intensity rainfall. The floods are therefore generally confined to the main channels. Development in the area may need to be supported by appropriate engineering report offering suitable engineering solutions as mitigation.

g Landform and geology

The geology of the area mainly consists of Ruatangata Sandstone in the eastern part, while the western section consists of Northland Allochthon rocks, with some Whangarei Limestone settled between these two formations. The slopes in the proposed zone range from undulating (3 – 7 degrees) in the eastern corner to rolling (7 – 15 degrees) in the remainder of the site.

Overall, the risk of slope instability ranges from moderate to high risk, with high risk being the dominant feature for most of the area. The land appears to be subject to erosion or slippage. Development should not occur unless works can be undertaken to avoid, remedy or mitigate any hazards, based on robust site specific geotechnical investigations.

h Threatened Environments

The eastern corner of the proposed Living 1 zone has been classified by L as being at risk. The area is highly modified and depleted of indigenous biodiversity.

i Land Use Capability

The soils are considered to be non-arable land with severe limitations due to steep slopes, unstable formation and shallowness.

j Water, Storm Water and Waste Water Services

Water, waste water and storm water services are all located in kotuku and Raumanga Valley Road. These services can be extended to this area.

Summary

This proposal meets the 'contiguous' criterion as it extends and joins two existing Living 1 zones on Maunu and Raumanga. It also meets the 'infill' criteria as it seeks to utilise undeveloped piece of land surrounded by similar development.

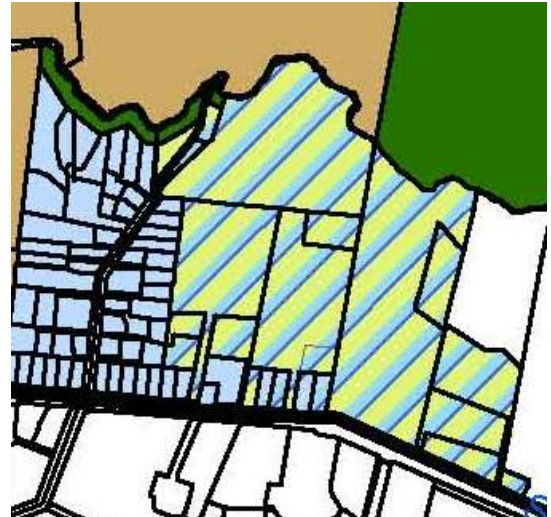
Although the land is highly unstable, due to other factors such as its location relative to other developed areas, proximity to existing infrastructure and community resources, it is considered that the development of this area as a Living 1 zone is an appropriate land use provided that peer reviewed geotechnical investigations are carried out for each site.

4.3.4 Extension around Te Hape Road Residential Settlement

a District Plan Environment

Te Hape Road is a no-exit road to the north of State Highway 14. It serves a small settlement that was established in the early 1900s in the countryside but under Whangarei County jurisdiction. The settlement has not grown since. It is currently zoned Living 1 and is surrounded to the north and west by larger farming blocks used for market gardening purposes.

It is proposed to provide further residential development by creating a Living 3 zone to the east of the Te Hape settlement with Living 1 zoning for future development. The proposed Living 3 and future Living environments will extend to the boundary of the Heritage Museum property in the east, and the Barge Park Showgrounds property and Te Hihi Stream in the north. State Highway 14 will mark the boundary to the south. The total estimated area for this proposal is 24 hectares.



b District Plan Resource Areas

A notable landscape area is located to the north of the proposed area and extends into the northern and north-eastern portion of the new proposed zone.

c Transportation

The proposed Living 3 zone is located to the north of State Highway 14. However, a state highway is a limited access road, and it is likely that any new development in this proposed zone will need to join the state highway via Te Hape Road. A new access to Te Hape Road parallel to SH14 can be identified as an indicative road as soon the agreement has been finalised between Council and land owners. A widening of State Highway 14 to a 4 lane highway is proposed between Pompallier Estate Drive and Millington Road. This will be able to facilitate higher volume traffic.

A public bus service is in operation along State Highway 14, with the end-of-line bus stop located at Heritage Park. This bus stop is within easy walking distance of the new proposed zone.

A proposed cycleway is intended to start around the Barge Park Showgrounds area, which is also easily accessible from the proposed Living 3 zone.

d Community Resources

The area contains a church and is within easy walking distance of the community hall, golf club, Maunu Primary School, Pompallier College, Heritage Park and Barge Park Showgrounds. A second church, medical centre and a number of retail outlets are located within two kilometres from the area.

e Significant Landscape Features

The northern boundary and north-eastern portion of the area form part of a protected natural area which is also recognised as an outstanding landscape area in the District Plan. This outstanding landscape area stretches north to the Pukenui Forest, which is also classed as a protected natural area.

A certain number of stone walls are also found within the proposed Living 3 zone.

These natural and heritage features are envisaged to be protected and/or enhanced as part of any development proposals.

f Landform and geology.

The proposed area for rezoning is situated on rich, versatile volcanic soils on land that is mainly flat to gently undulating with slope angles ranging from 0 to 3 degrees.

The risk of any slope instability is low, which is considered a positive characteristic in terms of development potential.

g Threatened Environments

The majority of this area has been identified by Landcare Research as consisting of environments that are chronically threatened, with much reduced indigenous biodiversity. There has been a great loss of habitats for native species, and remaining indigenous vegetation provides critical habitat for threatened species.

h Land Use Capability

The area contains soils identified as good to moderately good in terms of agricultural productivity. The land is very productive with market gardening and horticulture production.

i Water, Storm Water and Waste Water Services

The area is currently not serviced by Council-reticulated waste water. Council-reticulated water runs along State Highway 14, past the proposed the area. It would be possible to connect to Council's water supply.

Storm water in the area is discharged via natural flow paths. No storm water pipelines are present in the vicinity.

Summary

The terrain of the area is mainly flat, which allows for higher-density housing development with minimal earthworks.

The area meets the contiguous development criterion as it seeks to extend a similar Te Hape settlement eastwards. It is therefore recommended that this area be re-zoned Living 3 with a future Living environment to allow for a natural expansion of Te Hape village.

4.3.5 Rural-residential Zoning between Te Hape Settlement and Hawken Road

a District Plan Environment

The area comprises approximately 243 hectares and is located north of State Highway 14. It borders the Te Hape settlement and extends north of this settlement to adjoin the Barge Park Showgrounds to the east. It extends to Maunu Volcanic Cone in the west, and Millington Road and Pukenui Forest, a natural ridge line, to the north.



The area is currently zoned Countryside, but has been intensely developed over the last several years with many lifestyle blocks. The main activities in the area consist of residential living and market gardening. A golf course runs alongside Millington Road.

It is proposed to re-zone this area as rural-residential in recognition of the market demand for lifestyle properties, while at the same time ensuring that productive capacity of farms in the rural countryside is retained. The Rural-residential zone is also envisaged as a transition zone between the urban development and the rural countryside, providing opportunities for residents looking for a low density living with reach of the city.

b District Plan Resource Areas

The proposed rural-residential zone borders a notable landscape area in the north, and is adjacent to an outstanding natural feature, which is located to the west of the proposed zone. The low density character of this rural-residential zone is not expected to adversely impact upon these resource areas to any noteworthy degree.

c Transportation

A public bus service runs along State Highway 14. However, the end-of-line bus stop is located at the Heritage Park grounds, which is just over three kilometres from the western portion of the rural-residential zone.

d Community Resources

A golf course is located in the middle of the rural-residential zone, and residents will have easy access to a community hall and church. Approximately 3.5 kilometres along State Highway 14, in an easterly direction, a primary school, college, medical centre and a number of small shops can be found.

Heritage Park and the Barge Park Showgrounds can provide for recreational pursuits, although the lot sizes within the rural-residential zone are such that recreational needs may be met within individual property boundaries.

e Significant Landscape Features

The north-eastern area of the proposed rural-residential zone is classified as an outstanding landscape and borders on a protected natural area. Along the western boundary, a protected natural area, outstanding landscape and visual amenity area are located. The proposed zone has a substantial number of stonewall heritage features which should be protected. A number of smaller, protected natural areas can be found within the proposed rural-residential zone.

f Landform and geology

The geological formation of the area consists of the Kerikeri Volcanic Group. The vast majority of the land within this area is flat to gently undulating, with the western boundary turning into steep slopes of 20-25 degrees. The risk of slope instability has been assessed as being low, posing little threat to development.

g Threatened Environments

The area has different levels of indigenous vegetation protection. Some areas are recognised as significant landscapes and therefore protected. Most of the vegetation in the built up areas have been removed.

h Land Use Capability

The soils of the area are identified as highly versatile and productive in terms of their arable use. These soils are recognised for their ability to produce a variety of crops.

i Water, Storm Water and Waste Water Services

There are no Council reticulated wastewater, portable and stormwater systems in the area.

Summary

This proposal meets the transition criterion for land development as it provides a buffer zone between the urban form of development and the countryside. The introduction of this new zone is considered to be a rational response to market demand for properties in a rural setting, while allowing larger economic farming units to be retained in the countryside.

4.36 Retaining the Countryside Zoning on Cemetery Road

a District Plan Environment

This area comprises land on both sides of Cemetery Road, from the east of the cemetery to the west of the study area. The majority of the land sustains horticultural entities due to the versatile, volcanic soils present in the area. Some pastureland can be found toward the south-western side of the study area.

It is proposed to retain this land as part of the Countryside Environment zone so as to maintain the agricultural productivity potential that exists on the fringe of the Whangarei City. This area traditionally has a number of viable agricultural farms that have served the District for many years. These highly-productive units need to be protected by keeping the existing zoning to prevent further subdivision and development that could undermine their viability.



4.4 Overall Development Assessment

The proposals discussed above are considered to be more than adequate to provide for the needs of the community and, at the same time, maintain some productive land. The proposals will cater for development well beyond the next 20 years, allowing future generations a variety of choices for living style.

Other development proposals that complement those above, such as provision of parks, community and cultural facilities, are identified and described in Chapter 5 of this Structure Plan.

The District’s Population Growth Model shows there will be a steady population increase over the next 35 years in this area. Projected growth under high-, medium- and low-growth scenarios is shown on the table below.(Figure 16)

Figure 16 Projected Population Growth in the Maunu Area

Projected Population	2006	2011	2016	2021	2026	2031	2036	2041
High	4749	5,028	5,112	5,313	5,495	5,676	5,858	6,040
Medium		4,555	4,646	4,790	4,913	5,037	5,160	5,284
Low		4,082	4,180	4,267	4,332	4,397	4,462	4,528

Source: Whangarei District Council Growth Model, June 2008

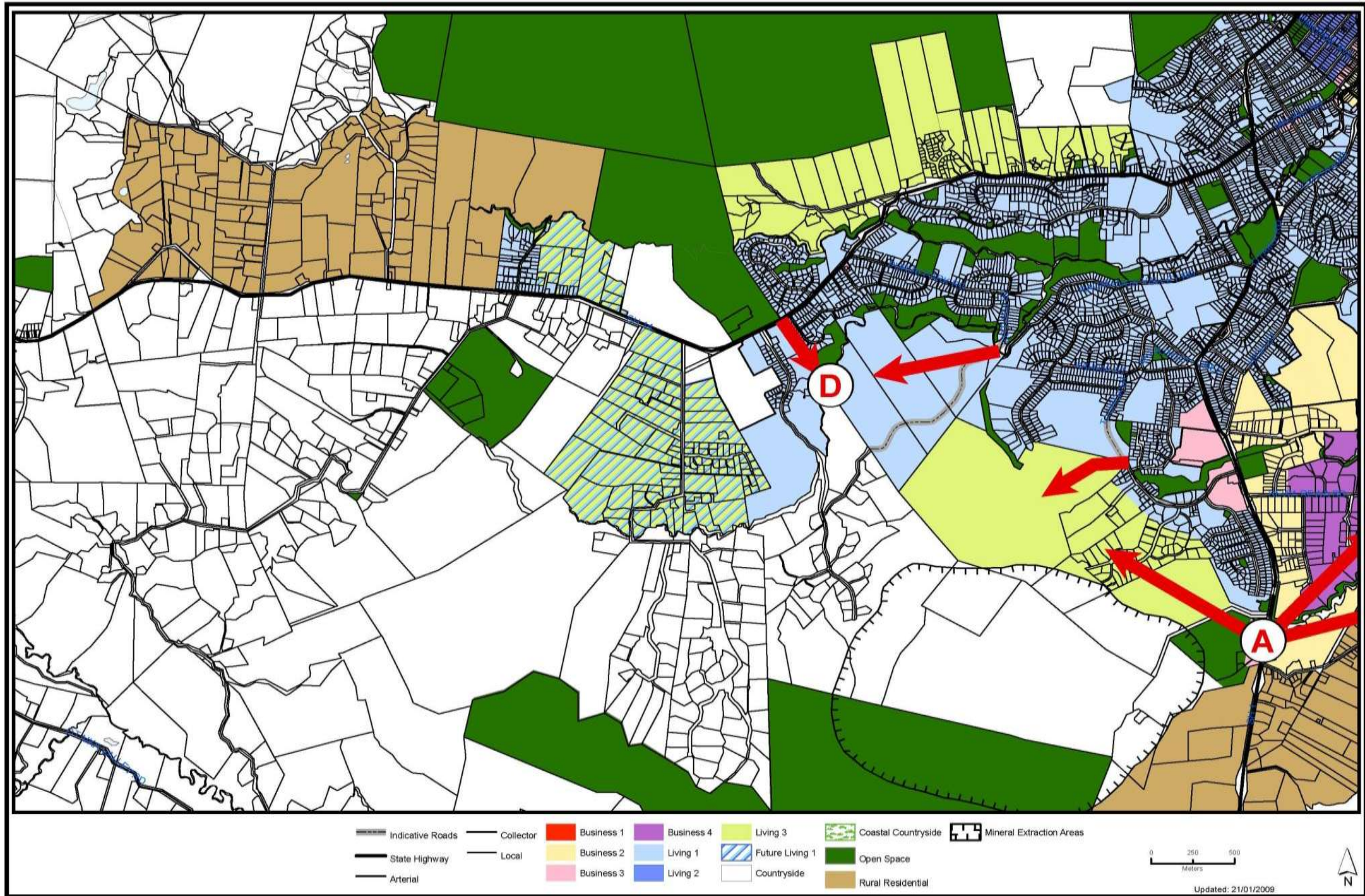
The additional land for development, as shown in the proposals above, has been calculated to accommodate the high-growth scenario. The table below show sizes of land provided in the land use proposals, and the possible number of allotments that can be created from it.

Figure 15 Potential Capacity of the Proposed Land Use in Maunu Area

	Potential Lots	Potential carrying capacity (Population)
Current (Existing undeveloped land)	1,867	4,047
Additional land proposed for new zoning		
Proposed Living 1	4,388	11,835
Proposed Living 2	0	0
Proposed Living 3	850	2,293
Proposed Rural Residential	139	375
Countryside	311	839
Total	5,688	15,342
As a percentage of 2041 population projection		256%

The table above shows that the land use provisions can create a maximum total number of 5,726 inclusive of existing individual allotments. This means that the land can support a similar number of households. Using an average household size of 2.4 people, the maximum capacity of the provisions is 15,444 people, when all land is subdivided to its minimum allowable size for each land use zone, and taken up. When compared with the projected population growth, it is clear that these provisions will have the capacity to accommodate much more development than the natural population growth, in the long term. However, the calculated number of lots does not reflect the actual numbers or the eventual lot sizes when land is fully developed due to other physical, economic and social factors

Figure 15 Maunu Area – Proposed Land Use



5 Implementation

5.1 Issues

Implementation of the proposals in this Structure Plan takes place over a long period of time through project development by all stakeholders. Council has a lead role in co-ordinating, and sometimes providing, infrastructure ahead of development, and by recovering costs, with time, through development and financial contributions. Some of the proposals need to be incorporated into the District Plan by way of plan change, and also to be implemented as part of the wider issues of the District Plan.

The following section outlines action responsibilities and priority guidelines for the proposals. In regard to timing and costing of projects, it is considered that more conclusive timeframes and costs of individual projects can only be determined after further investigation.

It is important to note that project development is a shared responsibility between Council and the private sector. Council will take a leading role in policy issues while the private sector develops land in a manner that reflects the desired outcomes from this Structure Plan.

5.2 Project Identification and Prioritisation

The following projects have been identified from the previous sections on *Development Issues* and *Spatial Strategy*. The priority of the implementation measures is an ongoing process through LTCCP process.

Economic Development

Method – Specific Implementation Measures	Priority	Responsibility
Make provision for a commercial centre in Maunu Confirm area to be developed as a commercial centre Re-zone land as Business 3 through the plan change process	Low	Policy & Monitoring Department

Infrastructure

Transportation

Method - Specific Implementation Measures	Priority	Responsibility
Create an indicative roading network Map the network of local roads to link to Raumanga, State Highway 14 and State Highway 1 Ensure these roads are created as development occurs by inclusion in District Plan through the plan change process	High	Roading, Policy, Resource Consent Departments
Continue to liaise with Transit NZ on improvements to State Highway 14 through Maunu and Hora Hora	Ongoing	Roading, Policy Departments
Implement School Zones School Zone for Pompallier College School Zone for Maunu Primary	Low	Roading Department
Create a heavy haulage route on Otaika Valley Rd Upgrade the road Continue to liaise with Transit NZ over the status of this road, i.e. the change to State Highway	Ongoing	Roading Department
Upgrade Austin Road Investigate upgrade, including widening the road, adding a centre line and footpaths and improving the intersection	High	Roading Department
Increase and upgrade cycleways Complete Cycle Strategy	Medium	Parks, Roading Departments

Method - Specific Implementation Measures	Priority	Responsibility
Investigate cycleway routes in and around study area		
Increase and upgrade footpaths Investigate and place on a footpath needs programme	Medium	Roading Department
Ensure a safe and efficient roading network Continue to plan for, and undertake, network upgrades, as required	Ongoing	Roading Department

Waste water

Method – Specific Implementation Measures	Priority	Responsibility
Investigate economic and environmentally sustainable waste water disposal Ensure future development is connected to a sewerage system or suitably-designed, on-site system. Monitor existing on-site systems	Ongoing	Waste & Drainage Department

Storm water

Method – Specific Implementation Measures	Priority	Responsibility
Investigate economic and environmentally sustainable storm water disposal Undertake works identified in the Storm Water Catchment Management Plans	Ongoing	Waste & Drainage Department

Water Supply

Method – Specific Implementation Measures	Priority	Responsibility
Ensure adequate supply and quality of reticulated water Ensure continued compliance with relevant standards Continue to plan for an adequate water supply capacity as population increases	Ongoing	Water Department

Open Space and Recreation

Method – Specific Implementation Measures	Priority	Responsibility
Retain and improve Barge Showgrounds Create a 'recreation hub' Complete the Management Plan, consider upgrading the toilet block, create walkways and linkages to the Heritage Museum and Western Hills Forest and create an arboretum	Medium	Parks Department
Retain and improve Western Hills/Pukenui Forest Complete the Management Plan, consider access points and linkages to Maunu Undertake track development and extensions Undertake bush restoration in Pukenui and Western Hills Forests, within the next 10 years	Medium	Parks Department
Manage and improve esplanade areas	Ongoing	Parks Department

Method – Specific Implementation Measures	Priority	Responsibility
Ensure reserves are created and extended along streams such as Raumanga and Pukenui, including walkways and cycleways, where possible Improve access to Raumanga stream		
Develop walkways, reserves and linkages Investigate possible walkways and place on programme Expand reserve network as population increases Investigate creating further reserve areas on volcanic land with stone walls, within the study area (also refer to the Special Features section below) Investigate linkages between reserve areas	Ongoing	Parks Department
Weed management along Council roads and in Council reserves Review and revise weed management programmes in Council's roading and parks' budgets	Ongoing	Parks, Roading Department
Undertake extensions to Maunu Cemetery, including a new cremator		Parks Department

Rural Residential Development

Method – Specific Implementation Measures	Priority	Responsibility
Develop a Rural Residential Environment (Zone) Prepare a District Plan Change to include policies, objectives and rules for a new Environment in the District Plan Notify a District Plan Change for public submission, undertake hearings and resolve any appeals	High	Policy & Monitoring Department
Rezone areas to Rural Residential Environment Confirm boundaries of Rural Residential Environment Prepare a District Plan Change to provide for Rural Residential Environment Notify plan change for public submission, undertake hearings and resolve any appeals	High	Policy & Monitoring Department

Residential Development

Method – Specific Implementation Measures	Priority	Responsibility
Rezone areas as Living 1 Environment Confirm boundaries of new Living 1 Environment Prepare a District Plan Change to provide for new areas of Living 1 Environment Notify a plan change for public submission, undertake hearings and resolve any appeals	High	Policy & Monitoring Department

Special Features

Method – Specific Implementation Measures	Priority	Responsibility
Protect existing bush areas Complete the Tree Strategy and implement	Ongoing	Policy, Parks, Rates

Method – Specific Implementation Measures	Priority	Responsibility
<p>Prepare a District Plan Change to include policies, objectives and rules for tree protection in the District Plan</p> <p>Notify District Plan Change for public submission, undertake hearings and resolve any appeals</p> <p>Encourage bush covenants by publicising the availability of rates relief for covenanted areas</p>		Departments
<p>Protect stone walls</p> <p>Map historic stone walls</p> <p>Review current protection of stone walls in the District Plan and, if necessary, prepare a plan change and undertake the process</p> <p>Consider non-regulatory methods to achieve protection of stone walls</p> <p>Consider developing a historic reserve area with examples of stone walls</p>	Ongoing	Parks, Policy Departments
<p>Protect the Maunu aquifer</p> <p>Liaise with Northland Regional Council on any potential development issues affecting the aquifer</p>	Ongoing	Waste and Drainage, Policy & Monitoring Departments
<p>Protect historic and cultural sites</p> <p>Review current protection in the District Plan and, if necessary, prepare a plan change and undertake the process</p> <p>Consider non-regulatory methods to achieve protection of historic and cultural sites</p> <p>Upgrade information on archaeological sites and map them accurately</p> <p>Create a walkway linking Maunu area with Kamo through Pukenui Forest.</p>	High	Parks, Policy & Monitoring Departments
<p>Protect volcanic/productive soils</p> <p>Review current protection in the District Plan and, if necessary, prepare a plan change and undertake the process</p> <p>Consider non-regulatory methods to achieve protection of volcanic/productive soils</p> <p>Upgrade information on volcanic/productive soils and map them accurately</p>	High	Policy & Monitoring Department

Community

Method – Specific Implementation Measures	Priority	Responsibility
<p>Investigate extending the current public bus service</p> <p>Consider possible routes</p> <p>Put forward to Land Transport Committee (NRC) for approval/trial</p>	Ongoing	Support Services

Appendices

Appendix 1 Resource Notations

Heritage Trees

No	Common Name	Botanical Name	Stem Score	Site Address	Legal Description	Map No
250	Totara (2)	Podocarpus totara	114	5 Kea Place	Lot 2 DP 70523	42
251	Totara	Podocarpus totara	120	3 Kea Place	Lot 10 DP 62276	42
252	Totara	Podocarpus totara	114	8 Kea Place	Lot 16 DP 62276	42
253	Kauri	Agathis australis	114	120 Maunu Road	Lot 2 DP 347018	42
255	English Oak	Quercus robur	114	85 Fourth Avenue	Pt Lot 2 3 DP 14650	37
257	English Oak	Quercus robur	105	83 Fourth Avenue	Lot 1 DP 172504	37
327	English Oak	Quercus robur	102	445 Maunu Road	Lot 2 DP 76853	42
328	Totara, Taraire	Podocarpus totara; Beilschmiedia tarairi	105 108	10 Le Ruez Place	Lot 4 DP 81042	42
329	Camphor Laurel	Cinnamomum camphora	180	432 Maunu Road	Lot 1 DP 163236	42
330	Puriri	Vitex lucens	126	7 Puriri Park Road	Lot 1 DP 127363	42
331	Karaka (2), Puriri (2), Taraire(14), Totara	Corynocarpus laevigatus; Vitex lucens; Beilschmiedia tarairi; Podocarpus totara	111 117 117 117	415 Maunu Road	Lots 9 & 10 DP 36424	42
332	Puriri, Taraire (3)	Vitex lucens; Beilschmiedia tarairi	108 126	409 Maunu Road	Lot 1 DP 171202	42
333	Puriri, Taraire (3)	Vitex lucens; Beilschmiedia tarairi	120 126	407 Maunu Road	Lot 1 DP 168512	42
334	Totara, Tanekaha	Podocarpus totara; Phyllocladus trichomanoides	108 114	64 Silverstream Road	Lot 23 DP 55371	42
335	Totara (3)	Podocarpus totara	126	44 Silverstream Road	Lot 33 DP 55371	42
336	Totara (2)	Podocarpus totara	114	48 Silverstream Road	Lot 31 DP 55371	42
337	Rimu (2), Totara (3)	Dacrydium cupressinum; Podocarpus totara	108 114	33 Silverstream Road	Lot 17 DP 54205	42
338	English Oak	Quercus robur	105	264 Maunu Road	Lot 5 DP 174384	42
339	Pohutukawa, English Oak, English Oak (7), Totara (3)	Metrosideros excelsa; Vitex lucens; Quercus robur; Podocarpus totara	105 102 108 108	Hospital 53 Hospital Road	Lots 1 & 6 DP 2380 Sections 2 & 16 Blk XII Purua SD	42
340	Totara (2)	Podocarpus totara	126 111	202 Maunu Road	Lots 1 & 3, DP 59270	42
342	English Oak	Quercus robur	114	172 Maunu Road	Lot 2 DP 391024	42 R
343	English Oak	Quercus robur	114	166 Maunu Road	Lot 1 DP 155164	42
509	Californian Redwoods	Sequoia sempervirens	144	264 Maunu Road	Lot 5 DP 174384	42
510	Camphor Laurel	Cinnamomum camphora	144	53 Hospital Road	Lot 5 DP 4692	42
511	London Plane Tree	Platanus acerifolia	144	154 Maunu Road	Lot 1 DP 48922	42

Heritage Buildings

No	Building Site and Object	Address	Map No	Legal Description
Group II				
103	Carruth House	144 Puriri Park Rd., Maunu	42	Lot 1 DP 61554
107	Clarke Homestead	State Highway 14 Maunu	42	Lot 2 DP 81285 Pt Lot 3 DP 13587 Blk XII Purua SD
139	McDonald House	388 Maunu Rd,	42	Lot 5 Pukenui Parish Blk XIII Purua SD
152	Oruaiti Chapel	Northland Regional Museum, SH 14, Maunu	42	Lot 2 DP 81285

Sites of Significance to Maori

No	Site	Legal Description
14	Maori Reserve (Wahi tapu)	Maunu 2C Blk, Blk XV Purua SD 1.6187 ha

Esplanade Priority Areas

Name of Water Body	Values	Map Ref.
Raumanga	Outstanding Recreational	12, 37, 38, 39, 42, 43

Mineral Extraction Area

ME 3 Otaika Quarry

Quarry Name	Mineral Extraction Area	Planning Map Number	Noise Limit
Winstone Aggregates – Otaika Quarry	ME3	12, 45	Daily, between the hours of 0630 and 2130 - 55dBA L10; and Daily, between the hours of 2130 and 0630 - 45 dBA L10; and 70 dBA Lmax

Appendix 2 Important Geological Sites and Landforms within Study Area

Source Inventory and Maps of Important Geological Sites and Landforms in the Northland Region

Edited by Jill A. Kenny and Bruce W. Hayward

First Edition 1996

Importance

- a International – site of international scientific importance
- b National – site of national scientific, educational or aesthetic importance
- c Regional – site of regional scientific, educational or aesthetic importance

Vulnerability

- 1 Highly vulnerable to complete destruction or major modification by humans
- 2 Moderately vulnerable to modification by humans
- 3 Unlikely to be damaged by humans
- 4 Could be improved by human activity
- 5 Site already destroyed (not necessarily by human activity)

Maunu volcanic cone

Description: A 1-2 km diameter cone, which stands 395m ASL and is breached to the west. The cone is very steep-sided, particularly in the south. A TVNZ relay is located on the summit. Access to the summit is via Millington Rd. There is a small quarry on the toe of the breached material, which has been worked for private and farm use. The west side is farmed, but the east and south slopes are covered with bush and pines. The cone rises 150m above the surrounding plateau, while flows extend approx 6km east from the centre, almost to Whangarei City.

Locality: Just SW of Pukenui State Forest and north-east of the intersection of Kara Road and State Highway 14, approximately 2.5 km north-east of Maungatapere township

Vulnerability = 1

Importance = C

Appendix 3 Designations

Requiring Authority	Abbreviation Used
Minister of Education	DE
Transit New Zealand	DTNZ
Whangarei District Council	DW

ID	Site Name/ Location of Site	Designation Purpose	Legal Description/ Area	Underlying Environment	Map	Subject to Conditions
DE 1	Blomfield Special School, 31 Maunu Road, Whangarei	Blomfield Special School	Lot 6 DP 166076, Lot 3 DP 166076 and Section 18 Blk XII Purua SD (0.4830 ha)	Living 1	43	1, 2, 5
DE 3	Hora Hora School and Playcentre, Whangarei	Hora Hora Primary School and Playcentre	Lot 1 DP 13438, Pt Lot 2 DP 13438, Pt Te Mai Block, Pts Stream Bed, Pt Raumanga No 1 and 2 (2.1085 ha)	Living 1	42	1, 2, 5
DT 20	Mt Maunu Radio Station Mt Maunu Summit Whangarei	Land uses for telecommunicatio ns and radio communications purposes, including telephone exchange	Lot 1 DP 161003	Countryside	11	1, 2
DE 40	Maunu Primary School and House, State Highway 14, Maunu	Maunu Primary School and House	Pts Waihoanga 1, Lot 1 DP 14368 and Lot 2 DP 14368 (3.3589 ha)	Countryside	41, 42	1, 2
DTNZ 2	State Highway 14 Intersection with SH 1N at Western Hills Drive to Whangarei District-Kaipara District Boundary at Tangiteroria.	State Highway 14	Various	Various	Various	
DW 37	Road Reserve, Glendale Rd	Road Reserve	23 57146	Living 1	37	
DW 52	Water Supply, Whau Valley Rd - Maunu Rd	Dam and Catchment	Pt Sec 8 Pukenui Parish, Sec 38 Kaitara Psh, Blks VII, XI, XII Purua SD, Lot 2 DP 63280 Allots 52-54, NW 55, SE 55, 58, 75, 76, Pt 56 74 Pukenui Parish	Countryside	12, 35, 37, 42, 41	
DW 58	Water Supply, Newton Road	Water Intakes, Pump Station and Treatment Plant	Lots 1-3 DP 29128 Pt Maunu 1F Blk, Sec 1 Blk XV Purua SD	Countryside	40	
DW 59	Water Supply, Cemetery Road	Treatment Plant, Reservoir and Pump Station	Pt Maunu 1H1 Blk XV Purua SD SO 49331	Countryside	11	
DW 60	Water Supply, Cemetery Road	Reservoir and Pump Station	Sec 17 Blk XV Purua SD SO 48059	Countryside	41	

ID	Site Name/ Location of Site	Designation Purpose	Legal Description/ Area	Underlying Environment	Map	Subject to Conditions
DW 90	Proposed Reserve, Clarkson Crescent, Whangarei	Proposed Reserve	Pt Lot 4 DP 19724	Living 1	42	
DW 91	Proposed Esplanade Reserve, Clarkson Crescent, Whangarei	Proposed Esplanade Reserve	Pt Lot 4 DP 19724	Living 1	42	
DW 92	Proposed Esplanade Reserve, Kowhai Park Rd, Whangarei	Proposed Esplanade Reserve	PT Lot 4 DP 19724	Living 1	42	
DW 126	Whangarei Cemetery and Crematorium Purposes		Secs 13 18 20 Pts Papatawa BLK BLK XV Purua SD, Sec 12 SO 34719 BLK XVI Pts Papatawa Blks BLK XI XV & Sec 20 BLK XV Purua SD	Countryside Open Space	41	

Appendix 4 Urban Growth Strategy – Strategic Issues

Section		Objectives	Policies	Relevant to Maunu Area?
1.1.1		The characteristic amenity values and the identity of each locality are maintained and enhanced.		✓
	1.2.1	To ensure that changes to urban form are compatible with the character, amenity and identity of the surrounding environment.		
2.1.1		The consolidation and development of the city centre.		n/a
	2.2.1	To avoid sporadic commercial development.		
	2.2.2	To encourage the consolidation and development of the central business District.		
3.1.1		The importance of long term planning (including appropriate zoning) for industrial activities is recognised by Council.		n/a
3.1.2		The potential adverse effects of industrial activities are mitigated by their appropriate placement and management.		n/a
	3.2.1	To include policies and objectives in the District Plan relating to the importance of industrial development to the economic and social wellbeing of the District.		
	3.2.2	To have regard to the needs of industrial development when formulating other Council documents.		
	3.2.3	To avoid, remedy or mitigate the potential adverse effects of industrial development by their appropriate placement within the District.		
4.1.1		Accessible and convenient suburban centres are provided.		✓
	4.2.1	To provide suburban centres are accessible and convenient without detracting from the central business District.		
5.1.1		Establish, maintain and enhance a safe and efficient road network		✓
	5.2.1	To reduce conflicts between heavy vehicles and other users of the roading network.		
	5.2.2	To continue to develop a safe and efficient roading network to meet the demands of urban development.		
	5.2.3	To minimise the effects of land use and subdivision on the safety and efficiency of the roading network.		
	5.2.4	To ensure adequate provision of parking in the central business District and in suburban shopping centres.		
6.1.1		Public transport, pedestrian walkways and cycleways are provided, maintained and enhanced.		✓
	6.2.1	To ensure that safe and effective cycleways are provided within the city, linking to - and between - suburbs.		
	6.2.2	To promote, develop and improve pedestrian walkways within urban areas.		
	6.2.3	To encourage the further development of public transport services.		
7.1.1		The provision of infrastructural services to existing and newly-urbanised areas in an efficient and effective manner.		✓
	7.2.1	To maximise development potential through the efficient provision of upgraded or new infrastructural services.		
	7.2.2	To avoid damaging environmental resources through ineffective, or lack of, infrastructural services.		
	7.2.3	To provide infrastructure in a way, and as necessary, to ensure the safety and wellbeing of the community.		
8.1.1		The risk associated with natural hazards is not increased by urban development.		✓
	8.2.1	To identify areas subject to natural hazards where urban development is likely to occur.		
	8.2.2	To mitigate, where possible, the effects of urban development on the risk of natural hazards occurring.		
9.1.1		The loss of productive soils and economic farming units is minimised.		✓
9.1.2		The effects of urban-type subdivision on rural character are avoided, remedied or mitigated.		✓

Section		Objectives	Policies	Relevant to Maunu Area?
	9.2.1	To recognise the value of productive soils and economic farming units to the District's economy.		
	9.2.2	To minimise the effects of urban-type subdivision on rural amenity.		
	9.2.3	To create a new zone for rural residential use.		
10.1.1		Avoid conflict between incompatible land use activities as a result of subdivision and urban development.		✓
	10.2.1	Ensure that subdivision development is located and designed to reduce the potential for conflicts with the effects of existing activities.		
	10.2.2	To facilitate the separation of incompatible land uses through the location of District Plan Environments and Resource Areas, and specific requirements of subdivision and land use activities, e.g. separation distances.		
11.1.1		The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna.		✓
11.1.2		The protection of the life-supporting capacity of ecosystems through the avoidance, remediation or mitigation of adverse effects.		✓
	11.2.1	To protect significant indigenous vegetation and significant habitats of indigenous fauna from the effects of urbanisation.		
	11.2.2	To ensure the protection of the life-supporting capacity of ecosystems through avoiding, remedying or mitigating adverse effects.		
12.1.1		Sufficient open space is provided to meet community, conservation and recreational needs.		✓
	12.2.1	To provide sufficient open space to meet community, conservation and recreational needs.		
	12.2.2	To ensure linkages are created between areas of existing open space and any new areas created.		
13.1.1		Form a partnership with Tangata Whenua that enables effective participation by Tangata Whenua in planning processes.		✓
	13.2.1	To establish consultation protocols with Tangata Whenua which are agreed to by all parties.		
	13.2.2	To improve the relationship between Council and Tangata Whenua.		
14.1.1		The prevention of the degradation and loss of historic and cultural sites of significance from urban development.		✓
	14.2.1	To prevent urban development occurring in locations, or in a manner that will have adverse effects on sites of significance to Tangata Whenua. To avoid, remedy or mitigate the adverse effects of urban development on heritage areas significant to Maori and on Sites of Significance to Maori.		
	14.2.2	To encourage the development of a procedure for the identification and recognition of sites of cultural significance to Tangata Whenua.		
	14.2.3	To protect historic places, sites (including archaeological sites), buildings and trees from the adverse effects of urban development and subdivision.		
15.1.1		Access to education and employment opportunities is enhanced as a result of urban growth.		n/a
15.1.2		Access to recreational, artistic and cultural opportunities is enhanced as a result of urban growth.		✓
	15.2.1	To encourage the provision of education and employment opportunities.		
	15.2.2	To encourage the provision of recreational, artistic and cultural opportunities.		
16.1.1		Create a better image of Whangarei.		n/a
	16.2.1	To improve the image of Whangarei as seen by residents and people outside the District.		
	16.2.2	To encourage and co-ordinate community organisations in the promotion of Whangarei.		