WHANGAREI
DISTRICT COUNCIL

Structure Plan

Onerahi Sherwood Rise, Awaroa Creek and Parihaka

Adopted by Council 11 February 2009

January 2009

Creating the ultimate living environment

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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 strategy divided Whangarei City 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 during the consultation meetings held in the Onerahi area.

Council commissioned a number of 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 reports 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 take a long term view, 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 may be required at the time of implementing 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 ensure that due process is followed before any land use changes, as proposed in this Structure Plan, take place.

In terms of Council's policy on public/private plan change initiatives, landowners or developers are free to apply for District Plan Changes, using the recommendations identified in this Structure Plan, for areas where Council does not take the initiative.

1.1 Purpose of Structure Plan

Structure planning is an important tool in managing the orderly growth of the community to ensure that adequate public services are provided, important natural and cultural assets are protected, and the area remains competitive for jobs and investment. The structure plans are a direct outcome of the growth philosophy expressed in the Urban Growth Strategy for Whangarei, which was adopted by Council in October 2003. They are a method by which the growth philosophy can be implemented at the local level.

The goal of all structure plans is to make progress towards sustainable communities that offer a high quality of life and safety for all its residents, while ensuring efficient use of ratepayers' dollars and 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: to 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: to allow long term consolidation of the urbanised area by allowing densities to increase on the fringes in the future as the market demands,
- Infill: to 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 essential economic, environmental, social and scenic values of the district and contribute to long term sustainable growth.

The Onerahi, Sherwood Rise, Awaroa Creek and Parihaka Structure Plan (the Plan) is an example of 'integrated management' which brings together all of Council's functions in one plan for the Onerahi area. The specific purpose of this structure plan is to provide for the sustainable management of the natural and physical resources of the Onerahi, Sherwood Rise, Awaroa Creek and Parihaka area, in accordance with the aspirations of the local community and to the benefit of the wider Whangarei district.

To achieve sustainable and integrated management, this 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
- Provide a co-ordinated approach to providing roading, sewerage, 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 affected 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 a structure plan is a non-statutory policy document. This means that it is not required or enforced by legislation, and the provisions within it 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 planning is 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, the provisions in a structure plan may be considered as 'other matters' when assessing a resource consent application.

A structure plan itself, and the provisions contained within it, are indicative only and are intended to guide future action. A 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.

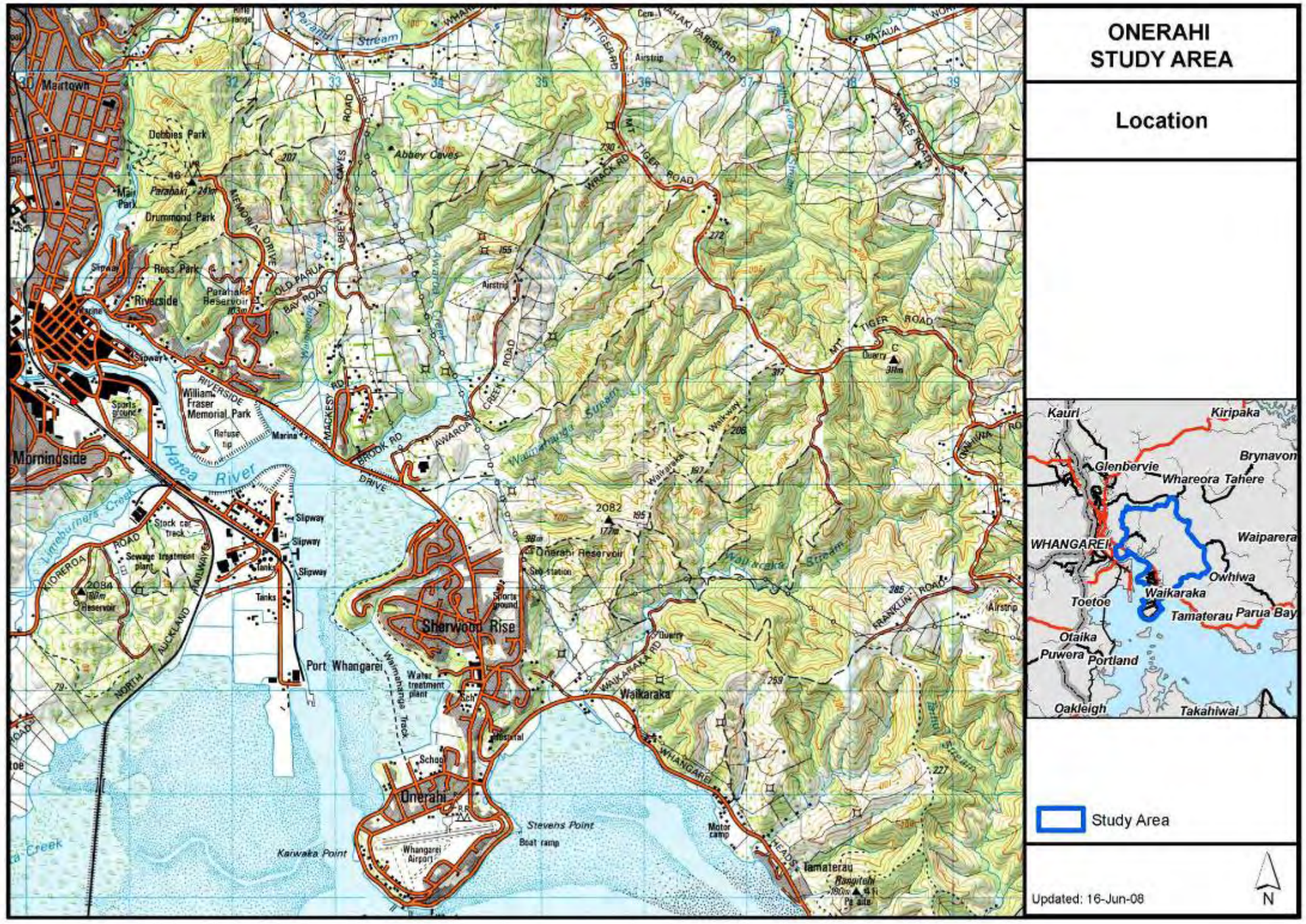
A structure plan is an 'ideas' document, while the District Plan is a statutory document, or the 'action' plan. For the ideas in a structure plan to become actions, they have to be transferred from the structure plan to the various statutory documents. This is achieved by following a prescribed statutory procedure called a 'plan change'. 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 these future stages of the process.

1.3 Study Area

The study area (refer Figure 1) is to the east of Whangarei City and encompasses the Onerahi Peninsula, Sherwood Rise, Awaroa Creek areas, and the Parihaka and Onerahi Shopping Centres. It borders the coastline to the south and the Mount Tiger range of hills to the north-east. To the west of the study area is the Parihaka reserve and Riverside.

In 2006 the study area had a population of approximately 7,515 people and contained a range of residential, recreational, commercial and rural land uses.

Figure 1.: Onerahi Study Area Location



1.4 Public Participation

The Onerahi, Sherwood Rise, Awaroa Creek and Parihaka communities were consulted on their visions for the future of their communities for the purposes of this structure plan. Consultation took place at a public workshop in the community hall in February, 2004. The more than 50 attendees 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 Onerahi Residents and Ratepayers Group, at which their plans for Onerahi were also discussed.

A first draft of the report was presented to Council's Focus Group on 25 February 2008, with a second draft being presented on 25 March 2008. The final draft of the structure plan report was presented to Council's Focus Group on 22 September with a final community consultation round taking place on 4 November 2008 at the Raurimu Avenue School. A formal presentation of the proposed Structure Plan was held that evening. Members of the community were invited to attend to review the Plan and share their thoughts. Feedback from the public was received and taken into consideration in the drafting of the final land use proposals.

In addition, the Onerahi Community Association (OCA) was present to share their vision for their community. This association has an ongoing community outreach programme involving Onerahi residents in the design study they have embarked upon for the area. This study runs in parallel to Council's structure planning exercise, targeting a more detailed level of planning.

The Master Development Plan Task Group has been formed by OCA to facilitate the community's vision process and co-ordinate with the Long Term Council Community Plan process. This task force has identified their liveable community as one that "has affordable and appropriate housing, supportive community features and services, and adequate mobility options, which together facilitate personal independence and the engagement of residents in civic and social life". OCA has produced the "Onerahi Dream" and a Strategic Plan document for public discussion.

1.5 Tangata Whenua

Tangata Whenua are the traditional guardians of the natural environment. Despite the development of a local governance system and its responsibilities, Maori people have continued to carry out their part in the management of resources in the traditional way and are active in protecting the natural integrity of the District's resources for future generations. There are many places of spiritual and cultural importance to Tangata Whenua in Whangarei District, including waterways, waahi tapu, pa sites and other taonga.

Council recognises this special relationship of Maori people with their land and includes them as partners in management of these resources. Tangata whenua were specifically consulted for their input on the future of Whangarei as part of the Urban Growth Strategy carried out by Council.

Three hui were held in different venues around the district. The venues used were Pehiaweri Marae, Tarenga Paraoa Marae and Ngaratunua Marae, with consultation taking place on the 12th, 19th and 26th of May 2007, respectively. 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 send to the Iwi Liaison Committee as part of the agenda.

A summary of issues raised by tangata whenua are listed in the *Whangarei District Council 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

How 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 to be 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 that 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 in which families are likely to settle. They also provide for the creation of recreational reserves, cycleways and footpaths in order to encourage an active outdoor lifestyle, and reduced automobile dependence. Preserving natural areas contributes to air quality improvement, provides respite from urban life and underlies the District's high quality of life vision. 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 – are a primary purpose of these 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 if we are 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 Onerahi, Sherwood Rise, Awaroa Creek and Parihaka study area, in particular, and presents the relevant policies.

Section.		***Objectives*** Policies	**Relevant to Onerahi 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.***	✓
	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.***	✓
3.1.2		***The potential adverse effects of industrial activities are mitigated by their appropriate placement and management.***	✓
	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 that 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.	
	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 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.***	✓
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.	

2.2 Strategic Options

Council has a legal responsibility to manage future growth and development of the District, and it has several options available through which to do this. These are:

- Develop plans and policies to guide development that maximises quality of life and minimises 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 the health and safety of the District's residents and businesses,
- Do nothing; rather allow each individual a free hand 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 in providing living and job opportunities to its citizens. Such policy documents as this Structure Plan, along with other policy plans, facilitate:

- Co-ordination of development, over time, to sustain the District's unique identity, economy and neighbourhoods,
- The planning of 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 citizens of the Whangarei District and its future generations. What follows is a detailed explanation of 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 high-density urban areas on the commercial fringe, then leading to medium density urban areas and then to rural residential zoning on the fringes of the urban area, and retain 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 hazards such as mining hazard zones, instability areas, flood prone areas and contaminated sites.
- Providing for a network of pedestrian and cycle links throughout the study area, and to surrounding suburbs and the city.
- Providing for reserves to meet different recreation needs, such as neighbourhood parks, sport grounds and esplanade reserves, and ensuring linkages are created between these areas.

3 Current Profile

3.1 Regional and District Context

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

Whangarei District is less dominated by urban growth than Auckland and other regions in New Zealand. About 65 percent 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 sustainably manage growth in the District. The following vision for Whangarei was identified:

'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 particularly significant relevance.

The Onerahi 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 document's writing, the Onerahi, Sherwood Rise, Parihaka, Awaroa Creek Structure Plan is being prepared simultaneously with four other urban fringe structure plans: Kamo, Otaika, Maunu and Tikipunga, along with 10 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 for the Whangarei District, as a whole. This means that recommendations for one structure plan area may have been made with consideration of conditions or changes in other structure plan areas.

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 Ngapuhi Tribe, who were descended from the voyagers of the Mamari Canoe which arrived at the Hokianga, thereby establishing the Tangata Whenua of the north.

The Whangarei harbour was recognised as being rich in natural resources, food and shelter, indeed a place of plenty. Evidence of the settlement of the Whangarei harbour can be seen in the remains of numerous terraces of ancient Pa. Identified Maori heritage sites illustrate the heritage and cultural values of the wider Onerahi area.

European settlers first knew the Onerahi area as Grahamtown, named after Robert Graham, the superintendent of the Auckland province from 1862-1865. However, this created confusion with a town of the same name near Paeroa, so Grahamtown became Onerahi.

The name Onerahi is said to have come from the nearby beach named Onerahi-rahi (the beach of quick overhearing), where two women who became the forbearers of Ngapuhi stopped on their journey. Another explanation is that Onerahi means noisy beach (one: beach, rahi: noisy) and may refer to the noise of waves on the stones.

During the 1800s, the Onerahi-Waikaraka-Tamaterau area yielded a large amount of kauri gum and native timber. Settlers dammed the creeks and floated logs down to the harbour from where they were shipped to mills as far away as Auckland for processing. Onerahi, itself, was a gum field and many people made their living from digging valuable gum out of the ground, polishing it and selling it to the dealers in Whangarei and Auckland.

From the 1890s onwards, Onerahi grew rapidly, mainly because of the development of the Limestone Cement Works on Limestone Island and the fact that many of the workers boarded in Onerahi.

The development, in 1910 and 1911, of a 400-metre wharf at Onerahi to ship timber and coal, and a railway bridge linking Onerahi to Whangarei, made Onerahi far more accessible. Onerahi then became a busy rail head and deep sea port for the cargo and passenger ships that paid regular visits.

However, it was not until the 1920s that the road to Onerahi became negotiable with any degree of comfort. Roads around the peninsula were also being constructed around this time. One of these was Beach Road, which was built on land that was, in some places, below the high tide mark. This necessitated the building of a stone retaining wall which also created a few problems, the major one being that all the sand that lay on the beach was swept away, over the years, by waves crashing on the wall and sucking sand back with them, leaving mud, boulders and great slabs of limestone exposed.

In the early 1920s, the railway line connecting Auckland to Whangarei was completed. This led to the closure of the Onerahi line which had been handling decreasing amounts of timber and coal. In time, the Onerahi wharf was also dismantled and re-erected at Kioreroa, where it helped establish the main port of Whangarei.

In 1938, work began on an airfield on the Onerahi peninsula. Houses that were in the way of construction were relocated along Handforth Street and elsewhere. During World War II, the airfield was used for war purposes.

During the 1950s the first subdivisions were developed along Sherwood Rise, and the commercial area grew. In 1957, Onerahi was amalgamated with Whangarei Borough Council.

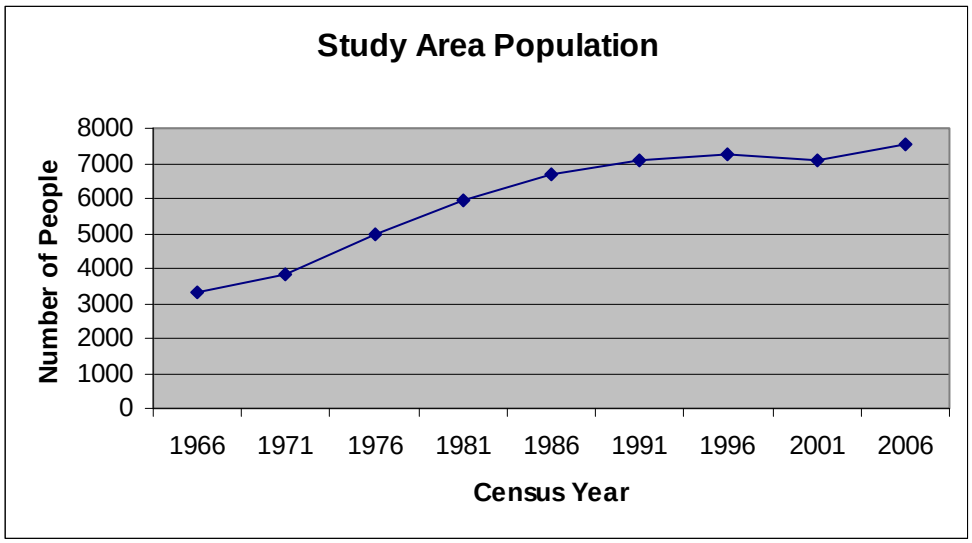
Today, Onerahi is a flourishing suburb of Whangarei with a village-like atmosphere and an active community. It has a busy shopping centre and many residential areas with unique harbour views.

3.2.2 Population

The 2006 population of Onerahi was 7,161, with approximately 2,808 dwellings, providing an average household occupancy of 2.6 persons per household.

The following population graph shows constant growth in the area between 1966 and 1991, with a levelling off in the population in the last 10 years. The majority of people reside in Onerahi, Sherwood Rise and Parihaka, with around 500 people living in the more rural area.

Figure 2. Study Area Population



Source: Statistics NZ 2007

3.2.3 Natural Features

a) Topography and Landscape

Whilst the majority of the character area is rural, the built development dominates in pockets along the coast. The largest of these pockets is Onerahi which occupies a peninsula at the mouth of the Hatea River. Small clusters of built development are located on ridge tops at Mackesy Road and Memorial Drive, elevated above the broad estuarine valleys of the Awaroa and Waioneone Creeks.

The landscapes of the Onerahi study area have important amenity values and contain areas of visual and ecological significance.

The topography can be summarised as generally flat around the harbour margins, backed with steep hills. It is bounded to the south by the harbour, to the west by the elevated forested area of Parihaka and to the east by the Waikaraka Stream and Mount Tiger Road ridge.

The study area includes the catchments of the Waioneone and Awaroa Creeks, the Waimahanga Stream and a portion of the catchment of the Waikaraka Stream, all of which flow south/southwest into the harbour, with the landform reflecting this northeast/southwest grain. Along its northern edge, the area includes small portions of the Paranui Stream catchment which flows to the north and west (into the Tikipunga Structure Plan Area). A significant portion of the character area is vegetated either with native bush or with pine plantation.

The Landscape Assessment of the District prepared in 2004 identified five distinct character areas in the study area. These are:

Mount Tiger
This is a highly dissected area characterised by steep-sided ridges and valleys varying in elevation between 100 metres and a maximum of 300 metres in height. The area forms a backdrop and provides containment to Onerahi and the strip of coastal development between Riverside and Waikaraka.

Abbey Caves
This area is primarily confined to the lowland portions of the Waioneone and Awaroa Creek catchments, and comprises an undulating pastoral mix of pockets of vegetation. The elevation of this character area extends from sea level to the 100-metre contour. An Ecological Assessment (WDC) describes the Abbey Caves / Awaroa Creek bush as being of high significance. It notes the presence of a number of rare snail species that only live within limestone habitats, along with the presence of brown kiwi.

The lowest point of this area has been strongly influenced by tidal processes. In the case of Awaroa Valley, the broad valley bottom accommodates a tidal creek lined with mangroves. On the other hand, the Waioneone Creek valley has been reclaimed into pasture/grazing land. The estuarine creeks show evidence of differing levels of modification, as do the intervening ridges. The ridge separating the two creeks accommodates Mackesy Road and has been developed to a moderately high density. Despite this development, it has retained bush cover on the steep side slopes.

Onerahi Urban
This area can be viewed as a peninsula of land that projects into the Whangarei harbour at the mouth of the Hatea River. Its edges are steeply sloping, with some edges on the northern part of the Onerahi peninsula being fringed with mangroves.

Memorial Drive
The western edge of the study area extends up Memorial Drive, including a narrow slice of the bushed Parihaka upland. This occupies a broad, undulating ridge between two small sub-catchments and has been partially developed in housing. The steeper margins of the character area retain their bush cover.

William Fraser Open Space
This area comprises William Fraser Park and the Pohe Island landfill. The long term vision for this area is for development as a Council reserve, for which a management plan is currently being prepared.

In summary:

- The topography of the areas allows opportunities for residential and commercial 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.
- Mount Tiger and the Onerahi urban areas have high visual capability for absorbing development.

b) Geology and Soils

This section on geology and soils is adapted from several reports, "Parker, B. 1997: WDC Versatile Land", "Geology of the Whangarei Urban Area - 2003" produced by the Institute of Geological & Nuclear Sciences Ltd, and "Tonkin & Taylor Ltd 2006: Land Zonation Mapping Stability Hazard Mapping/Geotechnical Assessment Level and Effluent Disposal Potential for Kamo, Maunu, Onerahi, Otaika and Tikipunga".

The geology of the study area is dominated by six geological units (Figure 3 Geology). These are:

Waipapa Terrane: Permian to Late Jurassic (140 to 200 million years) age rocks, strong shattered blue-grey sandstone ("greywacke") and mudstone forming the steep hill country to the east.

Te Kuiti Group: Eocene (24 to 36 million years) age rocks comprising:

Ruatangata Sandstone – blue to green-grey glauconitic, calcareous muddy sandstone occurring in the north eastern part of the area.

Whangarei Limestone – strong flaggy limestone occurring on the western edge of the *Ruatangata Sandstone*.

Northland Allochthon: Early Cretaceous to Earliest Miocene (24 to 120 million years) age rocks which have been transported a great distance from its original deposition. They underlie a significant portion of the study area, beneath the *Kerikeri Volcanic Group,* typically comprising:

Undifferentiated – highly deformed and chaotic predominantly sedimentary marine rocks (e.g. sandstone, mudstone & limestone).

Whangai Formation – differentiated from the general *Northland Allochthon*. It is a hard, dark grey, siliceous mudstone. Occurs in the western portion of the study area.

Omahuta sandstone – characterised by glauconitic calcareous sandstone and occasional siltstone. Underlies a significant portion of Onerahi.

Coromandel Group: Early Miocene (~21 million years) age remnant volcanic dome comprising the medium-grained *Parahaki Rhyolite* of Parahaka to the northwest of the study area.

Kerikeri Volcanic Group: Late Miocene to Late Pleistocene (~10 to 0.3 million years) age volcanic rock. Basaltic lavas cover a significant portion of Onerahi and elevated Riverside areas. Many of the eruptive vents which produced this material can be identified, particularly where the vent is marked by a scoria cone. The Onerahi flow is inferred to have originated from a vent near the Parahaki reservoir and to have followed an old valley as far as the end of the present Onerahi peninsula, where the base is at a height of about 10m above sea level. It has since been cut by streams, such as Awaroa Creek, and partly eroded by the sea.

Quaternary sedimentary deposits: typically alluvium adjacent to the inland coast. In addition there are some reclaimed areas comprising man-made fill (e.g. William Fraser Memorial Park/Pohe Island).

There are a number of important geological sites and landforms in the study area. These include Abbey Caves, Onerahi overturned syncline and Port Whangarei fossil beds. Appendix 2 contains further details on these sites and landforms.

The soils are on the whole a result of the weathering of the underlying (parent) rock. In this study area a significant proportion of the area is covered by clay loam weathered from *Waipapa Terrane* and *Te Kuiti Group* units. Soils from the *Northland Allochthon* weather almost exclusively to clays. Soils derived from the *Parahaki Rhyolite* tend to be clays, as well. The *Kerikeri Volcanics Group* are mostly weathered to silt loams and friable clays, although sometimes sandy loams are also present. The remaining soils are *Quaternary sedimentary deposits* alluvial clays and clay loams.

The geology and soil characteristics of the study area influence effluent disposal potential of the land. The significant factors in determining the suitability of a site for effluent disposal are the nature of the soil profile, surface water and groundwater levels and movements (drainage), vegetation cover, net lot area, site specific landforms and local climate. The combination of these characteristics were designed to contribute to planning requirements in determining appropriate subdivision size, as well as targeting new areas for reticulation.

The *Waipapa Terrane* weathers to a soil mass (or regolith) of very stiff to hard gravelly and clayey silts. The residual soil derived from these materials (typically very stiff silty clays and clayey silts) tend to contain non swelling clays (i.e. they are not subject to large changes in volume due to changes in moisture content) and display a moderate to low effluent disposal potential.

Clay loam found in the Onerahi study area is derived from the weathering of the *Ruatangata Sandstone* and the *Whangarei Limestone* of the *Te Kuiti Group*. The *Ruatangata Sandstone* weathers to clays and clay loams which display a moderate and low effluent disposal potential. The land around Abby Caves is *Whangarei Limestone* weathers to a heavy clay which provide a low effluent disposal potential. 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.

The outer fringes of the Onerahi peninsula are underlain by *Northern Allochthon,* which weather to clays and clay silt. Poorly and very poorly drained clays are the most common, with imperfectly to poorly drained clay loams and occasional silt loams comprising the remainder. These are typically mottled light greyish white, light yellow, and light brown. The soils are also generally wet. These soils have very poor

effluent disposal potential, particularly the clays. They also tend to produce unstable ground that may be further destabilised by introduction of fluids.

Significant outcrops of *Kerikeri Volcanic Group* basalts are mapped in the area. These appear to have weathered mostly to silt loams and friable clays, although sometimes sandy loams are also present. The western outcrops of basalt, in the vicinity of Memorial Drive and Mackey Road are roughly 50% silt loam and 50% clay. The outcrops near Awaroa River Road have apparently weathered to friable clay. On the Onerahi peninsula soil products consist of silty loams, friable clays, with little sandy clay loam and sandy loam.

Where soils are the product of weathering of *Kerikeri Volcanic Group*, there is quite a large variation in the potential to dispose of liquid effluent. Drainage tends to be very good in areas underlain by scoria, but not so good where there are significant ash layers. In general the volcanic rocks exhibit moderate to good effluent disposal potential.

Soils derived from *Parahaki Rhyolite* are found only in the immediate vicinity of Parihaka. The *Parahaki Rhyolite* have been extensively hydrothermally altered to clays, which are potentially suitable for china clay and have been mined on the western side of Parihaka. These soils tend to be poorly drained clays and therefore have a low effluent disposal potential.

The remaining soils in the area are *Quaternary sedimentary deposits* which are the result of estuarine and fluvial deposits during the Holocene age (~11,000 years), and generally cover low lying ground. The clays and clay loams which have developed from these in the study area have a low effluent disposal potential.

Soils are also grouped into land use capability classes (LUC), with a range of 8 classes. Class 1 (LUC I) comprises very productive, multiple-use land. This multiple-use continues through to Class 4 (LUC IV) soils. Class 5 (LUC V) soils are less suitable for arable use, but still have good pastoral or forestry potential. Class 6 (LUC VI) soils have moderate limitations for pastoral or forestry production, with Class 7 (LUC VII) soils having severe limitations. Class 8 (LUC VIII) soils are considered to be the least productive soils, being unsuitable for any cropping, pasture or forestry.

Areas around the harbour margins, north of current residential development on the Onerahi Peninsula and west of Abbey Caves Road, are flat-to-strongly rolling, and in some cases, floodplains, valley plains and low terraces. Soils include yellow brown earths and gley soils, being of the land use classification LUC IV-type, suitable for most land uses (i.e. grazing, cropping and production forestry).

The majority of the land in the study area is steeper countryside (LUC VI), ranging from strongly rolling-to-steep slopes, which are unsuitable for development. These areas contain red and brown loams and yellow brown earths, making forestry and grazing suitable land uses.

Mount Parihaka has moderately steep-to-steep land and some of the mountain has a land use classification LUC VII. Due to its erosion sensitivity, the suitable land use for this area is limited to erosion control forestry.

Figure 3. Geology

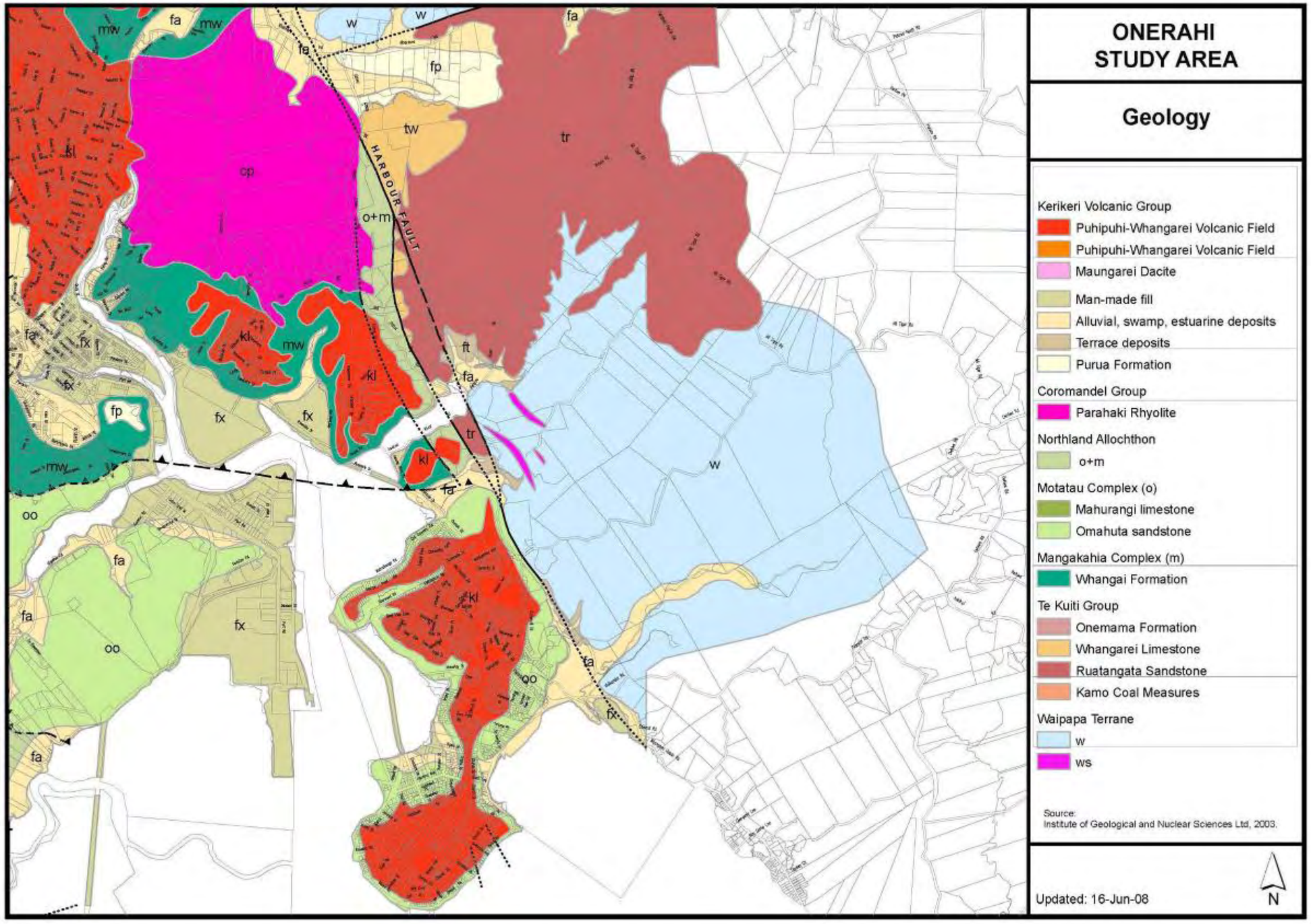
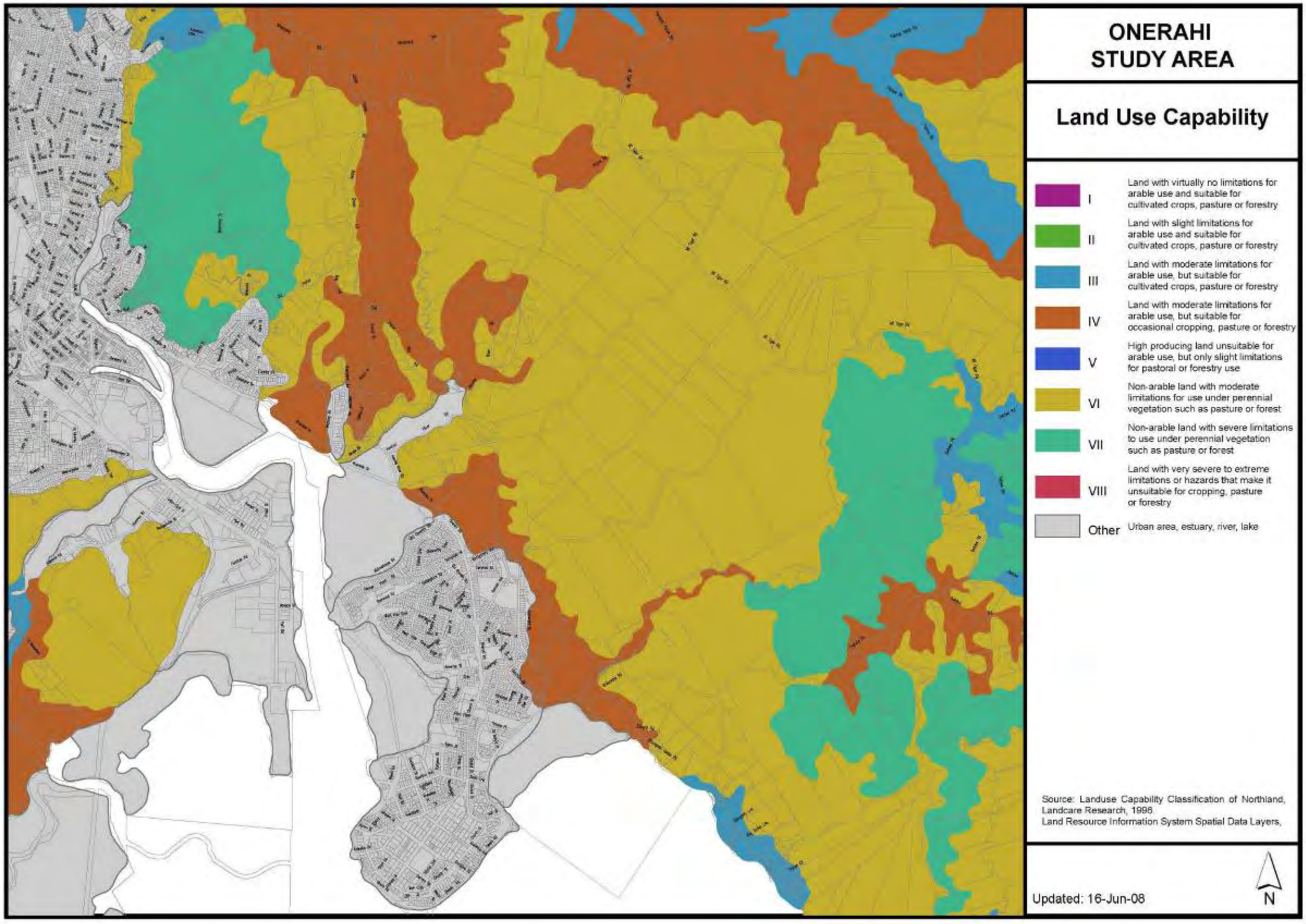


Figure 4. Land Use Capability



c) Hydrology

The catchment area is mostly rural in nature with large areas covered in exotic forest and regenerating native bush. The soils are generally poorly drained, which adds to the flooding sensitivity of various areas in this Structure Plan.

There are two main stream catchments in the study area: the Awaroa Catchment and the Onerahi Catchment. A small portion of the Hatea Catchment is also included within the study area. However, as it is only a small portion and it drains into the Awaroa Catchment, the Hatea Catchment will not be examined in detail.

The Onerahi Catchment (Figure 5) consists of a peninsula draining into the harbour. There is a mixture of steep slopes and flatter areas on the peninsula, and the land use is predominantly residential. Soils within the catchment are predominately clayey with average-to-poor infiltration rates.

Figure 5.: Onerahi Catchment

Source: Onerahi Comprehensive Storm water Management Plan,
Hydraulic Modelling Services Ltd, June 2001

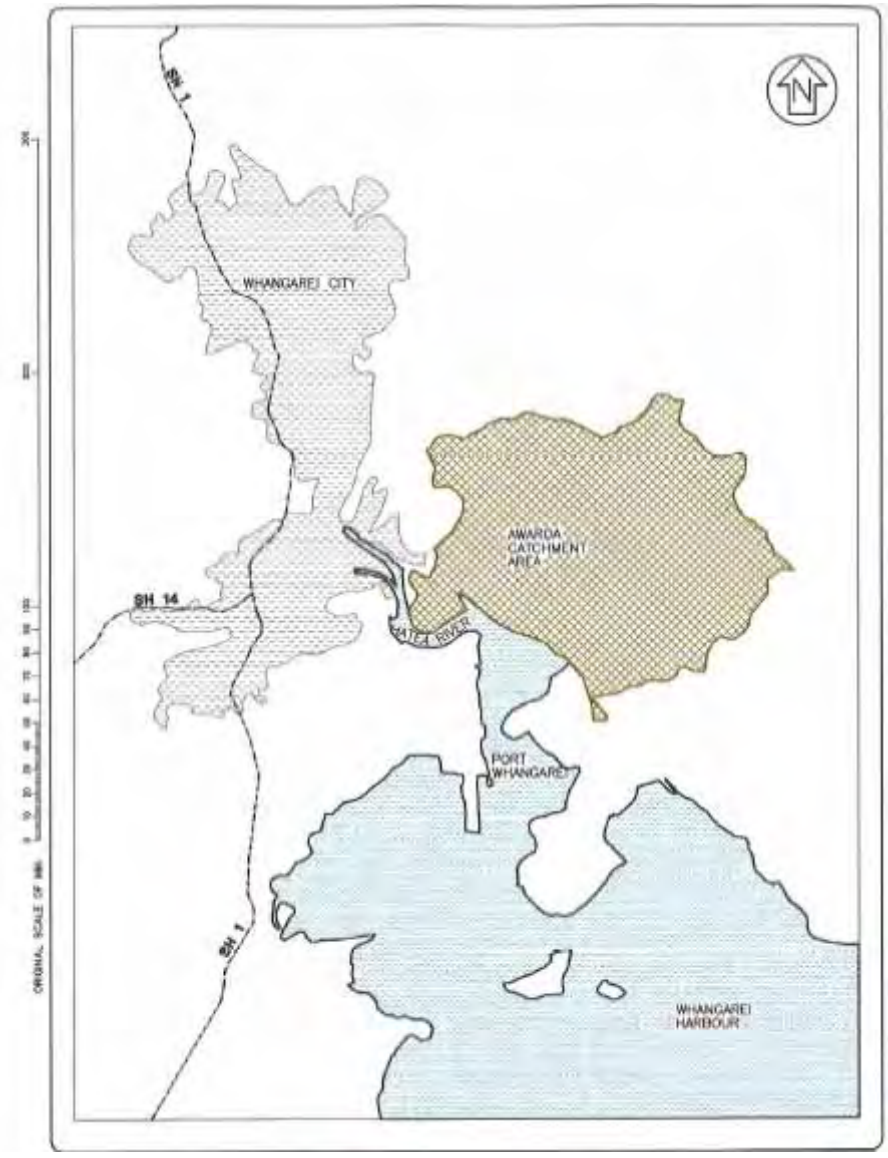
The Awaroa Catchment (Figure 6) made up of four smaller catchments, each draining to the Hatea River. Three of these catchments are centred on the Waioneone, Awaroa and Waimahanga Creeks. These stream channels are generally of natural morphology and heavily vegetated with native bush. The lower extents of all three channels are tidal in nature. The fourth catchment includes the Whangarei landfill at Pohe Island. This catchment discharges into a storm water pond which is drained via a culvert/tidegate structure.

The catchment is mostly rural in nature with large areas covered in exotic forest and regenerating native bush. The soils are generally poorly drained.

The Onerahi Awaroa Catchment consists of a peninsula draining into the harbour. There is a mixture of steep slopes and flatter areas on the peninsula and the land use is predominantly residential. Soils within the catchment are predominately clayey with average–to-poor infiltration rates. There are 47 storm water outlets to the harbour.

A limited number of watercourses dissect the peninsula of Onerahi. One stream runs below and parallel to George Point Road, another drains the north-eastern portion of the peninsula below Cartwright Road, and a third flows into the harbour adjacent to the junction of Whangarei Heads and Beach Roads. All of these watercourses are fringed with weed-infested riparian vegetation and flow within both esplanade reserves and private land.

Figure 6.: Awaroa Catchment



Source: Awaroa Catchment Drainage Plan, City Design, December 1998

Important parameters in implementing zoning are influenced by catchments such as Onerahi. Due to its special location, consideration must be given to:

- the storm water and floodwater storage capacity, as seen in the flooding sensitive areas of Onerahi, particularly those low lying areas adjacent to Riverside Drive/Onerahi Road which are storm water sensitive and function as detention embankments during a peak flood. Parts of Onerahi Road near Awaroa Creek Road are also prone to flooding.
- maintenance of dry season streamflow, or discharge of groundwater to a wetland, or recharge from the wetland
- filtering or storage of sediments, nutrients, heavy metals or organic compounds that would otherwise drain to navigable waters
- shoreline protection against soil erosion, which is evident along Beach Road in Onerahi
- areas of recreational, scenic or environmental significance.

The potential for contaminated storm water runoff to enter the Whangarei Harbour is an important issue. Some measures recommended in the Storm Water Management Plans for reducing the contamination in storm water include:

- where possible, small constructed wetlands should be considered where storm water culverts directly enter the harbour
- retention ponds, small wetlands or grassy swales should be installed on any above-ground parts of any small storm water drains that discharge directly into the harbour
- developers should be encouraged to incorporate small vegetation-lined retention ponds at appropriate locations. As well, retention of existing vegetative cover along natural stream channels ensures continued protection of stream banks from erosion
- sealed or impervious areas in small sub catchments should not exceed a specified percentage of the total catchment area, and
- good land management practices should be encouraged in remaining semi-rural areas in the catchment.

As mentioned in the topography and landscape sections of this report, there are areas of flood susceptible land within the study area. The Catchment Management Plans recommend that inappropriate development be restricted in flood hazard areas, and that flood level calculations be required for developments in areas adjacent to the flood hazard areas.

The Plans also include the following recommendations for planning controls:

- encourage the protection and enhancement of the riparian margin along stream channels
- require the issue of storm water quality to be investigated in all significant future subdivision developments as part of the consent process, and
- ensure that any reshaping or drainage of land in future subdivision developments preserves a secondary overland flowpath to enable the passage of overland flows in excess of piped reticulation capacity.

d) Vegetation

The study area is characterised as a modified coastal, agricultural, residential and commercial landscape and has been largely cleared of native bush. A significant portion of the character area is vegetated, either with native bush or with pine plantation.

There are a few larger areas of native forest around the hills to the north and west of the study area and beyond, as well as some smaller, scattered pockets including some covenanted areas. The north-eastern boundary of the study area borders the Parihaka forest which contains a large area of native forest. There are also large areas of exotic forest in the study area.

Mangroves are found bordering some of the Onerahi coastal habitats (peninsula and inner harbour), and help to protect the coast from erosion and surge storms. In building their own environment, mangroves

form a unique ecosystem and have become the object of conservation programmes, one of which is the Regional Council's Plan Change 3 on Mangrove Management.

In summary, the character areas are vegetated as follows:

- The vegetation on the Mount Tiger Uplands is largely an area of native bush or pine plantations.
- In the Abbey Caves area, the lowland portions of the Waioneone and Awaroa Creek catchments comprise an undulating pastoral mix of pockets of vegetation.
- The riparian margins along the length of the two creeks are generally well vegetated, particularly those of the Awaroa Creek. The ridge to the south of the Awaroa Creek is topped by the 'Money Factory', and has been cleared of vegetation.
- Urban Onerahi's edges are steeply sloping and retain some bush cover, although this vegetation is heavily infested with weed species. The edges of the northern portion of the peninsula are fringed with mangroves.
- The vegetation associated with the escarpment provides a strong framework of bush which offsets the dominance of built development. In addition, this vegetation provides an attractive backdrop to the recently created and adjacent marine reserve.
- In the Memorial Drive area, some of the steeper margins retain their bush cover and are included in the Protected Natural Area Propgramme (PNAP) as Q07 019.
- The landscape character varies between a dominance of vegetation, in which the density of development is lower (Tanekaha and Memorial Drives), and a more suburban character on streets such as Kohe Street and Bahama Place. There is a gradual transition between the higher density of development at the lower end of Memorial Drive, and the regenerating bush-dominated landscape of the mid and upper portions of Memorial Drive.

e) 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 natural areas study.

The aim of the PNAP is to identify, through 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.

This structure plan area falls within the Whangarei and Whangaruru Ecological Districts. The ecological areas identified in the study area contain podocarp broadleaf forests, coastal forest and shrub land, some of which buffer the tidal mangrove forests from development. Patches of kauri forest are also found in the area.

Around Abbey Caves is an area of bush identified in the PNAP project as Q07 019 (Old Parua Bay Road Bush). The significance of this area relates, in part, to the buffer that it provides to the area of mangrove.

Threatened and common species found in the Onerahi area include kukupa, North Island tomtit, endemic snails and eels.

The following PNAP areas are found within the study area:

Whangaruru Ecological District

Site No.	Site Name
07/001	Abbey Caves Remnants
07/002	Mt Tiger Rd Bush
07/003	Waikaraka Stream Remnants
07/117	Kings Kauri Scenic Reserve

Whangarei Ecological District

Site No.	Site Name
07/019	Old Parua Bay Rd Bush
07/020	Waimahanga Walkway
07/021	Owhina Scenic Reserve

The District Plan also recognises the Awaroa Creek as an area of outstanding recreational and high ecological value. In order to protect this area, it has been established as an Esplanade Priority Area in the Plan. The ecological values, water quality and landscape patterns of this character area can be enhanced through weed control and additional planting of riparian corridors and harbour wetlands.

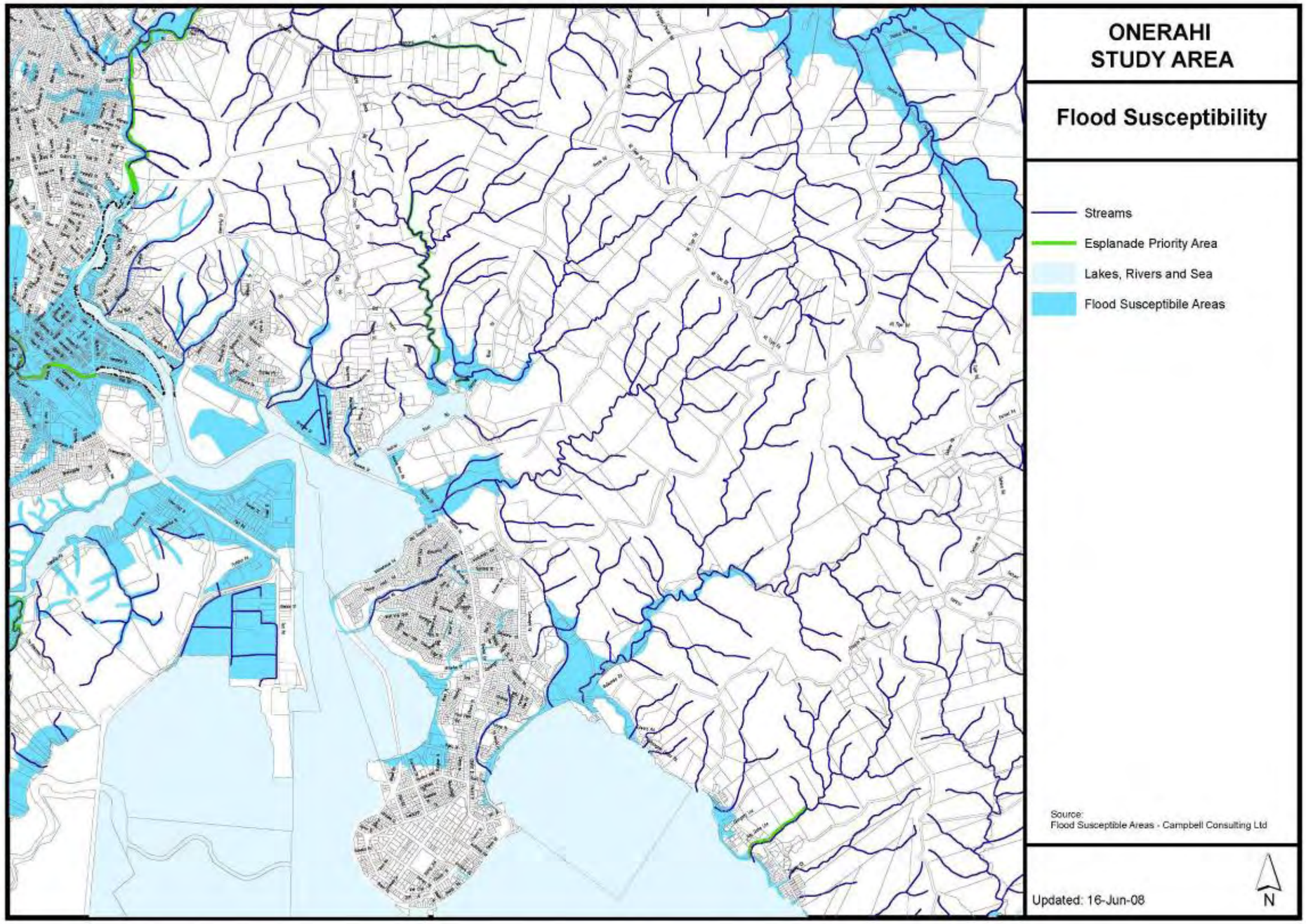
f) Flood Susceptibility

Floods can cause rapid erosion of hillsides and river banks, and inundate low-lying areas with silt-laden water. Lava fields of the Whangarei District absorb considerable stormwater, and thus reduce direct runoff.

Campbell Consulting Ltd (2001) assessed and reviewed the flood hazard information to revise the flood susceptibility areas on the Resource Area Planning Maps of the Proposed District Plan. A copy of this plan is depicted in Figure 7.

Stormwater management and minimum floor level are the main issues to consider when developing in flood prone areas.

Figure 7. Flood Susceptibility



g) Slope (in)Stability

Slope stability (landslides) is assessed to be the most significant natural hazard in the Whangarei district (Figure 8). The dominant trigger is intense or prolonged rainfall.

Slope instability is common in the study area and there are large areas of creeping slope failures in some rock types.

Recently Tonkin & Taylor Ltd have undertaken numerous sub-regional land stability studies in the Whangarei District. These studies were undertaken to assess areas that were under development pressure. Accordingly, their report recommends that applications for subdivision, building or other development, such as excavation, filling, removal of vegetation, disposal of storm water or domestic waste water into or over the area, may be allowed to proceed subject to consent conditions.

These conditions would include requirements for supporting geotechnical reports, including a stability assessment demonstrating to the satisfaction of Council, that the proposed development will not accelerate, worsen or result in the land being subject to, or likely to be subject to, erosion or slippage. However, even with a geotechnical report, including a stability analysis, complete avoidance of all risk may not be possible

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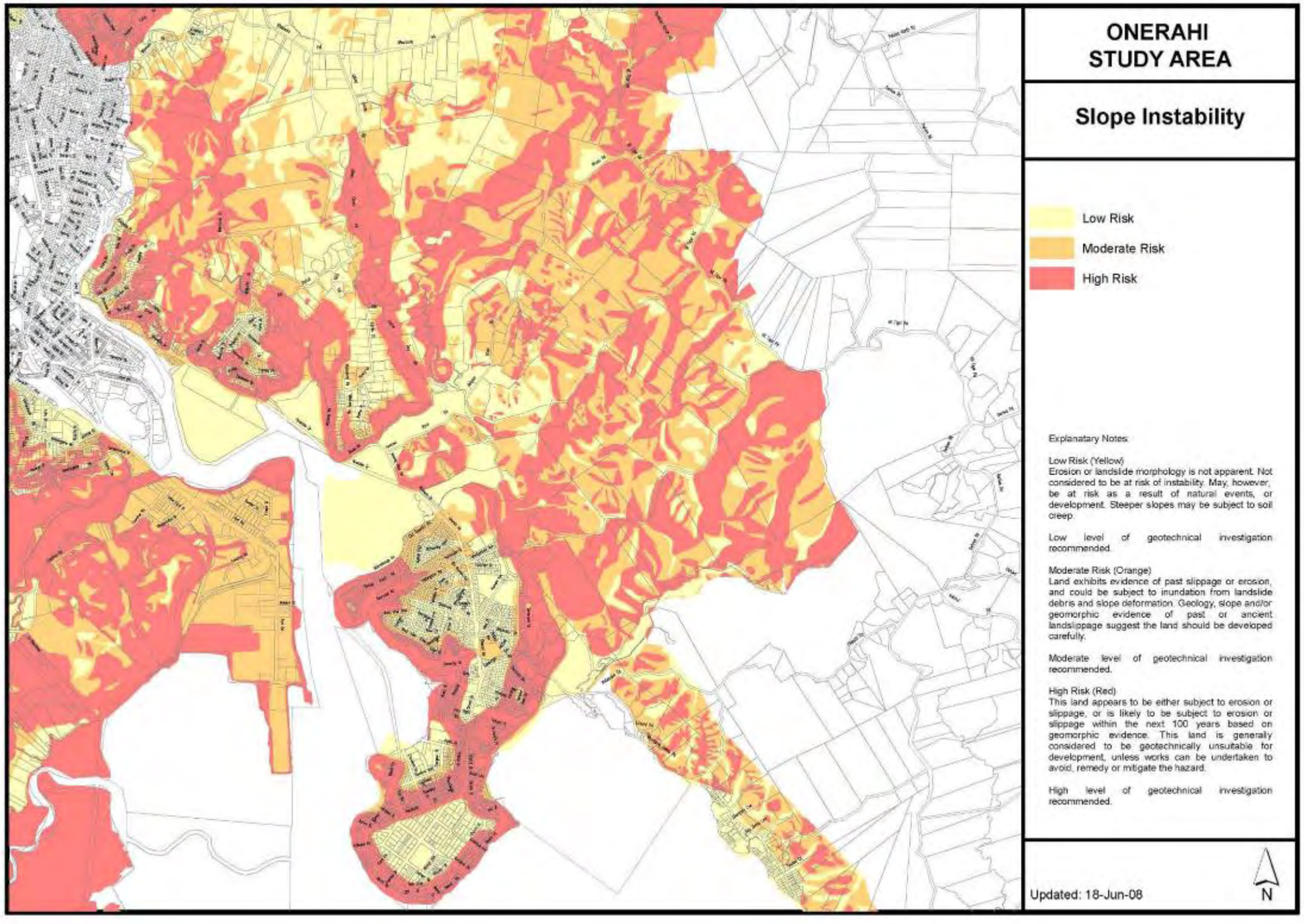
Figure 8. Slope Instability



3.2.4 Engineering Services and Infrastructure

a) Water Supply

The Onerahi peninsula, Parihaka and Mackesy Road areas have reticulated water supply (see Figure 9). Water is drawn from the Whau Valley Dam and treated at the Whau Valley Treatment Plant. There is also a water reservoir on Mount Tiger. The water situation is deemed adequate at present and for the foreseeable future, unless more development occurs in Parua Bay, in which case a section of main pipeline will need to be renewed as it will be undersized.

b) Waste Water

The Onerahi peninsula, Parihaka and Mackesy Road areas are connected to Council's waste water system (see Figure 10). The waste water treatment plant is situated at Kioreroa Rd, south of Whangarei City, and for the present situation, it is deemed adequate.

c) Storm Water

Storm water reticulation systems for the existing built up areas in Onerahi peninsula, Parihaka and the Mackesy Road area are in place, although a number of deficiencies exist (see Figure 11) A Catchment Management Plan is in place for the Onerahi peninsula area. Further development of these areas would require storm water systems to be designed to meet Northland Regional Council and Whangarei District Council standards before discharge to the local environment. No trunk storm water systems are in place beyond the existing Council serviced areas.

d) Electricity and Gas

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

Within the study area there is also a sub-station at Cartwright Road (refer DNP 3 Designations, Appendix 3).

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, however, there is no direct connection to Onerahi.

e) Telecommunications

Telecommunication services also traditionally follow development and demand, and in this respect, the area is well catered for. Within the study area there is an exchange on Onerahi Road (refer DT 12 Designations, Appendix 3).

Telecom has advised it is expanding the ADSL (high-speed-internet or 'Jetstream') network in Northland. There are also general trends toward wireless telecommunication services.

f) Solid Waste

The study area is serviced by weekly household rubbish and recycling collections. Council operates a transfer station located in Kioreroa Road which is also designed to service the area. The Kioreroa Road facility operates eight transfer stations located at Hikurangi, Oakura, Tauraroa, Kokopu, Uretiti, Pipiwai, Pakotai and Ruatangata and Kioreroa Road.

The Kioreroa Road station is the biggest transfer station servicing Whangarei City. It provides services focused on resource recovery so as to reduce residual waste to landfill. Currently, solid waste from the transfer stations and from weekly collection services is disposed of at a privately owned landfill north of Auckland while the Council seeks a new landfill site.

Figure 9: Water Services

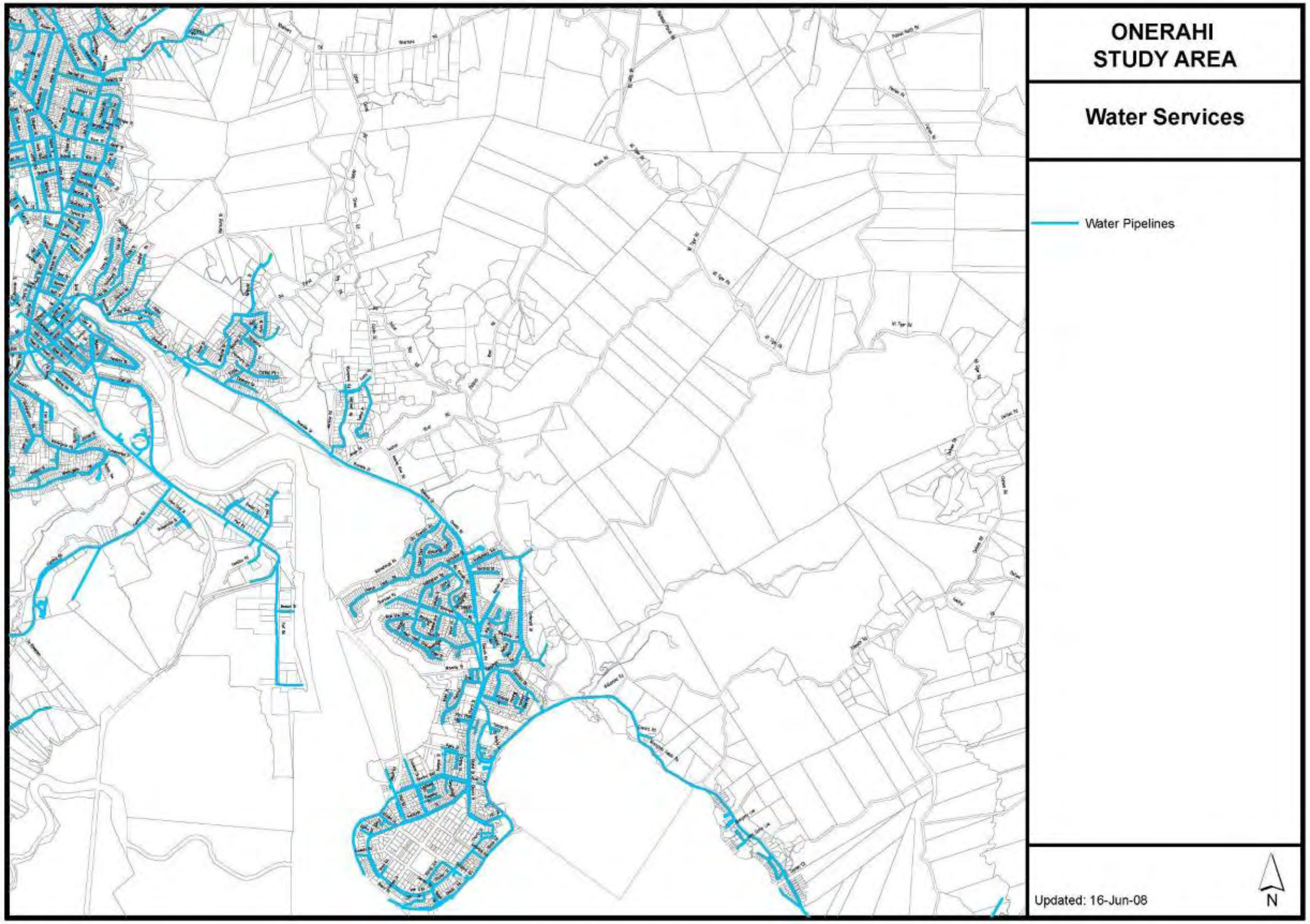


Figure 10.: Waste Water Services

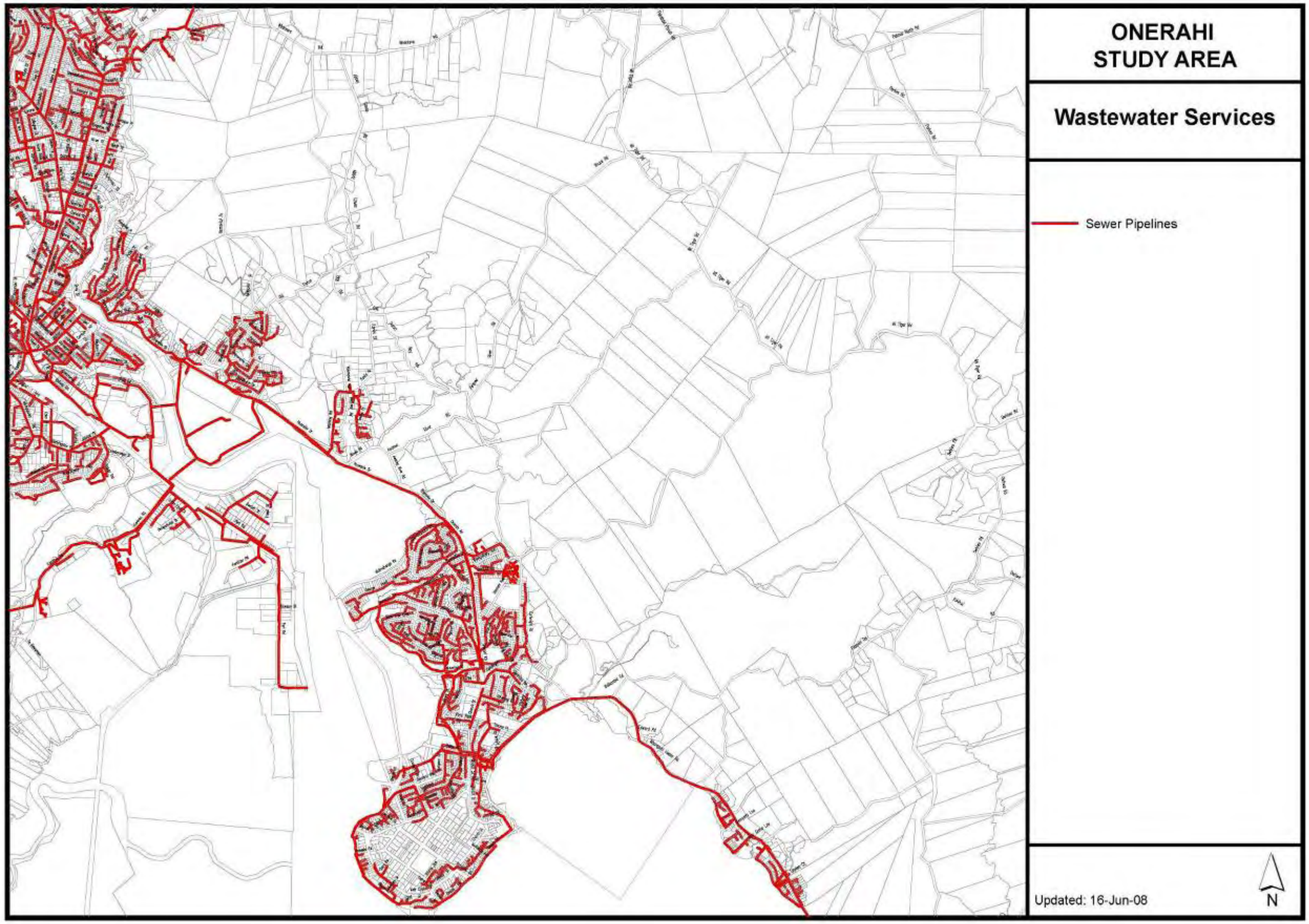


Figure 11: Storm Water Services

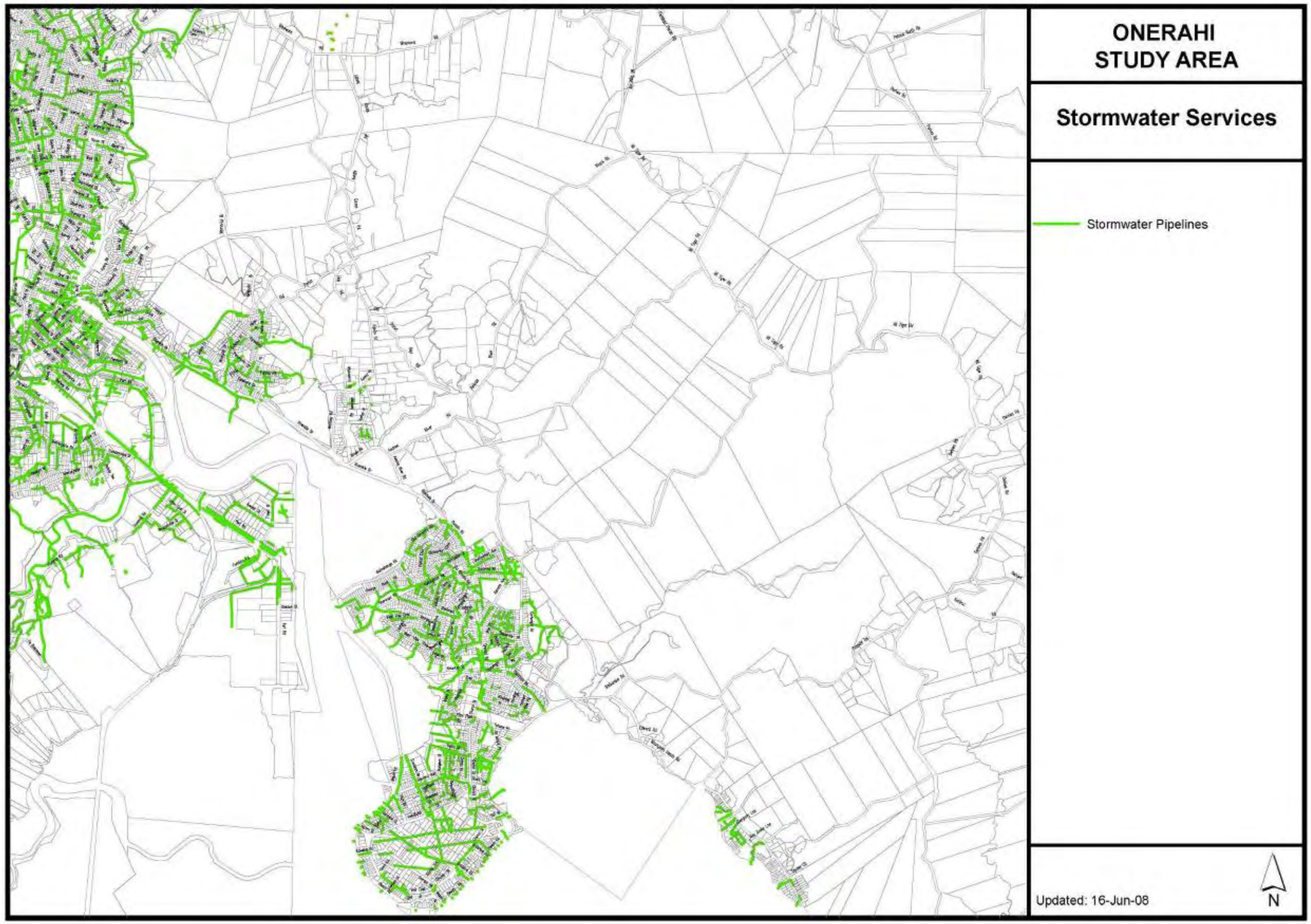
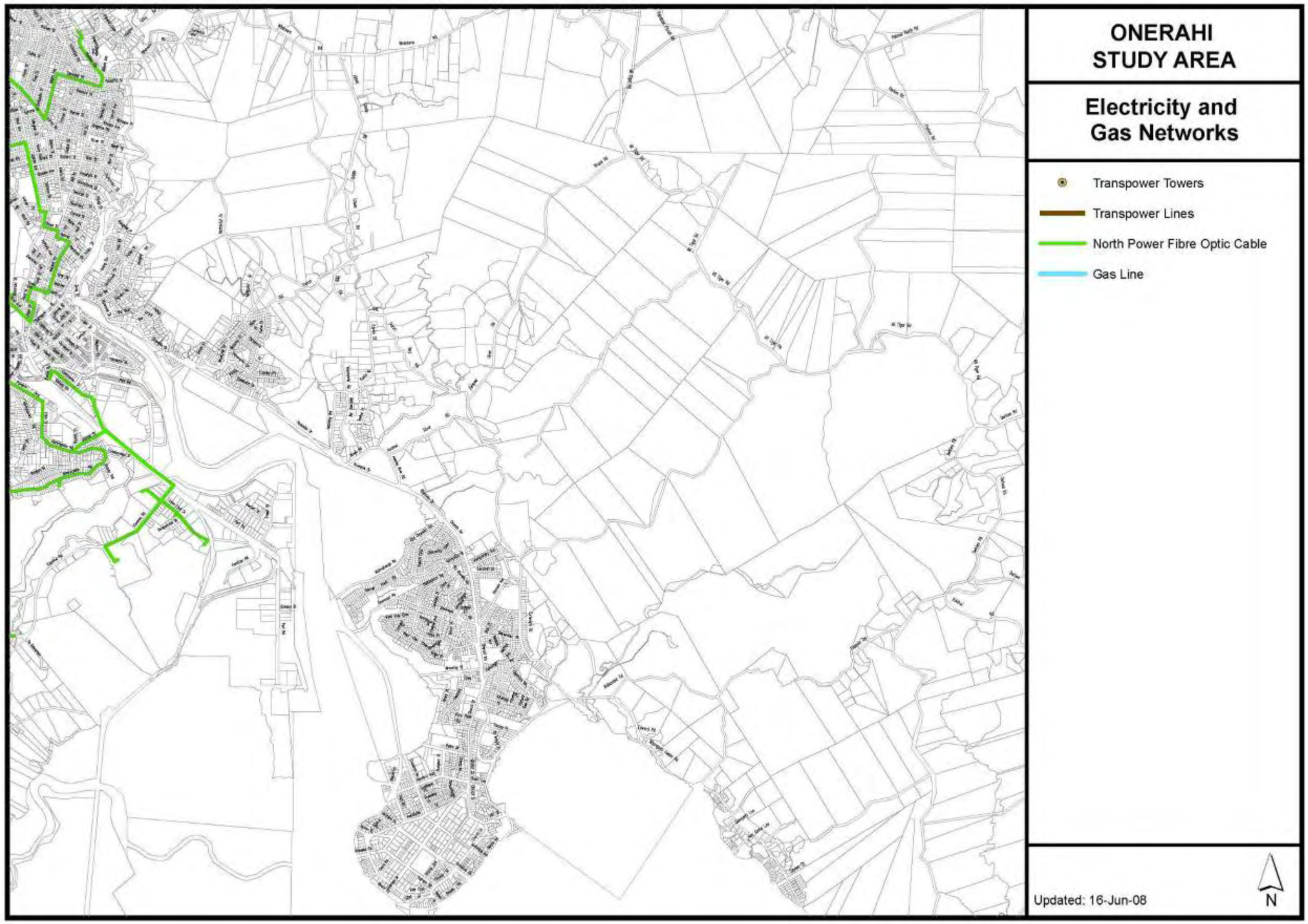


Figure 12: Electricity and Gas Networks



3.2.5 Transportation

a) Public Transport

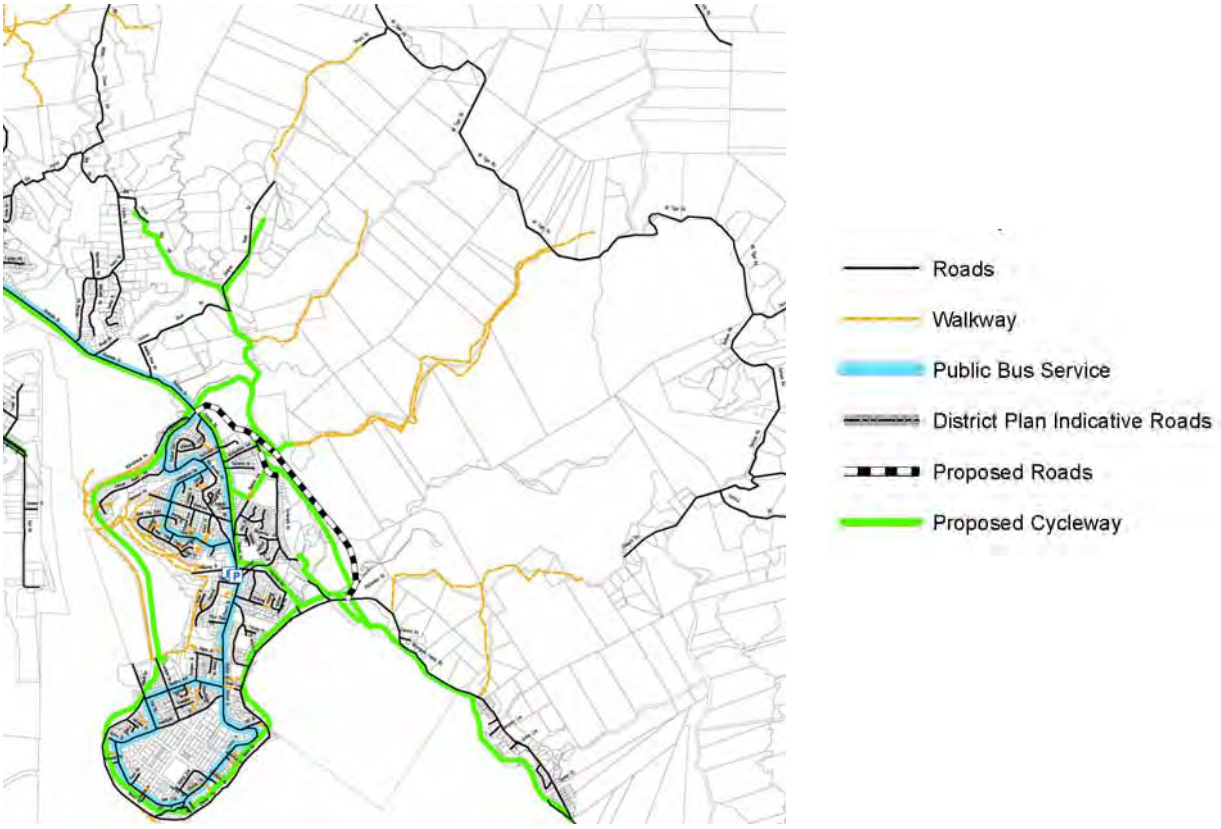
The Whangarei City bus route provides regular service to and from Onerahi and Whangarei City. However, it is felt that there is opportunity for improvement and, given the expected growth, there is a definite need to assess the adequacy of the service, especially for the disabled and the elderly. A review of the current bus layover area by the shops is in order, as it adds to congestion in the parking area.

b) Cycleways

Council has prepared a Whangarei District Walking & Cycling Strategy to implement safe pedestrian and cycle networks throughout the urban area. This would encourage physical activity and help facilitate proactive public health and recreation for all residents. This Strategy also identifies safer routes to and from schools, as well as creating increased public transport capacities and reduced dependency on motor vehicles.

The Onerahi hub offers interesting walking and cycling opportunities between Onerahi and Whangarei through a range of residential, pastoral and marine environments, traveling along Riverside Drive to Awaroa River Road. Council's Proposed Strategy for Bicycle Facilities (see figure 11) shows proposed cycle and walkways along Onerahi Road and Church Street to Onerahi Primary School, and along the Waimahanga Walkway, Cockburn Street, Raurimu Ave and Church Street to join up with Onerahi Primary School.

Figure 13.: Council's Proposed Strategy for Cycleways



3.2.6 Social and Community Facilities

The study area is served by a range of community facilities, including sports clubs, community halls and places of worship. However, the community has expressed the desire for more public facilities to provide for active youth, and an improved community centre. There is also a library in Onerahi. A medical centre is located in the Onerahi Shopping Centre. Emergency services include a fire station and a police station at Onerahi.

There are two primary schools in the study area: Onerahi Primary and Raurimu Avenue Primary. There are also a number of pre-schools in the area, as well as a Kohanga Reo.

At present, there is discussion, led by the Ministry of Education, concerning a possible review for both schools to address their over-enrolment issues, and resulting lack of physical resources.

Land required for specific public works, such as schools, police stations, medical and health-related facilities, possible recreational areas and further utilities are identified as designations. A list of these designations and further details on social and community facilities can be found in Appendix 3.

In summary, the area has a range of social and community facilities, but additional facilities could be accommodated in the Onerahi node.

3.2.7 Cultural Heritage

As mentioned earlier in the historical background section, the Onerahi area and Whangarei harbour have special significance to the Maori people. While the area has no marae, it does contain a number of heritage items and sites of significance identified for protection in the District Plan. More details can be found in Appendix 1.

During the Iwi consultation hui, Tangata Whenua expressed their desire to identify more of their waahi tapu and pa sites, in the area, for recognition and protection by Council. However, a common understanding is required between Council and Tangata Whenua on the identification, mapping and confidentiality of that information, given the practice of officially listing places in the District Plan.

3.2.8 Historic Buildings, Trees and Sites

There are a few historic buildings and trees in the study area that have been identified. For details on these, please refer to Appendix 1 of this document.

3.2.9 Significant and Outstanding Landscape Features

The study area has a number of unique and special natural features, such as the views of the Whangarei Harbour, Mount Manaia and existing native bush. As the area develops, it is important that these features are protected.

The WDC Ecological Assessment describes the Abbey Caves / Awaroa Creek Bush area as being of high significance. It notes the presence of a number of rare snail species only found within limestone habitats. It also notes the presence of brown kiwi.

Significant portions of the coastal edge of the peninsula are zoned as Open Space, with two areas being included within the PNAP Survey. The first of these two sites has been identified as significant, as a result of its status as coastal shrub land, which is rare in the district. The second has been identified due to the presence of rare shrub species.

The Whangarei harbour is particularly ecologically sensitive, and development impacts such as storm water runoff, pollution and loss of visual amenity, are key considerations for further development around the coastal fringe.

Development tends to favour locations that maximise opportunities for views. Inappropriately located and ill-designed buildings have great potential for detracting from the visual amenity of a character area. Consideration should also be given to the treatment of storm water, should this area be developed in future.

As the study area is characterized as a modified agricultural, residential and commercial landscape, the management and enhancement of bush has the potential to strengthen the vegetative framework for this area, reinforcing topographical and hydrological patterns. Potential also exists for the enhancement of existing wetlands on the land / harbour interface, while additional planting of riparian corridors would further enhance the landscape patterns of the character area, and enhance ecological values and water quality. Such measures would appease the community as it encourages suitably proposed and attractively built development and zoning.

3.2.10 Current Land Use and Zoning

The land use pattern of the study area is influenced by topography, soil conditions, climate, proximity to Whangarei City and historical elements. The zoning of the study area reflects current and future land use.

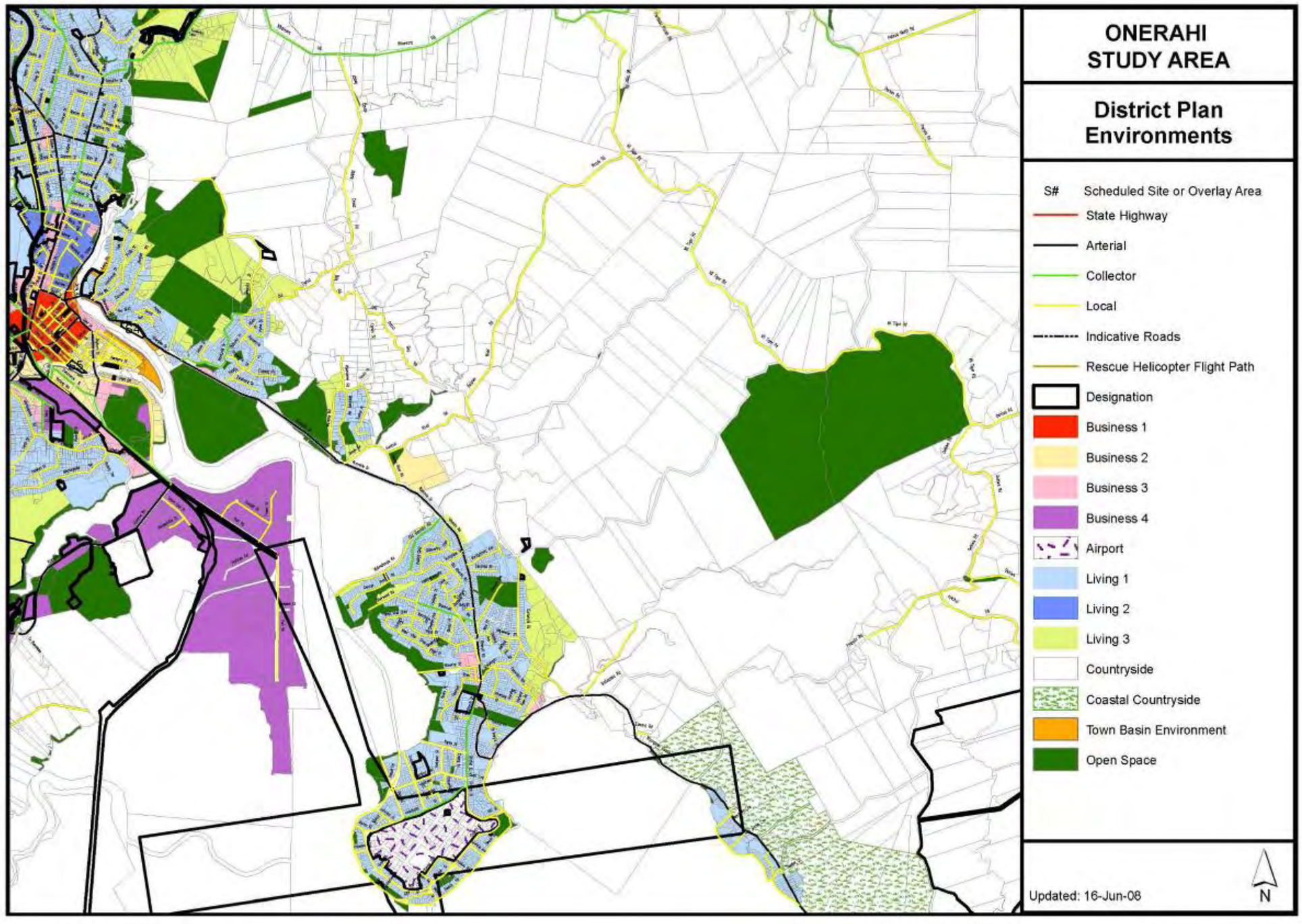
The approaches to the Onerahi settlement from Whangarei Heads from the east and from Onerahi Road/Riverside Drive from Whangarei centre illustrate the contained nature of Onerahi's urban development. The land is developed to a moderately high density across the entire peninsula with the exception of the airport.

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

- Urban residential development is situated along Riverside Drive and up Mount Parihaka, with a small development in Awaroa Creek, either side of Onerahi Road toward the coast on the western side (Sherwood Rise) and to the coast and the base of steep hills on the eastern side.
- Large lot residential development on the periphery of the residential areas. Smaller subdivisions progress into the Rural Countryside Environment (termed 'Rural-Residential' areas) and include Parihaka, Awaroa Creek and areas to the east and west of the Onerahi peninsula.
- Countryside development (farming, forestry and horticulture) on the outskirts of the Residential and Rural Residential areas. Rural areas are mainly to the north of the study area on the outskirts of residential and rural residential development.
- Commercial development at Onerahi Shopping Centre, a smaller cluster of shops at Parihaka and individual shops such as the dairy in Sherwood Rise.
- No industrial development in the study area, apart from the old Money Factory on Awaroa River Road, which is currently operated as a furniture sales outlet.

Figure 14 presents the different Environments that currently operate within the Onerahi study area.

Figure 14: Current District Plan Environments



a) Residential

There are two Residential zones 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 – large-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 size in this zone is 2000m^2.

There are approximately 3,000 urban residential sites in the study area. These are grouped on the Onerahi Peninsula, Mackesy Road and Parihaka.

b) Countryside Environment

There is one Rural Environment in the study area:

- Countryside Environment - applying to the rural areas. Minimum lot size in this zone is 20 hectares. "Minor residential units" are permitted on a minimum lot size of 8000 m^2.

This Environment covers a large part of the study area. Commercial agriculture occurs on the larger farms. Smaller farms serve as lifestyle blocks, though these may also operate small-scale farming and limited horticultural production.

In recent years, the Countryside Environment has come under a lot of development pressure, leading to copious subdivisions creating large-lot "lifestyle" properties in the Onerahi area, as well as throughout the District.

c) Retail/Commercial

There is one zone for retail and commercial operations in 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 in this zone is 100m^2.

The Onerahi Shopping Centre is the main retail centre for the area, and contains 20 shops, as well as a New World Supermarket, Onerahi Tavern and Flames International Hotel. Given the relative closeness of Whangarei City, and the growing population in Onerahi and its surroundings areas (toward Whangarei Heads), this retail centre is the last shopping centre on the way out to the Whangarei Heads, with the exception of a small shopping centre at Parua Bay, giving it the additional function of serving the visitor market.

There are also minor retail areas at Parihaka (five shops, including a service station), at the end of the Onerahi peninsula (three shops), plus single lots for dairies and the like.

d) Industry

There is one zone applying to industry in the study area:

- Business 2 – business areas that fringe the Central Business District and include light industrial areas with a minimum lot size of 300m^2.

The only Business 2 in the study area is at Awaroa Creek, the site of the old Money Factory. However, the land is currently not used for industrial purposes.

There is no heavy industry in the study area, nor does there seem to be a need to change this status.

e) Airport

There is one zone applying to the airport:

- Airport Environment – See Chapter 45 of the District Plan for rules applying specifically to the airport property and air noise boundary.

The Onerahi peninsula is home to the Whangarei Airport, the only commercial airport for the Whangarei District. It operates scheduled air service, charter services, skydiving, and helicopter and airplane instruction and hangar facilities. The airport is a major consideration in any planning for the Onerahi peninsula. There are special rules governing land use around the airport, including aircraft noise contours based on the principles and recommended practice. These contours have resulted in the location of an air noise boundary and an outer control boundary. Through good design, utilising normal construction techniques in accordance with the New Zealand building code, an internal level of 40 dBA (habitable room) is generally accepted as a sufficient level for environmental protection within the residential zoning.

f) Open Space, Recreation and Natural Amenity Considerations

Open Space Environments are scattered throughout the study area and include active and passive recreation areas and esplanade reserves. The majority of the open space areas are located around the urban residential areas in the form of a range of sporting clubs and facilities. The Onerahi Domain, off Alamein Avenue, Onerahi Road and Cartwright Road, accommodates rugby, bowls, softball and pony clubs. The Onerahi Airport sports fields in Church Street accommodate soccer and cricket clubs. The William Fraser Memorial Park at Pohe Island also has a soccer club, a BMX track, a skate bowl, a rowing club, Sea Scouts and Young Mariners. There is also the Onerahi Yacht Club in Beach Road.

A number of scenic and local purpose reserves exist in the study area, catering for passive recreation. In town, and amongst the more densely residential areas, there seem to be insufficient park facilities for leisurely picnicking, walking, active recreation or cultural events. The William Fraser Memorial Park at Pohe Island and the nearby Bell Block Reserve are earmarked for further recreational development.

The community places a high value on the Sherwood Park open space. It affords fine sea views and is well-located to shops and schools. At present, it offers a children's playground and youth skateboard park, but is thought to be an under-utilised asset. The Onerahi community is supportive of additional locations for informal gatherings for adult residents. This could be accommodated by improvements to Sherwood Park.

Another sensitive area is that of Abbey Caves which has a significant role as a buffer to an area of mangrove. The open, undeveloped character of the Waioneone and Awaroa Creek valleys provides an important green buffer between the various pockets of development.

Lastly, bush clad escarpments above Mackesy and Brook Roads are visually prominent and merit protection.

A number of issues relating to open space were raised during consultation for the Onerahi area, including better linkages between areas of open space and the upgrading and development of cycleways and pedestrian-focused activity linking Onerahi to outside areas.

Council has a Whangarei District Walking & Cycling Strategy which includes the provision of safe pedestrian and cycle networks, connecting Whangarei to the Onerahi study area in order to encourage alternative transportation and help facilitate proactive public health and recreation for all residents. Along with this, it proposes safer routes to and from schools, and increased public transport initiatives.

Discussions are also taking place as to whether the current open space areas are adequate for the needs of the residents. Council's Parks Division has an on-going programme of upgrading linkages between these open spaces as more land is developed.

3.2.11 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 proper sustainable growth, it is important to indicate the patterns of the expected growth.

The development capacity for parts of the study area has been determined using Statistics NZ meshblock boundaries. These boundaries do not fully match the study area boundaries. As a result, there may be a slight discrepancy in the figures. For the full reports on these figures, refer to: *Asset Management Growth Study – Part V: Onerahi Area, Part VI: Sherwood Rise Area, and Part VII: Abbey Caves Area, Parihaka.*

Overall, there is the potential for over five thousand allotments in the study area, if all land is subdivided into its minimum allowable size in each land use zone (Figures 17 and 18). However, location of this land and market trends have shown that it is not always desirable to develop in those areas. Hence, there is the need to engage communities in this process.

3.2.12 Onerahi Community-Based Planning

This Structure Plan recognises the efforts of the residents and organisations of Onerahi who are undertaking a planning and design study of their community. Their plan will address issues at a level of detail that is beyond the scope of structure plans. Under the leadership of the Onerahi Community Association, the community has engaged in discussions and surveys that have identified matters of highest priority. These include:

- The upgrading of the Onerahi shopping centre with regard to the quality of shops and shopping experience, expansion of commercial uses to adjacent areas, and additional parking. A destination commercial retail centre would contribute to the unique identity of the community, and attract customers that may be lost when the bypass is completed.
- Improved community facilities for events, outdoor gatherings and festivals, and informal community interaction. This could include additional programming of The Green, across the road from the shops.
- Roading safety improvements, focussing particularly on improving pedestrian safety in the vicinity of the shops, and enhanced safety of the school zone. Concerns also extend to the speed limit on Onerahi Road where it descends the hill to Riverside Drive.
- Additional choices of housing, particularly varying densities and designs. The community has identified a need for retirement housing proximate to the commercial area and community facilities.
- A strong design theme along Onerahi Road through to the airport to emphasise the area's unique character as a *Seaside Suburb*, and create a higher level of amenity.

Council has been reviewing roading safety and access issues. Council will continue to collaborate with the Onerahi community and use this Structure Plan to guide decisions regarding land use, transport, community facilities, and services. (See community-prepared Onerahi Dream, and Strategic Plan documents for additional information.)

3.2.13 Summary of Development Issues

Through community consultation and analysis of background information for the study area, the following issues were identified:

- The Whangarei harbour is particularly ecologically sensitive and impacts from development, such as storm water runoff, pollution and loss of visual amenity, are key considerations for further development around the coastal fringe.
- While the sensitivity of the harbour needs to be considered, the unique harbourside environment needs to be recognized for its amenity quality and, with careful management, could be considered for suitable recreational, scenic and ecological purposes. Access could be improved through stronger linkages and development of reserves.
- The study area has a number of unique and special qualities, including historical and cultural features. Natural features such as the views of the Whangarei harbour, Mount Manaia and existing native bush are especially valued. As the area develops, it is important that these features are protected.
- Given the expected residential growth for this study area, the current shopping centre could benefit from redevelopment. There is an opportunity to develop the Onerahi shopping centre as a distinct commercial hub. 'Main Street'-type design, as well as re-zoning for new commercial and higher density residential areas, will support

expansion. Issues include the supply of parking, as well as improvements to traffic management.

- The need for pedestrian and cycle links has been raised by the community. Consideration should be given to forming a network of walkway and cycle ways which link attractions in the study area, as well as connections to Whangarei Heads and the centre of Whangarei.
- The re-development of Pohe Island for the provision of open space with a range of facilities is a long term opportunity for the area. Plans for Pohe Island must consider a new harbour crossing to Port Road and the industrial area. Council-proposed cycle and walkways for this study area are also an opportunity for improved recreational and transport facilities.
- Lastly, given the location of Whangarei's airport on the Onerahi peninsula, there is a need to manage the transport effects of the airport on community values whilst ensuring the continuation of airport activities.

4 Onerahi, Sherwood Rise, Awaroa Creek and Parihaka Structure Plan Proposals

4.1 Proposed Roading Network

The road network within the study area is adequate to serve local traffic for existing and proposed development. There are no state highways in the study area, with Riverside Drive/Onerahi Road being the main arterial route.

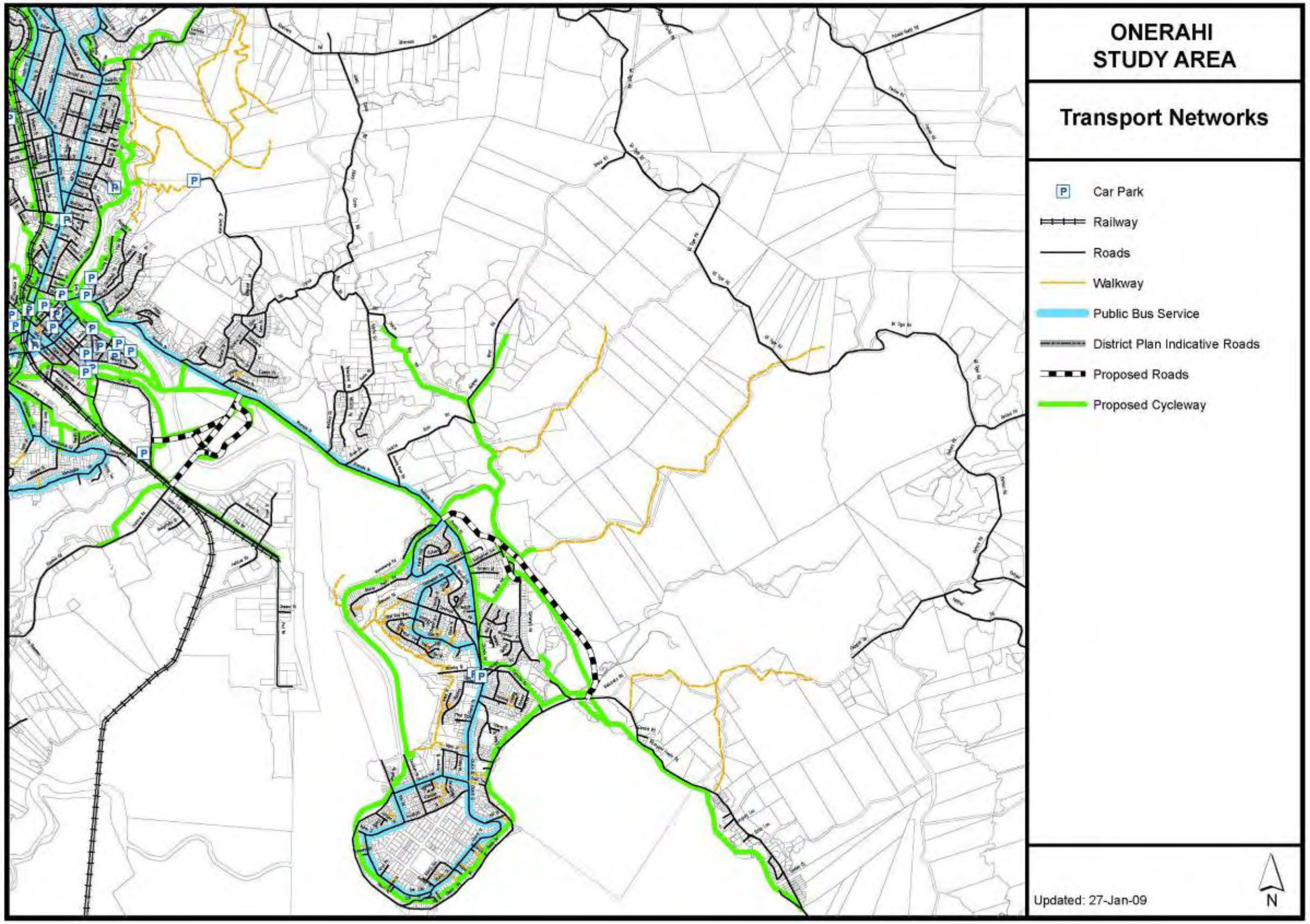
While the roading network is generally considered adequate to meet present functional needs, there has been concern expressed, during consultation, regarding traffic congestion around the Onerahi Shopping Centre, and the possibility of increasing traffic travelling to/from the airport, as well as onto Whangarei Heads Road out to Whangarei Heads.

Council proposes to connect Riverside Drive and Whangarei Heads Road by bypassing Onerahi Township, to the east. It is also proposed to extend Cartright Road to connect with the new bypass. Montgomery Avenue is to be extended to connect either to the new bypass or Onerahi Road. Depending on the future of Onerahi shopping centre and available parking, there are also proposals for roading changes in that area. In this case, consideration will have to be given to future development along this bypass.

The idea for a second harbour crossing has also been expressed, in order to provide the shortest link from this study area to the heavy industrial areas in the Port area of Whangarei City. The two proposed alignments, one of which would extend straight across to the Port/Kioreroa intersection, while the other would head through the United Yard onto Port Road, would be provided when the need is perceived. Thought will have to be given to a major split span bridge over the Hatea River to allow for larger vessel and yacht passage up to the Town Basin, with the deck needing to be high enough for the average launch. There is also a need to retain the rowing club course through this area.

Figure 15 demonstrates the above proposals.

Figure 15. Proposed Transport Network



4.2 Land Use Proposals

Council's objective is to provide a progression of living environments, beginning with high(er) density urban areas, in and around the commercial Onerahi shopping centre, leading to medium density urban areas and Rural Residential zoning on fringes of the urban area, whilst defining and protecting remaining productive Countryside zoning beyond the residential zones. A well-planned, sustainable structure plan results in better and more sustainable built environments for the whole District which, in turn, encourages more vibrant town and suburban centres with areas well suited for living, working, playing and the general wellbeing of its residents.

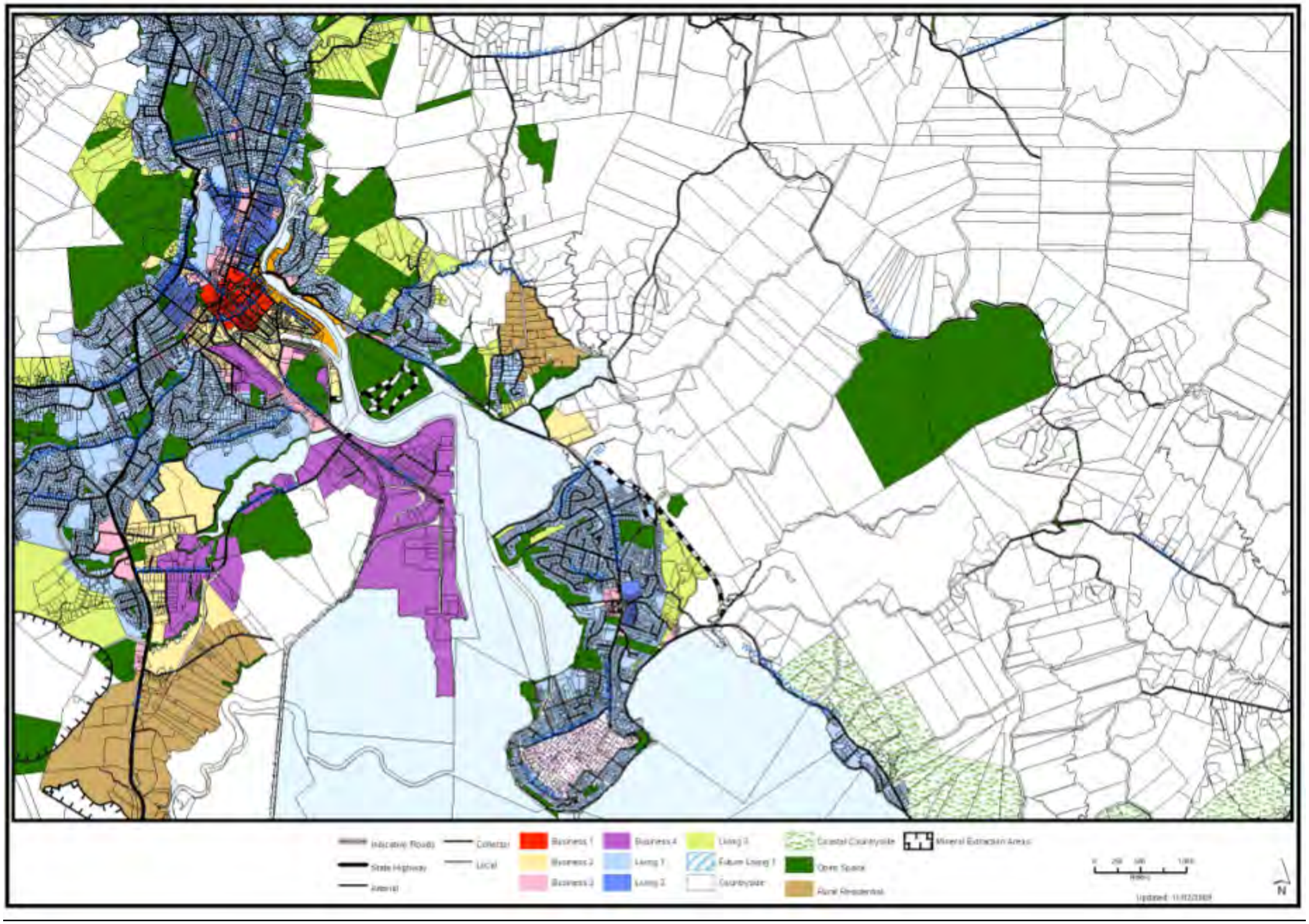
The land use proposals are long term and the result of detailed planning analysis and take into consideration the aspirations of the community, the capacity of the land to accommodate new development and physical constraints for development.

It is important to note that these proposals depend on eventual incorporation into 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.

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 proposed in the Structure Plan takes place.

The following land use proposals are referenced below on Figure 16 'Land Use Proposals'. The boundaries of the newly-proposed Environments have been drawn to best follow lines that reflect existing landscape patterns, serviced areas or other easily-discernable boundaries.

Figure 16: Land Use Proposals



4.2.1 Extension of Living 1 and changes to Living 3 Environments East of Riverside Drive, South of the Proposed Bypass Alignment

a) District Plan Environment

This area consists of two changes comprising a total area of 6 hectares. The first one is located to the east of Onerahi Road, and to the south-west of the proposed new bypass. The land is currently zoned Countryside and is mainly used for pastoral purposes. It adjoins a Living 1 Environment to the south-east. The area to the west, on the opposite side of Onerahi Road, is also zoned Living 1.

It is proposed to re-zone the second area, which is currently zoned 'Living 3' Environment, to a 'Living 1' Environment while enlarging this Living 1 Environment to extend to the proposed new bypass which will act as a clear urban boundary between the countryside and residential areas.

b) Transportation

There is only one main road connecting Onerahi with the Whangarei Central Business District (CBD). This road runs through the centre of Onerahi, and carries on to serve other coastal villages such as Tamaterau, Solomon's Point, Parua Bay and others. Although the road to and from the CBD is well formed and is of a high standard, due to an increase in development along the coast, traffic along this road has intensified. This has the potential to affect pedestrian safety within the Onerahi centre.

Further growth in the area will likely exacerbate this situation, and as a consequence, Council is considering the construction of a bypass in the long term, in order to reduce the traffic going through the centre of Onerahi. This proposed bypass will start just north of the proposed new zone and will connect Riverside Drive with Whangarei Heads Road at the point of the Waikaraka Road intersection.

Proposed cycleways will run to the north, west and east of this re-zoned area.

A public bus service, to and from the Whangarei CBD, runs past the proposed new zone at half hour intervals during morning and afternoon peak hours.

c) Community Resources

Potential future residents will have easy access to the commercial centre, library, medical centre, primary school, several places of worship and a community hall, in and around the Onerahi Shopping Centre, located at a distance of 1.5 to 2 kilometres.

The proposed area has a large sports park/ recreation reserve located within easy walking distance, at less than 1 kilometre south-east of the area.

d) Significant Landscape Features

The proposed area is located to the east of a protected natural area which is separated from the proposed new zone by the main road going to and from the Whangarei CBD. It is considered that residential development of this zone will not have any negative impacts on this protected area, given the limited size of the proposed area, the current level of development already established within the area, and the presence of the reticulated services which will prevent potential pollution of the natural environment.

e) Flood susceptibility

A study carried out by Campbell Consulting Ltd notes that the area just north of the proposed new zone is susceptible to flooding. However, this study was not site-specific, and is therefore an indication only of the locations and extent of possible flood areas. It is recommended that any new development within

the proposed zone is carefully managed/engineered so as to prevent worsening of flooding potential due to storm water run-off.

f) Geology, Slope and Slope (in)stability

The geological formation of this area consists of Northern Allochthon, according to a study undertaken by the Institute of Geological and Nuclear Sciences Ltd. This formation consists of clays and clay silts which tend to have very poor potential for effluent disposal.

Slopes in the area are classified as undulating, having slope angles between 3 to 7 degrees, according to a Landcare Research study. Instability risks for the zone range from low to high risk. It is therefore recommended that site-specific geotechnical reports be required at resource or building consent stages.

g) Threatened Environments

The proposed zone is located in an area classified as an 'At Risk' environment, where the loss of habitats for native species has been the greatest in the past (Landcare Research, 2007). A change in zoning to a Living 1 Environment, providing for sections of 500m^2, is not conducive to the protection of threatened environments. However, given the proximity of existing development to the west and south, and given the consideration of a bypass to the north and east of the proposed area, the change in zoning is considered appropriate, as long as the natural environment is afforded protection in the adjoining and remaining countryside environment.

Innovative development and design within the proposed Living 1 Environment, incorporating protective measures for the natural environment, is preferred.

h) Land Use Capability

The soils in this proposed zone have moderate limitations for arable use. However, in theory, they could still be useful for occasional cropping, pasture or forestry (Landcare Research, 1996).

Taking into account the location of the proposed bypass and the size of the area (6 ha) proposed to be re-zoned to Living 1, it is considered that continued agricultural activities in this area would be impractical, and would raise issues of reverse sensitivity over time. It is considered more practical and logical to link this area with the adjoining Living 1 zone, thereby providing for contiguous development.

i) Water, Storm Water and Waste Water Services

Reticulated water and waste water runs along the western side of the proposed zone. It is envisaged that any new development will be able to provide a connection to these existing services.

A small stream running along the north-eastern boundary of this area forms a natural flow path for any storm water. However, as noted earlier, due to the flood susceptibility of the area to the north of the proposed zone, storm water run-off will require specific attention/design.

j) Recommendation

Other than some minor constraints such as the requirement for site-specific geotechnical investigations, the change to a Living 1 Environment is considered appropriate. The area has a gentle topography and can take advantage of existing infrastructure, while also meeting the contiguous criterion for land development. Given the proposed location of the new bypass, it follows that the existing Living 1 Environment to the south-east is extended to incorporate the newly-proposed area.

The retention, maintenance and enhancement of indigenous vegetation is encouraged, wherever possible.

4.2.2 Creation of New Living 2 Zone East Side of Onerahi Road Across from Shops

a) District Plan Environment

This proposed zone is located within an already highly urbanized environment in the centre of Onerahi. The area is situated on the eastern side of Onerahi Road, opposite the small commercial area. The total area comprises about 6 hectares. It is currently zoned Living 1, is largely developed, and has good access. The areas to the north, east and south are zoned Living 1.

b) Transportation

The proposed Living 2 zone is located to the east of the main road that travels to the Whangarei CBD. As mentioned above, this road also serves other communities located further along the coast, making this through-road extremely busy and unsafe for pedestrian activity. The proposed bypass would assist in alleviating these traffic and safety issues.

A public bus service, to and from the Whangarei CBD, runs past the proposed new zone at half hour intervals during morning and afternoon peak hours.

Proposed cycle ways are also envisaged to serve this area, and Onerahi as a whole.

c) Community Resources

Due to its location in the centre of Onerahi, potential future residents will have easy access to the commercial centre, library, medical centre, primary school, several places of worship and the community hall.

Several sports parks/recreation reserves are within easy walking distance from the proposed Living 2 zone.

d) Significant Landscape Features

The proposed zone is within the vicinity of several protected natural areas, located within a 400m radius to the west and south-east. Changing the Environment for this zone from Living 1 to Living 2 is not considered to have a significant impact upon these protected areas.

e) Flood susceptibility

Campbell Consulting Ltd has identified slight flood susceptibility issues to the north of the proposed zone, as well as in the centre of the area. Any future (re-)development of the area will need careful storm water and building design.

f) Geology, Slope and Slope (in)stability

As the area benefits from council reticulated sewerage services, the effluent disposal potential of the underlying soils is irrelevant to this proposed change in zoning.

The topography for the proposed Living 2 Environment ranges from undulating to rolling. The northern side of the proposed zone has been identified as having moderate instability risk, while the southern half is classified as having low risk of instability. As the proposed change to a Living 2 Environment provides for high density development, it is recommended that site specific geotechnical investigations be undertaken as part of any development proposals.

g) Water, Storm Water and Waste Water Services

The area is well serviced by reticulated water, waste water and storm water pipe lines. Any future development will be able to connect to these existing services.

h) Recommendation

The proposed Living 2 zone meets the 'infill' and 'contiguous' criteria for land development, thereby creating the opportunity for a mix of housing possibilities and increased residential capacity, bringing about positive gains for a better sustained commercial centre. All necessary infrastructure is existing. A number of shops, as well as a range of services, including public transport, are in close proximity to the proposed area. These considerations make the area ideal for the proposed change, while not losing sight of the requirement for geotechnical investigations given the possibility of instability issues.

4.2.3 Creation of New Rural Residential Zone West of Old Parua Bay Road, to Mackesy Road

a) District Plan Environment

The proposed Rural-Residential zone is located to the north-west of the study area. The area has a triangular shape, the north-eastern boundary being the Old Parua Bay Road. The southern boundary is formed by a Council park/reserve, while the western boundary is formed by Tawhai Place, Konini Street, Waioneone Road and the eastern boundary of Lot 5 DP 187249.

The total land area for this zone comprises 49 hectares. The majority of surrounding land is zoned Countryside Environment, apart from two smaller areas to the south and south-west, which are zoned Living 1 and Living 3, respectively. The proposed Rural-Residential Environment will provide for a transition zone between the more densely populated areas of Living 1 and Living 3, and the Countryside Environment, while providing for residential opportunities within a more rural setting without placing undue development pressure on larger, economic, farming units.

b) Transportation

The area is serviced via an existing road network which is sufficient for development of the type proposed. A public bus service operating between the Whangarei CBD and Onerahi town centre runs along the main road, which is within 1.5 km from the proposed zone.

A proposed cycleway runs along the main road, as well as along the north eastern boundary of the proposed zone.

c) Community Resources

The location of this proposed Rural-Residential zone is some distance from the centre of Onerahi. As a consequence, potential future residents will have the choice of frequenting any community resources, but they will be slightly further afield for many. The Onerahi village centre with all its facilities such as medical centre, library, schools and places of worship, is located at approximately 2.5 to 3 kilometres to the south of the proposed zone. The Whangarei city centre, with all its amenities, is located at an approximate distance of 3.5 kilometres.

d) Significant Landscape Features

The eastern-most corner of the proposed Rural-Residential zone is situated in a 'character area' as defined by Beca Carter Hollings Ltd. Another character area is located just to the west of the proposed zone. Due to the low density level of the proposed Environment, the impact on the character areas will be limited.

e) Flood susceptibility

Apart from the far eastern corner of the proposed zone, which is susceptible to floods, Council records do not identify any flood issues within this zone.

f) Geology, Slope and Slope (in)stability

The geological formation of this proposed zone is known as the Kerikeri Volcanic Group. Where soils are the product of weathering of Kerikeri Volcanic Group, there is quite a large variation in the potential to dispose of liquid effluent. Drainage tends to be very good in areas underlain by scoria, but not so good where there are significant ash layers. In general, the volcanic rocks exhibit moderate-to-good effluent disposal potential. However, site-specific investigations will be required.

The vast majority of the proposed Rural-Residential area is classified as flat-to-gently undulating country, and carries low risk of instability. However, some of the land, especially along the north-eastern boundary and in the far eastern corner of the area, has been identified as strongly rolling, and is considered to carry high instability risk. Again, site-specific geotechnical investigations will be required for further development.

g) Threatened Environments

According to the maps produced by Landcare Research (2007), the greater part of the proposed zone is located in an area classified as 'Acutely Threatened'. The loss of indigenous biodiversity in these areas is great, resulting in loss of habitat for native species. The protection of native biodiversity on private land within this proposed zone should be encouraged, and should be possible due to the low density of development envisaged by this zone.

Land along the eastern boundary is better protected, retaining more indigenous biodiversity.

h) Land Use Capability

The soils in this proposed zone are mainly of a Class IV land use capability, giving them moderate limitations for arable use. However, in theory, they could still be useful for occasional cropping, pasture or forestry (Landcare Research, 1996).

Due to the low density envisaged as part of the Rural-Residential zone, larger lot sizes will still be available that can be put to productive use, thereby providing for market demand which requests both smaller sections in an open space and rural setting, while also providing for those who wish to make a living off the land.

Land along the eastern boundary of the proposed zone consists of soils which have fewer productive capabilities.

Overall, the soils contained within the proposed zone are not classified as the best types of soil for productive use, and as opposed to very versatile soils, are not in short supply within the District. It is considered that the re-zoning of this area from Countryside to Rural-Residential is appropriate in terms of the land-use capabilities of the area.

i) Water, Storm Water and Waste Water Services

Council reticulated water and waste water services are available along Mackesy Road and part of Konini Road which adjoin the western corner of the proposed zone. However, these services do not extend into the proposed Rural-Residential zone. It is envisaged that certain properties will be able to connect to the reticulated services, although this zone will be characterized by development that is self-sufficient in water, and that provides for on-site waste water treatment and disposal. Storm water will be guided towards natural flow paths.

j) Recommendation

This proposal meets the 'transition' and 'contiguous' criteria for land development as it provides a buffer zone between the urban form of development and the countryside, while at the same time providing for long term consolidation of the urbanized area.

The area is within a reasonable distance to the village centres of Onerahi and Whangarei which, when combined, provide a wide range of community facilities.

The low level of development facilitated by the Rural-Residential zone will enable some protection of the threatened natural environment and indigenous biodiversity, which is encouraged.

Although instability risks have been identified on some of the proposed re-zoned land, the majority of the land carries low risk. Geotechnical investigations are to provide engineering solutions for those developments where risk does occur.

4.2.4 Extension of Business 3 to the West and North of Onerahi Shops

a) District Plan Environment

This additional area comprises 1 hectare of land which is located in the centre of Onerahi, to the west of Onerahi Road, and south of Waverley Street. The southern boundary is formed by a Council reserve.

The majority of the surrounding area is zoned Living 1, while on the opposite side of Onerahi Road, a Living 2 environment is proposed.

It is proposed to expand a small commercial area at Onerahi in a westward direction, to incorporate all land to the east of Godwin Street, and to the west of Godwin Street as far a the first block of properties, up to the corner of Raumati Crescent. The first row of properties to the south of Raumati Crescent is also incorporated in this proposal.

The proposed new Business 3 zoning will allow for larger retail shops and other services to establish in order to cater for a growing population.

b) Transportation

The proposed Business 3 Environment is situation to the west of Onerahi Road, the main road carrying all traffic to and from Onerahi, as well as to and from all settlements further along the coast. This busy road is well formed and has the ability to accommodate further growth.

A regular public bus service operates along the main road, servicing different neighbourhoods within Onerahi. Furthermore, a number of cycleways are proposed, with one running alongside the main road.

c) Community Resources

The proposed Business 3 zone is located in the centre of Onerahi, close to many community resources such as the medical centre, school, library and places of worship. These community resources create a certain amount of foot traffic, which is important for the viability of a commercial centre.

d) Significant Landscape Features

Two sizeable protected natural areas are located within the vicinity of the Onerahi study area. One is located to the east, south-east of the Onerahi peninsula, while the other is situated to the north-west of the peninsula. The proposed Business 3 zone is located in the centre of an already urbanized area, thereby generating little impact upon these protected areas.

e) Flood susceptibility

There is no indication in Council records of any flood issues within this proposed zone.

f) Geology, Slope and Slope (in)stability

As mentioned previously in the proposal of the Living 2 Environment, the geological make-up for this proposed zone is known as the Kerikeri Volcanic Group. In general, the volcanic rocks exhibit moderate-to-good effluent disposal potential.

The slopes of the land in the proposed Business 3 Environment range from ‘Undulating’ (3-7 degrees) in the eastern part, to ‘Rolling’ (7-15 degrees) in the western part of the area. The risk for slope instability

in the majority of the area is deemed to be low, while the far western side carries a high risk of instability. Geotechnical investigations may be required for certain development proposals.

g) Threatened Environments

The proposed zone is located in an area classified by Landcare Research as an 'At Risk', and 'Critically Underprotected' area. The vast majority of this area is already developed in line with its current zoning status 'Living 1'. It is considered that a change in zone from Living 1 to Business 3 will not have any effects upon the environment that are greater than what is currently there.

h) Water, Storm Water and Waste Water Services

The area is well serviced with Council reticulated water, waste water and storm water pipelines. The change in zone from Living 1 to Business 3 is not expected to put greater demand on the existing services, which are considered to be adequate.

i) Recommendation

Commercial development at this site is considered appropriate as the proposal meets the 'infill' criterion of land development, and the site is central to the study area. It enjoys good access, and is currently providing for a growing coastal population along Whangarei Heads Road. It also caters for people passing through to the airport.

Further development of this commercial area will reduce shopping trips to and from the city, thereby reducing congestion on Onerahi Road and saving on fossil fuel energy.

Existing infrastructure is more than adequate, and there are no obvious hazards or risks that would impede such development.

4.2.5 Rural Countryside

This Structure Plan proposes to keep land in the study area that is outside the town boundary as Countryside Environment.

The development in some of the outlying areas of Onerahi has been focused on the elevated land nearest the coast. There is a growing appreciation that the protection of important natural landscapes for recreational and aesthetic values, as well for securing productive agricultural and horticultural activities where the soils are best suited, is an economic and aesthetic factor beneficial for the area.

The open portion of land to the east of the Money Factory, and to the north of Onerahi Road, is a key element of Onerahi's unique identity, offering a distinctive entry to the community and a pleasing entrance to central Whangarei for visitors who arrive by air. Adequate consideration of this issue should be included in any future development proposals for this site. If further built development in the rural areas is to take place, clustering or strict design controls through a management plan regime are recommended.

4.3 Overall Development Assessment

The proposals discussed above are considered to be more than adequate to provide for the needs of the community, while at the same time maintaining productive land. The proposals will accommodate development well beyond the foreseeable future.

Other development proposals that complement those outlined above, such as the provision of parks, community and cultural facilities and so on, are identified and described in previous chapters of this report.

The District's population growth model shows that there will be a steady population increase over the next 30 years, in this area. Projected growth under high, medium and low growth scenarios is shown in the table below.

Figure 17: Projected Population Growth in the Onerahi Area

Projected Population	2006	2011	2016	2021	2026	2031	2036	2041
High	7161	7436	7662	8101	8513	8899	9284	9669
Medium	-	7490	7670	7942	8187	8394	8602	8808
Low	-	7543	7678	7784	7861	7890	7919	7947

Source: Whangarei Growth Model, June 2008

The additional land made available for development through the proposals as outlined above, has been calculated to accommodate the high growth scenario figures. These figures were adopted by Council in their meeting of 22 October 2008.

The table below shows the different types of land made available through the land-use proposals, along with the possible number of allotments that can be created and the potential population it can accommodate.

Figure 18: Potential Capacity of the Proposed Land Use in the Onerahi Area

	Potential Lots	Potential Accommodating Population
Current	3,070	7,161
Proposed Living 1 (including existing)	4,531	12,221
Proposed Living 2 (including existing)	139	375
Proposed Living 3 (including existing)	332	896
Proposed Rural Residential (including existing)	56	151
Countryside (including existing)	322	868
Total	**5,380**	**14,511**
Percentage of 2041 population projection		158%

Source: Whangarei Growth Model, June 2008

The above table shows that the land use provisions can create a maximum total number of 5,380 individual allotments. This means that the land can support a similar number of households. Using an average household size of 2.697 people, the maximum capacity of the provisions is 14,509 people, when all land is subdivided into its minimum allowable sizes for each land use zone, and taken up. When compared with the projected population growth, it is clear that these provisions will have 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. Aside from the District Plan rules, other factors such as economic cycles and other social preferences, can influence the actual lot sizes and the pattern of development.

5 Implementation

5.1 Implementation Issues

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

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 time frames, and the cost 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, with the private sector developing land in a manner that reflects the desired outcomes for 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 will be determined through the on-going community consultation process.

Economic Development

Method – Specific Implementation Measures	Priority	Responsibility
Enhance the Onerahi Commercial Centre Upgrade shopping area Review shopping centre design, including provision of parking Investigate surrounding roading/pedestrian/cycle network and access into, and out of, shopping centre Undertake street and amenity planting	Medium	Infrastructure & Services Group - Parks/Roading
Protect Airport Reduce reverse sensitivity issues between residential development and airport operation	High	Environment Group - Policy & Monitoring/ Resource Consents

Infrastructure

Transportation

Method – Specific Implementation Measures	Priority	Responsibility
Traffic management and calming through Onerahi township Review intersections around Onerahi shopping centre Review and manage increasing amounts of airport traffic	High	Infrastructure & Services Group - Roading

Method – Specific Implementation Measures	Priority	Responsibility
Enhance route from airport to Whangarei City Investigate means of making this route a gateway for visitors - could include signage, roadside planting	Medium	Infrastructure & Services Group - Parks/Roading
Implement school zones School zone for Onerahi Primary (Church St) School zone for Raurimu Primary (Raurimu St)	Done	Infrastructure & Services Group - Roading
Complete Onerahi Bypass Designate and construct new road	Medium	Infrastructure & Services Group - Roading
Complete second harbour crossing Plan route of new road and bridge, and construct	Low	Infrastructure & Services Group - Roading
Increase and upgrade cycleways Complete Cycle Strategy Investigate routes in and around study area Construct cycleway from Town Basin to Onerahi and around Onerahi peninsula.	Ongoing	Infrastructure & Services Group - Parks/Roading
Increase and upgrade footpaths Investigate and place on Footpath Needs Programme	Low	Infrastructure & Services Group - Roading
Provide more street lighting Investigate and place on Street Lighting Needs Programme	Low	Infrastructure & Services Group - Roading
Develop Beach Road as a pedestrian precinct Limit vehicle speeds and access Link with peninsula walkway	Medium	Infrastructure & Services Group - Parks/Roading
Ferry Undertake feasibility study	Low	Private Sector

Waste water

Method – Specific Implementation Measures	Priority	Responsibility
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	Infrastructure & Services - Waste & Drainage

Storm water

Method – Specific Implementation Measures	Priority	Responsibility
Manage storm water disposal around Beach Road area Investigate placement of storm water outlet pipes	High	Infrastructure & Services - Waste & Drainage
Economic and environmentally sustainable storm water disposal Undertake works identified in Storm water Catchment Management Plans	Ongoing	Infrastructure & Services - Waste & Drainage

Water Supply

Method – Specific Implementation Measures	Priority	Responsibility
Adequate supply and quality of reticulated water • Ensure continued compliance with relevant standards • Continue to plan for adequate water supply capacity as population increases	Ongoing	Infrastructure & Services - Water

Open Space and Recreation

Method – Specific Implementation Measures	Priority	Responsibility
Increase use and enjoyment of Onerahi peninsula coastal environment • Improve access to beaches and coastal margins • Investigate methods to improve beaches for swimming, including removing rocks • Encourage more physical activity by providing parks for multiple functions • Develop reserve at end of Pah Road, possibly link to Waimahanga Track, creating better beach access, picnic tables etc	Ongoing	Infrastructure & Services - Parks
Develop Pohe Island as an Open Space • Identify appropriate passive recreation for this area and develop accordingly • Develop and enhance William Fraser Memorial Park as a 'recreation hub'	High	Infrastructure & Services - Parks
Retain and improve Parihaka Forest • Undertake track development and enhancement • Undertake bush restoration	High	Pa Infrastructure & Services - Parks

Method – Specific Implementation Measures	Priority	Responsibility
Increase recreational activities at Parihaka • Investigate further recreational opportunities such as horse riding tracks, mountain biking tracks and links with forestry tracks • Plan and develop accordingly	Low	Infrastructure & Services - Parks
Improve sports facilities • Investigate and programme necessary works • Increase/improve facilities as population increases • Develop senior play area at Sherwood Reserve so youth have more options for informal recreation	Medium	Infrastructure & Services - Parks
Develop walkways, cycleways, reserves and linkages • Expand reserve network as population increases • Create promenade and cycleway between Whangarei City and Onerahi, and around Onerahi peninsula. • Create a Heritage Trail at Onerahi, within the next five years.	Ongoing	Infrastructure & Services - Parks
Weed management along Council roads and in Council reserves • Review and revise weed management programmes in Council's roading and parks budgets	Low	Infrastructure & Services - Parks /Roading

Community Services

Method – Specific Implementation Measures	Priority	Responsibility
Provide facilities for younger and older persons • Prepare and implement findings of 'Older Person's Strategy' • Implement findings of 'Youth Strategy' • Identify facilities/opportunities specific to study area and develop	High	Support Services Group – Community Development/ Property
Upgrade library and community centre • Investigate needs and schedule works, as necessary	Medium	Support Services Group – Community Development
Control graffiti in Onerahi • Investigate and implement methods to reduce amount of graffiti	High	Support Services Group – Community Development

Rural-Residential Development

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

Residential Development

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

Special Features

Method – Specific Implementation Measures	Priority	Responsibility
Protect existing bush areas Complete Tree Strategy and implement Prepare District Plan Change to include policies, objectives and rules for tree protection in District Plan Notify District Plan Change for public submission, undertake hearings and resolve any appeals Encourage bush covenants by publicising the availability of rates relief for covenants	High	Environment Group - Policy & Monitoring /Rates
Develop/promote harbourside character of area Refer above (Onerahi shops' upgrade, enhance airport to city route, Onerahi peninsula coastal walkway, city to Onerahi cycleway, access to beaches)	Medium	Community, Roading, Parks, Policy Departments

6 Appendices

6.1 Appendix 1: Resource Notation

Heritage Trees

No.	Common Name	Botanical Name	STEM Score	Site Address	Legal Description	Map No.
358	Kauri	Agathis australis	111	17 Weir Crescent	Lot 2 DP 30773	46
359	Puriri	Vitex lucens	108	198 Beach Road	Lot 1 DP 28976, Lot 3 DP 19792	46
362	Kauri (2)	Agathis australis	108	180 Beach Road	Sect 125	46
363	Pohutukawa (1)	Metrosideros excelsa	126	13A Whimp Avenue	SO 30831 Allot 510 Part sec 34	46
368	Kahikatea	Dacrycarpus dacrydioides	108	33 Whangarei Heads Rd	Lots 5, 6, 7 DP 44469	46
512	Puriri	Vitex lucens	132	34 Weir Crescent	Lot 2 DP 49501	46

Heritage Buildings

No.	Building Site or Object	Address	Map No.	Legal Description
Group II				
108	Colonial House	4 Domain Road	46	Pt Sec 34 Onerahi Subs
149	Old Onerahi Post Office	4 Domain Road	46	Lot 503
114	Eureka (house)	12 Tanekaha Drive	43	Lot 2 DP 50027

Sites of Significance to Maori

No.	Site	Legal Description
59	Historic Place (Pa with pits and midden)	Within Pt Allot Parihaka Psh Blk IX Whangarei SD

Esplanade Priority Areas

Area		
The whole of the coastal environment, as indicated by the coastline notation on the Planning Maps.		
Name of Water Body	**Values**	**Map Ref.**
Awaroa	Outstanding Recreational Outstanding Ecological High Ecological	44

6.2

6.3 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)

Abbey Caves and karst
Description: About four hectares of vegetated karst with entrance to several small caves containing speleotherms.
Locality: 300m east of Abbey Caves Road, half way between Whareora Road and Old Parua Bay Road; 2km east of Parihaka and 3km east of Whangarei.
Vulnerability: = 2
Importance = C

Onerahi overturned syncline
Description: Overturned syncline with a core of sheared argillaceous limestone and limbs of greensand.
Locality: Intertidal reefs running 200m along the southeast coast of Onerahi peninsula.
Vulnerability = 3
Importance = C

Port Whangarei fossil beds
Significance: Well exposed Late Pleistocene fossiliferous estuarine deposits
Locality: Foreshore and low coastal bank on the east side of Whangarei Harbour, opposite Port Whangarei.
Vulnerability = 1
Importance = B

6.4 Appendix 3: Designations

Requiring Authority	Abbreviation Used
Minister of Education	DE
Telecom New Zealand Limited	DT
Whangarei District Council	DW
Meteorological Service of NZ	DMET
NorthPower	DNP

ID	Site Name/ Location of Site	Designation Purpose	Legal Description/ Area	Underlying Environment	Map	Subject to Conditions
DE 11	Onerahi Primary School, Onerahi Road, Whangarei	Onerahi Primary School	Allots 65, 66, 68, 69 and Pts Allot 5 Suburb of Grahamtown (2.8510 ha)	Living 1	46	1, 2
DE 16	Raurimu Avenue Primary School, 366 Raurimu Avenue, Whangarei	Raurimu Avenue Primary School	Pts Lot 3 DP 46599 Allots 337,338 and Pt Lot 1 DP 42475 Pt Allot 336 Town of Grahamtown (2.1738 ha)	Living 1	46	1, 2, 5
DMET 1	Whangarei Airport	Meteorological purposes	Part Allot 262 and 263 Graham town RQ 99/393	Airport	46	
DNP 3	Cartwright Road Substation Whangarei	Electricity purposes (substation)	Lot 1 DP 131188 (0.1591 ha)	Living 1	44	
DT 12	Onerahi Exchange, 173 Onerahi Rd Whangarei	Land uses for tele-communications and radio communication purposes, including telephone exchange	Lot 44 DP 403 75 Blk XIII Whangarei SD CT 75C/708	Living 1	46	1, 3
DW 7	Onerahi Wastewater Pumping Station, Waverley Street	Wastewater pumping station	Pt Lot DP 39152	Living 1	46	
DW 38	Proposed Access way, George Point Road	Proposed pedestrian access way	DP 53576	Living 1	44	
DW 61	Cartwright Road	Reservoir and Treatment	Pt Lot 2 DP 24775 & Closed Road, Blk	Countryside	44	

ID	Site Name/ Location of Site	Designation Purpose	Legal Description/ Area	Underlying Environment	Map	Subject to Conditions
		Station	X Whangarei SD			
DW 64	Water Supply, Memorial Drive	Reservoir	Pt Allot W93 Parihaka Parish	Countryside	38	
DW 124	Whangarei Airport	Aerodrome	Various	Airport	46	
DW 125	Airport flight approach paths (refer to Diagram DW 125 on following page)		Various	Living 1	46	