Report

Review of Whakatane and Ohope Residential Growth Strategy 2009

Prepared for Whakatane District Council (Client)

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23 July 2009

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1 Introduction

1.1 Background

In late 1997, Whakatane District Council (WDC) commissioned Beca Carter Hollings & Ferner Ltd (Beca) to prepare a Residential Growth Strategy for Whakatane and Ohope for the next 20 years. The Strategy was published in September 2000.

The study assessed eight different options for future greenfield residential development based on an infill rate of 30% and the uptake of existing vacant land within Trident and Whakatane (North and West). It was estimated at the time that between 20 to 30 hectares of new residential greenfield areas would be needed to support the predicted level of housing growth in Whakatane and Ohope for the coming 20 years. From the eight options investigated, two preferred sites were identified. These were Piripai West (Coastlands) and Pohutukawa Avenue East (Ohope).

Since this study was undertaken in 2000, Beca has been asked to review the Residential Growth Strategy in light of more recent statistical data (Census 2006) and the completion of a number of other development strategies for the Council. Key information of relevance to this strategy includes the full findings from the 2001 and 2006 Census; latest population projections (2007); the significant flood events in July 2004 and May 2005; recent retail developments including “the Hub” development on State Highway 30; changes in housing preferences; harbour developments; a transportation study; an industrial land strategy; and updated building consent data.

1.2 Purpose of Report

The purpose of this report is to review the Whakatane and Ohope Residential Growth Strategy that was completed in September 2000 for the WDC. The report uses census data from both 2001 and 2006 and WDC building consent statistics (2000-2008) to review the eight development area options. In addition, the review of the strategy includes an analysis of a number of other locations that Council has requested be investigated. The report concludes by identifying the preferred sites for future residential growth of the Whakatane and Ohope urban area. It is intended that the public be consulted on the findings of this study prior to decisions being made on changes to zone boundaries.

1.3 History of Growth Options

In the original Residential Growth Strategy for Whakatane and Ohope (September 2000), the following eight future growth location options were examined with regards to infrastructure, natural hazards, environmental, social and cultural constraints and opportunities:

1. Piripai West (Coastlands)
2. Keepa Road
3. Board Mills West
4. Whakatane South
5. Mokorua East
6. Kohi Point South
7. Maraetotara/Bluett Road
8. Pohutukawa Avenue East.

These have been revisited and updated with the latest constraints and opportunities information, including natural hazards data associated with the significant flood events in July 2004 and May 2005.

Two additional sites at Thornton and Edgecumbe were also added to the review process. However, upon preliminary analysis, Thornton was then discarded as an option due to its distance from central Whakatane, anticipated increased demands upon existing community facilities and the need for costly water and wastewater infrastructure and stopbank upgrades.

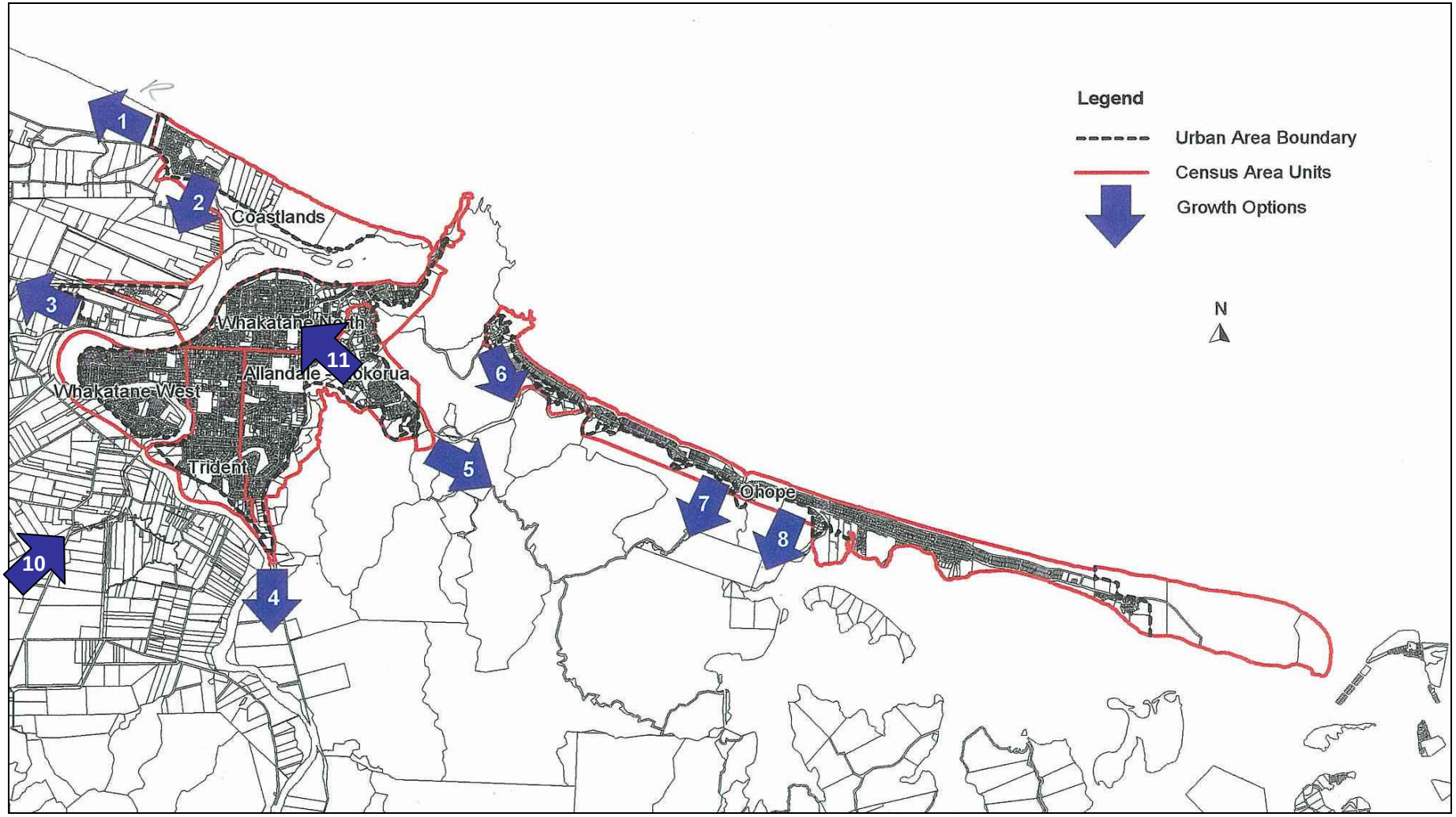
In this July 2009 update, the original eight future growth location options, plus Edgecumbe, plus two additional options (Rewatu Road and medium density development in CBD and Kopeopeo) have been assessed against the 2001 and 2006 Census, building consent data and other Council strategy documents including a transportation study and an industrial land strategy.

These eleven options are:

1. Coastlands
2. Keepa Road
3. Board Mills West
4. Whakatane South/Taneatua Road
5. Mokorua East
6. Kohi Point South
7. Maraetotara/Bluett Road
8. Pohutukawa Avenue East
9. Edgecumbe
10. Rewatu Road
11. Medium density infill (CBD & Kopeopeo).

These options are shown in Figure 1.1 on the following page and are assessed in chapter 6 of this report.

Figure 1.1 – Future Growth Options in Whakatane Urban Area



1.4 Methodology

The methodology used in this report is similar to that which formed the basis of the 2000 Residential Growth Strategy.

This review has been undertaken in the following three phases:

Phase One – Review of Information

Phase One involved a review of the latest information available for the Whakatane District, including:

- Updating census data to reflect revised 2001 and 2006 Census data; and
- Reassessment of the projected number of dwellings likely to be required over the next 20 years in Whakatane and Ohope urban areas, and calculation of a total land area required for future residential development.

Phase Two – Identify Future Demand

Phase Two required the identification of future housing demand, based on an opportunities and constraints analysis of the areas under scrutiny. This phase included:

- Updating of Council GIS data and plots with particular emphasis on natural hazards, on the basis of recent flood and land instability events in the study area;
- Assessment of roading, water, sewer and stormwater spare capacity;
- Updating of the assessments of the options under review; and
- Reconsideration of constraints and opportunities plan (including natural hazards data such as flooding, inundation and land instability).

Phase Three – Assessment of Options

Phase Three required an assessment of the options for future residential growth in the area surrounding urban Whakatane including:

- Consideration of assessment criteria in light of recent Council strategies (including transportation, industrial retail and the Harbour Development Strategy);
- Assessment of the various options;
- Consultation with landowners and general public (yet to be undertaken); and
- Recommendation of any statutory tools that should be considered.

1.5 Structure of Report

The structure of the report is as follows:

Section 1	Introduction	Outlines background and purpose of this report in relation to the original 2000 Strategy, as well as the methodology implemented for undertaking the review of the Strategy.
Section 2	Strategic Direction	Describes the strategic issues facing the District as a whole as well as the Whakatane and Ohope study area.
Section 3	Population Profile and Future Demands	Reviews the nature of the future Whakatane and Ohope population and subsequent demand expected for housing and reserves using 2001 and 2006 Census data.
Section 4	Capacity of Residential Zoned Land	Reviews current land supply against future demand for Whakatane and Ohope.
Section 5	Constraints and Opportunities	Analyses the results of sections 3 and 4 to identify whether (and where) urban expansion is needed.
Section 6	Assessment of Future Growth Options	Greenfield options for meeting future demands for housing are identified and assessed. The costs and benefits of these options are compared, resulting in the identification of preferred options.
Section 7	Preferred Options	Indentifies the recommended options for future growth in the Whakatane urban area, and the next stages required to investigate further.

2 Strategic Direction

WDC has prepared, or is in the process of finalising, a number of documents that provide a strategic direction for future growth in the District. These include:

- Whakatane Retail Strategy (prepared and adopted late 2005);
- Industrial Land Strategy (joint Whakatane and Kawerau Districts 2007);
- Whakatane Transportation Study, including Whakatane Township Network Investigation Report (August 2007); State Highway 2 Alternative Routes Scoping Study (2008); and Walking and Cycling Strategy (October 2007);
- Whakatane Airport Master Plan (2008)
- Harbour Development Strategy;
- Whakatane Proposed District Plan;
- Whakatane Long Term Council Community Plan 2009-2019.

Another study that has a bearing on this strategy is the study on affordable housing that was recently prepared for the BOP region by the Centre for Housing Research Aotearoa New Zealand (CHRANZ), "*Affordable Housing in the Bay of Plenty Region – A Solutions Study*" (August 2007).

These documents identify a number of issues of relevance to the future growth of Whakatane and Ohope, including:

- The need to identify land for future residential development, including both greenfield residential and in-fill development;
- The need for a strong working relationship between Kawerau District Council and Whakatane District Council, particularly in light of the findings of the Industrial Land Strategy;
- Coastal parts of the District will continue to experience considerable development pressure;
- The need to consider the roading implications of further residential growth west of the Whakatane River, including whether another bridge is required and where such a bridge should be located to assist in providing State Highway route security to Whakatane;
- The need to provide choice including affordable housing;
- Demand for apartment complexes and more intensive development;
- The development of larger floor retailing in Whakatane, such as 'The Hub' on State Highway 30;
- Need to develop a long-term vision for industrial land use in Whakatane and Kawerau, including a "hierarchy" of industrial areas and an Economic Development strategy to encourage new business into the districts;
- Potential relocation of sewage treatment plant away from western entrance to Whakatane, and consideration of alternative disposal system;
- Reticulation of water supply for all areas east of Rangitaiki River, Te Teko and Edgecumbe townships; and
- Planned improvements in recreation and leisure activities over the next ten years.

The Proposed District Plan acknowledges that rural settlements (such as Edgecumbe and Murupara) have sufficient land to accommodate expected growth for the next twenty years, and seeks to identify land suitable for urban growth in Whakatane and Ohope, albeit that Edgecumbe has been considered as an option for urban growth as a “dormitory suburb” to Whakatane.

3 Population Profile and Future Demands

3.1 Introduction

This section of the report provides an overview of population and housing trends in the District with the objective of determining the future demand for residential growth in urban Whakatane and Ohope.

In order to undertake this assessment a number of sources have been used. These include:

- 2001 Census (i.e. March 2001) data from Statistics New Zealand;
- 2006 Census (i.e. March 2006) data from Statistics New Zealand and statistical analysis undertaken by Sean Bevin from Economic Solutions Ltd;
- Population projections from Statistics New Zealand, using 2006 Census data base (i.e. using June years), cited as 'Population Projections, 2006 (base) - 2031';
- The EBOP-commissioned report prepared by University of Waikato, entitled 'Demographic Forecast 2051: Movement and change in population and households in the Bay of Plenty', August 2006;
- Household projections from Statistics New Zealand, prepared using 2006 Census data, cited as '*Area Unit Population Projections by Territorial Authorities, Age and Sex, 2006(base)-2031'*; and
- Building consent statistics, from WDC, updated to June 2008.

Figure 3.1 shows the scope of the Whakatane Urban Area as defined for the purposes of the 2000 Growth Strategy. Within this study, the Whakatane Urban Area is assumed to be the same, and consists of the following Census Area Units (CAUs):

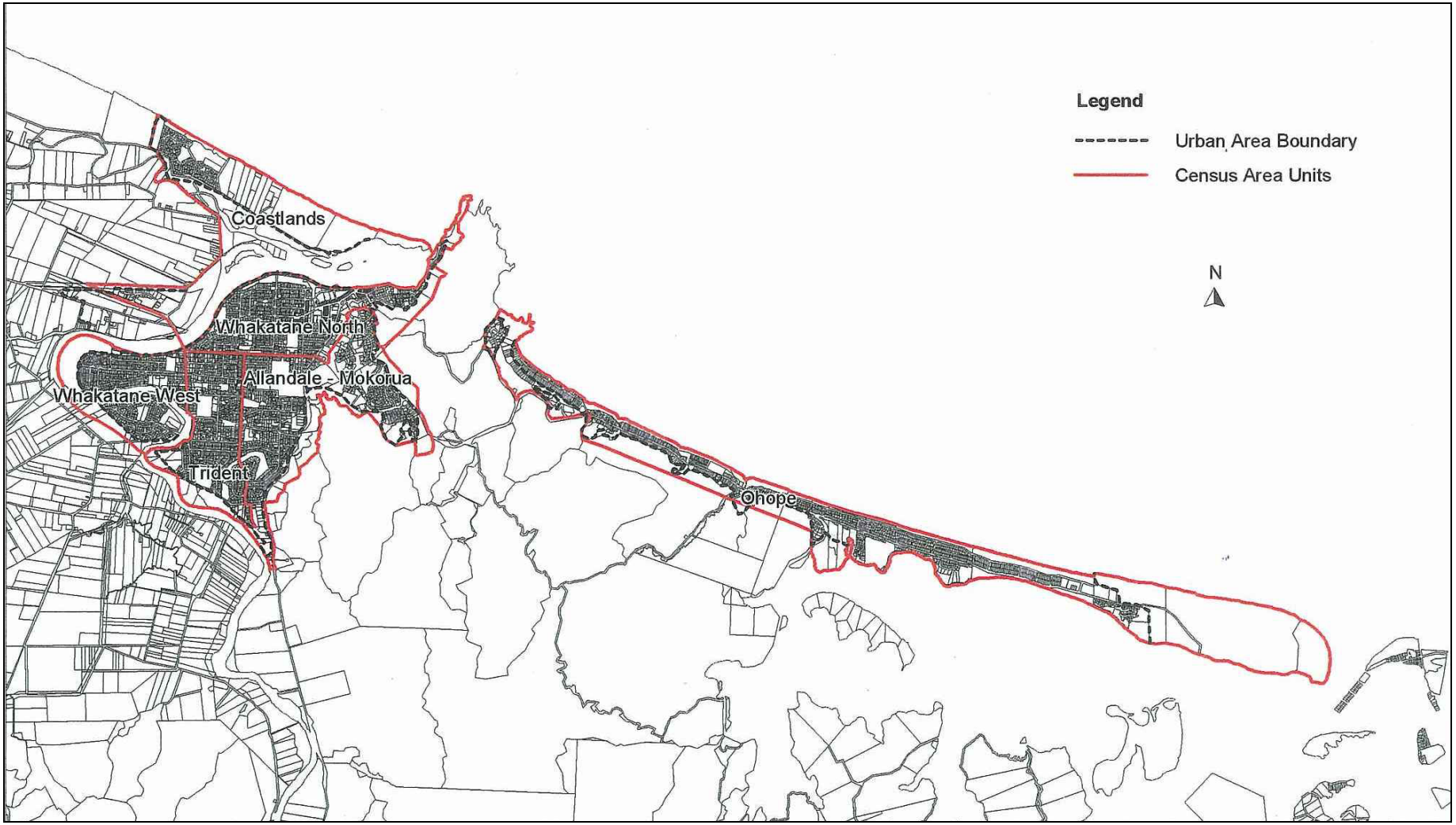
- Coastlands;
- Whakatane North;
- Whakatane West;
- Trident;
- Allandale – Mokorua; and
- Ohope[1].

All assessments of population characteristics have used the 'Population Usually Resident'[2], as it excludes temporary fluctuations in population numbers (for example, due to people visiting an area for a holiday, business, or some other extraordinary event).

[1] The CAU Port Ohope has been excluded from this assessment as it has a population usually resident of 0 as at the 2001 Census.

[2] The Population Usually Resident refers to the population that has resided in a given subject area for more than three months, with the exception of school boarders (whose usual residence is defined as their home when not at school).

Figure 3.1 – CAU Boundaries (2001 Census Base)



3.2 Population Profile

3.2.1 District-wide Population

At the time of the 2006 Census the usually resident population of the Whakatane District was 33,300 (16,956 female and 16,341 male) – an increase of 435 or 1.3% on the 2001 Census figure, against a national population gain of 7.8%, and a Bay of Plenty regional population gain of 7.5% for the 2001-2006 period. In comparison, the Whakatane District population suffered a decline in the region of -312 people or -0.9% between 1996-2001. However, during the last census period, the Whakatane District recorded the fourth highest rate of population gain out of the six districts in the Bay of Plenty region.

The growth and decline of population within the Whakatane District over the 2001-2006 Census period varies by locality (see Table 3.1 below).

Table 3.1 – Whakatane District Population Growth 2001-2006

CAU	2001 Pop.	2006 Pop.	Change in Pop.	% growth in Pop.	Ave. annual change	Ave. annual growth %
Ohope	2760	2856	96	3.5%	19	0.7%
Matata	666	642	-24	-3.6%	-5	-0.7%
Taneatua Community	753	792	39	5.2%	8	1.0%
Edgecumbe Community	1668	1626	-42	-2.5%	-8	-0.5%
Te Teko	630	627	-3	-0.5%	-1	-0.1%
Whakatane North	3141	3114	-27	-0.9%	-5	-0.2%
Coastlands	636	873	237	37.3%	47	7.5%
Whakatane West	3057	3084	27	0.9%	5	0.2%
Trident	3093	3159	66	2.1%	13	0.4%
Allandale-Mokorua	3819	3867	48	1.3%	10	0.3%
Orini	585	576	-9	-1.5%	-2	-0.3%
Maraetotara	96	108	12	12.5%	2	2.5%
Poroporo	588	570	-18	-3.1%	-4	-0.6%
Otakiri	3585	3609	24	0.7%	5	0.1%
Rotoma	1716	1863	147	8.6%	29	1.7%
Matahina-Minginui	1584	1464	-120	-7.6%	-24	-1.5%
Waimana	654	615	-39	-6.0%	-8	-1.2%
Urewera	1875	2022	147	7.8%	29	1.6%
Murupara	1962	1836	-126	-6.4%	-25	-1.3%
TOTAL	**32,868**	**33,303**	**435**	**1.3%**	**87**	**0.3%**

Note: '2001 pop' & '2006 pop' data based on actual census data (March-Feb year).

In general, the Whakatane Urban Area has experienced population growth, while many rural areas have experienced population decline. The highest rate of population growth occurred in Coastlands (7.5%), which reflects the national trend of people moving closer to the coast.

3.2.2 Whakatane Urban Area Population

The population of the Whakatane Urban Area in 2006 was 16,953. This is an increase of 2.7% since the 2001 Census. Between 1996 and 2001 the population of the urban area rose by 1.8%, and between 1991 and 1996 when there was a 4.5% increase in the population of the urban area.

Table 3.2 – Urban Area Population

Whakatane Urban Area	Census Population Usually Resident	Rate of Growth
1986	14,899	
1991	15,510	4.1%
1996	16,212	4.5%
2001	16,506	1.8%
2006	16,953	2.7%
	20 Year Average	3.3%

3.2.3 Age Structure

Table 3.3 summarises Whakatane District age groups from 1986 to 2006. While the proportion of those aged between 15 and 64 years has remained relatively constant, at between 61.4% and 62.6%, there is a declining proportion of the population in the 0-14 year age group (30.2% in 1986 dropping to 25.5% in 2006. At the same time, the proportion of the population aged over 65 years is increasing (from 7.9% in 1986 to 12.6% in 2006, which is 0.3% higher than the national average). The trend of a declining younger population and an increase in the older members of the community reflects the national trend of an aging population; with decreasing birth rates and increased life expectancy.

Furthermore, there has been a drop in the younger members of the labour force, presumably due to people leaving the area to find work and seek further education. For example, in 1991, those 15-19 year olds (born between 1971-1976) who had just entered or were about to enter the workforce or tertiary education numbered 2,910. Ten years on, the adjusted age group of 25-29 year olds (born 1971-1976) numbered 1,947. The loss of young people to other areas, and the loss of children they will have in the future, indicates that population within Whakatane could age at a faster rate than the country as a whole.

Table 3.3 – Whakatane District Population Age

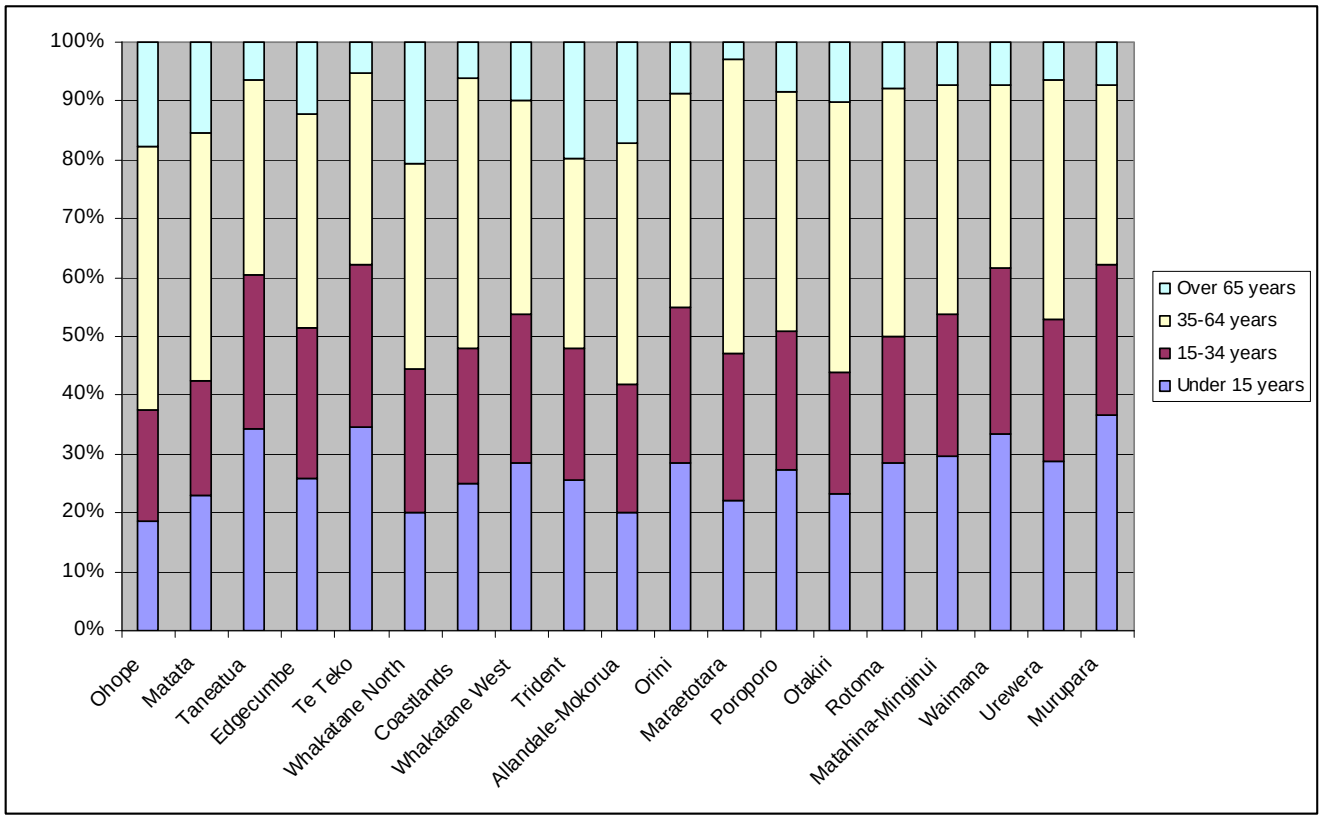
Year	% 0-14 yrs	% 15-64 yrs	% 65+ yrs
1986	30.2	62	7.9
1991	28.3	62.6	9.2
1996	27.6	62	10.3
2001	27.2	61.4	11.4
2006	25.5	61.9	12.6
New Zealand (2006)	21.5	66.2	12.3

Note: 1986 –2001 data from 2001 Census. 2006 data from 2006 Census.

The median age of the population in the Whakatane District in 2006 was 36 years (the same as the national median), compared to 31.4 years in 2001. Similarly, the median age in urban Whakatane is increasing, up to 38 years in 2006 compared to 35.1 years in 2001. In comparison, the national median age in 2006 was 36 years, up from 34.8 years in 2001 and 33.0 years in 1996.

The age structure within the District is variable. Figure 3.2 below shows the spread of population within four age groups for each CAU, based on 2006 Census data.

Figure 3.2 – Whakatane District Age Groups by CAU (2006 Census)



The graph shows that in 2006 the following CAUs had younger populations:

- Murupara, Taneatua, Waimana and Te Teko, a greater proportion under 15 years, and under 34 year olds;
- Maraetotara and Coastlands, fewer over 65 year olds;
- Whakatane North, Trident and Ohope, higher proportion of over 65 year olds; and
- Ohope, Coastlands, Otakiri and Maraetotara, higher proportion of 35-64 year olds.

These age structure figures show that in 2006 the working age population (15-64 years) was generally smaller in rural areas, such as Murupara, while in new urban growth areas (namely Coastlands and Maraetotara) the working age population made up a greater proportion of the total population. It is notable that Trident has a significantly lower proportion of working age population than the other urban CAUs.

The general trend of an ageing population, based on the 1986-2006 Census data, correlates with the decreasing household size, (with an increase in the number of families with children older than 15 years and/or who have left home). This trend has a consequential effect on market demand for the housing stock, for example an increased demand in retirement housing and 'retirement village' type housing. Emergence of these housing trends are most likely to concentrate in areas of 'older' populations, most likely in Ohope, Whakatane North, and Trident or in high cost coastal areas which attract the higher end of the commercial retirement market.

Overall, urban Whakatane generally has an older population while the rural CAUs had more youthful populations.

3.2.4 Ethnicity

At the time of the 1996 Census, 53% of the Whakatane District identified themselves as European, a decline of 7% since 1991. Five years on in 2001, this trend had reversed and 67% of the population identified themselves as European, an increase of 14% since 1996. However in 2006 this trend once again reversed with just over 58% of the population defining themselves as European (see note 3 below Table 3.4 for explanation of this). Comparatively, in 2001 and 2006 approximately 40% identified themselves as Maori, an increase of 2% from 1996. The number of people who identified themselves as Pacific Island or Asian has remained relatively static between 2001 and 2006. It should be noted that some people have identified themselves as belonging to more than one ethnic group hence the figures in the table below do not total one hundred percent.

Table 3.4 – Ethnicity – Whakatane District (2001-2006)

	European Ethnic Groups		Maori Ethnic Group		Pacific Peoples Ethnic Groups		Asian Ethnic Groups		Middle Eastern, Latin American & African		Other Ethnicities[2]	
	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006
Whakatane	67.0%	58.4%	42.2%	42.2%	2.1%	2.2%	1.3%	1.6%	N/A	0.2%	0.2%	10.3%
NZ	80.1%	67.6%	14.7%	14.6%	6.5%	6.9%	6.6%	9.2%	N/A	0.9%	0.7%	11.2%

Notes:

1. Based on 2001 & 2006 census data.
2. Includes all of the people who stated each ethnic group, whether as their only ethnic group or as one of several ethnic groups. Where a person reported more than one ethnic group, they have been counted once in each applicable group.
3. 'Other' in 2006 includes 'New Zealander' and additional 'other' groups, which probably accounts for the significant decrease in 'European' ethnicities and corresponding increase in 'other' ethnicities, between 2001 and 2006, both nationwide and in Whakatane.

The proportions shown in the table above do not reflect the national 2006 picture, particularly with regards to the proportion of Maori. A comparison to New Zealand figures shows that across the country 67.6% of the population identify themselves as European, 14.6% as Maori, 9.2% as Asian and 6.9% as Pacific Islander. It is projected that the proportion of Maori and Pacific Islanders in the national population will continue to increase because of the younger age structure and higher fertility rates typical of these ethnic groups.

3.2.5 Employment

Over 55% of the Whakatane District labour force (aged over 15 years) was gainfully employed at the time of the 2001 Census. This represents a slight proportional increase on the 1996 Census where 53% were employed. Of those employed at the time of the 2001 Census, 40.9% were in full time employment and 14.3% were in part time employment. These 2001 figures are slightly higher for the Whakatane Urban Area compared to the rest of the District outside the Urban Area. Table 3.5 below summarises the proportion of the population usually resident by labour status for CAUs within the District, as of 2001.

Table 3.5 – Labour Status by Census Area Unit

	Employed		Unemployed	Non-Labour Force	Status Non Identifiable
	Full-time	Part-time			
Ohope	47%	15%	2%	32%	4%
Whakatane North	39%	14%	4%	40%	2%
Coastlands	60%	15%	2%	20%	3%
Whakatane West	41%	15%	7%	33%	4%
Trident	37%	14%	5%	41%	3%
Allandale-Mokorua	46%	16%	3%	33%	2%
Matata	40%	10%	5%	39%	4%
Taneatua	31%	10%	11%	31%	16%
Edgecumbe	44%	14%	7%	34%	2%

	Employed		Unemployed	Non-Labour Force	Status Non Identifiable
	Full-time	Part-time			
Te Teko	31%	9%	12%	42%	7%
Orini	35%	14%	12%	34%	6%
Maraetotara	50%	14%	4%	18%	7%
Poroporo	42%	14%	9%	33%	4%
Otakiri	57%	17%	3%	21%	2%
Rotoma	45%	12%	6%	32%	5%
Matahina-Minginui	43%	16%	6%	31%	4%
Waimana	34%	17%	7%	36%	5%
Urewera	45%	13%	5%	27%	9%
Murupara	32%	12%	10%	40%	7%
Urban Whakatane	**45%**	**15%**	**4%**	**33%**	**3%**
Rest of District	**41%**	**13%**	**7%**	**32%**	**6%**
Whakatane District	**42%**	**14%**	**6%**	**32%**	**5%**
NZ	**48.4%**	**14.4%**	**3.4%**	**30.4%**	**3.4%**

The proportion of the District-wide population that is unemployed rose slightly to 7.7% in 2001 (up 0.2% from 1996 Census), but dropped to 6.0% in 2006. This compares to a national average in 2006 of 3.4%. The unemployment rate of urban Whakatane continues to be lower than the district average. Those rural communities with unemployment rates above ten percent in 2006 include Te Teko (12%), Taneatua (11%), Orini (12%), and Murupara (10%). In comparison, Ohope and Coastlands had the lowest unemployment rates in the District at 2%.

Employment figures by industry show that in 2006 Agriculture, Forestry, Fishing and Manufacturing, and Retail Trade continue to employ the most people in the District, as they did in 2001.

3.2.6 Income

It is evident from Table 3.6 below that personal income levels in the District are rising at a steady rate. There is an increase in the medium income of $5,800.00 between the 2001 and 2006 census. The most marked change is in the high income bracket (earnings over $50,000), which saw a 4% rise between 2001 and 2006. This is slightly below the New Zealand national average at 16% for the $50,001+ (2006 Census).

With regards to income range, 2006 Census data showed there is little difference between urban Whakatane and the District as a whole. However both the average and median personal incomes are slightly higher in the urban area compared with the rest of the District.

Table 3.6 – Whakatane District Income Range (2001-2006)

	< $15,000	$15,001 - $30,000	$30,001 - $50,000	$50,001 +
2001	42%	21%	14%	10%
2006	31%	23%	17%	14%
NZ (2006)	30%	22%	21%	16%

Note: The figures in this table do not total 100% because a number of people choose not to specify their income.

Based on 2001 & 2006 Census data.

Table 3.7 – Whakatane Urban Area Personal Income Range (2006)

	< $20,000	$20,001 - $30,000	$30,001 - $50,000	$50,001 +
Ohope	32%	15%	20%	24%
Whakatane North	46%	16%	17%	11%
Coastlands	32%	13%	22%	24%
Whakatane West	45%	14%	17%	11%
Trident	46%	16%	15%	10%
Allandale-Mokorua	39%	14%	20%	17%
Urban Area average	**40%**	**15%**	**19%**	**16%**

In 2006, Ohope and Coastlands had the highest median and average personal incomes in the District, which is to be expected given the cost of property near the coast. The median personal income in these CAUs was $28,900 in Ohope and $31,200 Coastlands. In comparison, Waimana, Taneatua and Te Teko had the lowest median incomes in 2006 (in the order of $16,000).

We note that the drop in low income earners and the increase in higher income bands is attributable in part to decreases in unemployment in the period by 729 people and an increase in salary and wage earners of 1,119 people. The medium income changed over the five year period by $5,800.00 from $15,900 to $ 21,700 (a change of 36%). In the same period the Consumer Price Index changed by 13.3%.

The most significant point is that at 2006, 31% of the working age population of the district had income levels below $15,000. In the urban area, 40% of the working age population had an income lower than $20,000. When considered in the light of housing costs this is a significant and compelling issue.

3.2.7 Future Population Trends

The population projections in this section use 2006-base projections of the population usually resident in each area unit and cover the period to 2031 at five yearly intervals.

The projections were generated by Statistics New Zealand, using 2006 census data as a base (i.e. for years commencing June 30). For comparison's sake, the actual census populations of

the district in 2001 and 2006 are also plotted (i.e. March populations). It is noted that while the actual census populations do not match the projections, this is, in part, due to the different time periods represented. However, it is evident from earlier population projections that the rate of change between 2001 and 2006 using 'actual census' data is similar to the rate of change between 2001 and 2006 for the medium and high projections (2001-base).

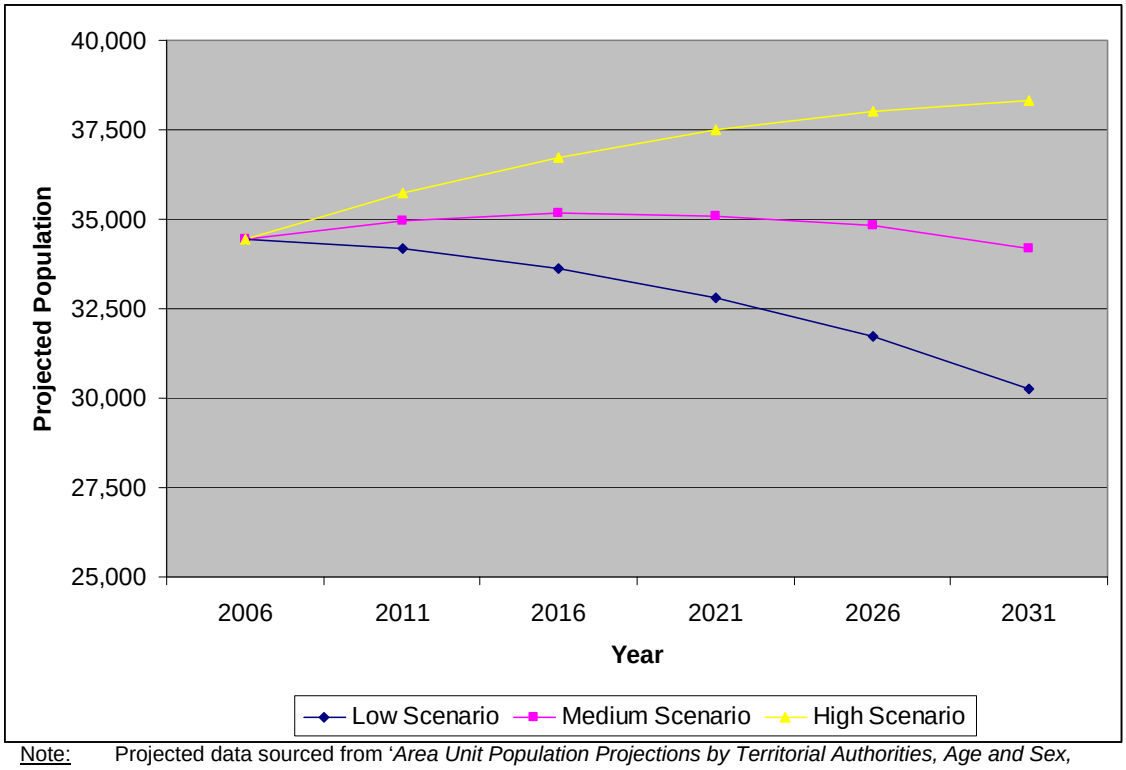
Figure 3.3 below provides population projections (2006-base) for the Whakatane District, based on the following three growth scenarios, with varying assumptions for fertility, mortality and migration:

- High projection – assumes high fertility, low mortality and high net migration;
- Medium projection – assumes medium fertility, medium mortality and medium net migration; and
- Low projection – assumes low fertility, high mortality and low net migration.

These projections are based on a number of assumptions and it is important to recognise that they reflect the changes in population size, based on current characteristics of the population structure and, as such, are indicative of popu-++lation numbers rather than accurate predictions. The low population projection shows continuing population decline over the following 25-year period, from approximately 34,500 in 2006 to approximately 30,000 in 2031. The medium projection predicts an initial rise in population numbers, but a decline over the longer term to eventually be below 2006 levels (i.e. 34,200 in 2031).

However, the high population projection shows population increasing to 38,300 in 2031. In comparison to national trends for population growth, and even comparatively to the rest of the Bay of Plenty region, the high growth rate in the Whakatane District continues to be lower.

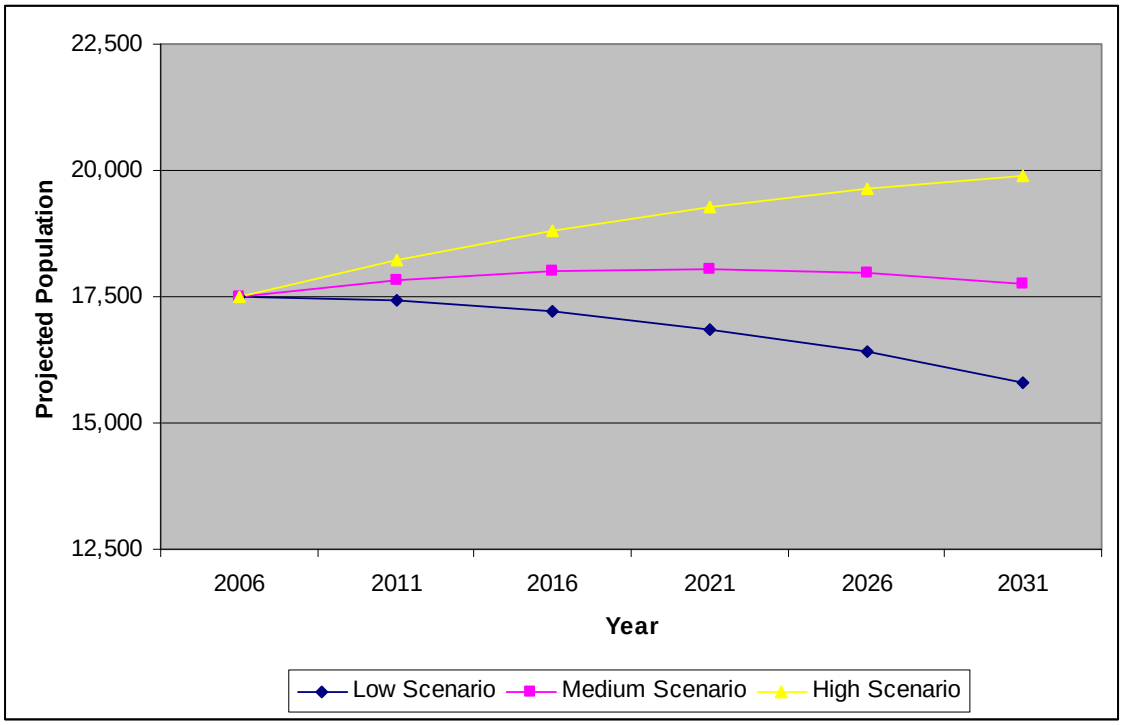
Figure 3.3 – Whakatane District Projected Population Growth Scenarios (2006-2031)



Note: Projected data sourced from '*Area Unit Population Projections by Territorial Authorities, Age and Sex, 2006(base)-2031*'.

For the Whakatane Urban Area, the population projections (2006-base) indicate an increase in population under the high projection, from approximately 17,500 in 2006 to almost 20,000 in 2031. Under the medium projection, an initial increase eventually reaches a plateau and then declines slightly to approximately 17,800 in 2031. Under the low scenario, population declines to less than 16,000 in 2031.

Figure 3.4 – Whakatane Urban Area Projected Population Figures (2006-2031)



Note: Projected data sourced from '*Area Unit Population Projections by Territorial Authorities, Age and Sex, 2006(base)-2031*'.

3.3 Dwelling Profile

3.3.1 Occupied Dwellings[3]

Over the last decade, the number of occupied dwellings in the Whakatane District has increased from 11,202 in 1996 to 11,931 in 2006. This equates to a 6.5% increase in the last ten years. In the five years from 2001-2006, there was a 3.2% increase in the number of occupied dwellings. In general, the location of dwelling growth in the District correlates to population growth. However, the exception is Matata and Edgecumbe where there has been an increase in the number of occupied dwellings but a decrease in population. Similarly, Orini has

[3] Refers to any building or structure occupied by one or more persons on census night. In this regard will include any self-contained living area, such as caravan, house, unit or flat within a dwelling. However, these figures do not include empty dwellings, baches or holiday homes, dwellings under construction or dwelling unoccupied on census night as residents were away (for more than one night)

experienced a decline in population growth but has seen no change in the number of occupied dwellings.

With regard to the urban area, Coastlands recorded a 42% increase in the number of occupied dwellings between 2001 and 2006, representing an absolute increase of 87 dwellings, which makes up almost a quarter of the total number of additional dwellings (372) in the district. Other areas of urban Whakatane have recorded increases in the number of occupied dwellings of between 3.8% and 5.2%, with only Whakatane North recording a decrease in the number of dwellings (-1.7% or 21 less dwellings). Matata (1.3%) and Otakiri (4.8%) on the outskirts of urban Whakatane have also registered growth in the number of occupied dwellings since 2001. Rural areas have experienced a mix of increased and decreased occupied dwelling numbers.

The increase in the number of occupied dwellings in urban Whakatane has been greater than the population growth of the area, with an increase in occupied dwellings of 4.5% between 2001 and 2006, compared with 2.7% population growth over the same period.

The disproportionate increase in the number of dwellings over the last census period (in comparison to the total population) correlates to changing household composition.

Table 3.8 – Average Occupants per Dwelling

	1991	1996	2001	2006	Change (1991-2006)
Whakatane District	3.08	2.96	2.84	2.79	-0.29
Urban Whakatane	2.83	2.75	2.63	2.67	-0.16
New Zealand Total	2.85	2.82	2.73	2.77	-0.08

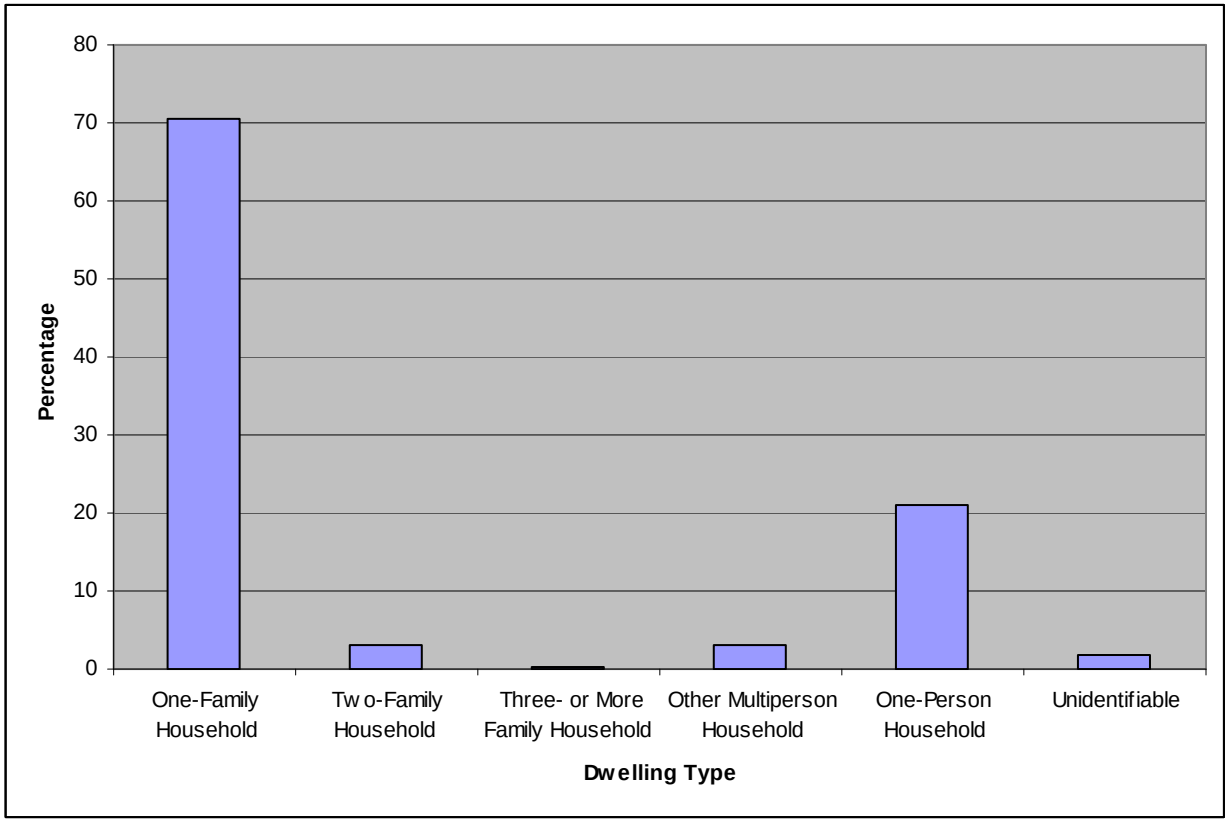
Note: Based on actual census data

Table 3.8 indicates that between 1991 and 2001 the average number of occupants per dwelling has declined. Since 2001, it has remained steady in Whakatane District as a whole and increased in urban Whakatane from 2.63 occupants in 2001 to 2.67 in 2006. Overall, this general downward trend equates to more dwellings and smaller household sizes, with an ageing population and an increasing number of post child-rearing households. The figures also point to the population tending to be older in urban areas compared to rural areas. It is noteworthy that household occupancy has increased in the last Census period, which goes against projections. However, it is expected that the downward trend will continue given the ageing population across New Zealand. It is expected, however, that household occupancy rates in Whakatane will not decrease at the same rate as other urban areas throughout the country, given the higher proportion of Maori in the area. This is because the demographic profile of the Maori population shows a more youthful population than European, and Maori households also tend to be larger.

3.3.2 Dwelling Characteristics

The majority of dwellings in Whakatane District are occupied by one family households at just over 70%, with the second largest group being single person households at just over 21%. Again this is indicative of an ageing population, with a greater number of sole occupant dwellings.

Figure 3.5 – Occupancy for Dwellings – Whakatane District (2006 Census)



Note: Based on 2006 Census data

At the time of the 2006 Census, the majority of dwellings were privately owned by the usual resident population (62%), with 31% of usual residents living in dwellings they do not own (e.g. renting or living in a family home without the owners). These figures follow the national trend of an increasing number of people renting rather than owning their home. Within the Whakatane urban area, home ownership rates are similar to the district, however in Trident (37%) and Whakatane North (38%) the proportion of usual residents that do not own their own home is higher, while in Coastlands this is significantly lower at 20% being rented.

The household composition of CAUs within the Whakatane District is shown below in Table 3.9 using 2006 Census data. This table shows that Coastlands (82%) has the highest proportion of one-family households in the District, reflecting the nature of Coastlands as a growth area for single middle-income families. Whakatane North (31%) and Trident (29%) have the largest proportion of one-person households reflecting the older age of the population of these CAUs.

Table 3.9 – Household Composition – CAUs (2006 Census)

	One Family only	Two Families	Three or More Families	Non-family	One Person Households	Not Elsewhere Specified
Ohope	71%	1%	0%	4%	22%	3%
Whakatane North	61%	2%	0%	4%	31%	1%
Coastlands	82%	2%	0%	3%	10%	2%
Whakatane West	74%	4%	0%	3%	16%	2%
Trident	64%	2%	0%	3%	29%	2%
Allandale-Mokorua	68%	2%	0%	3%	26%	1%
Matata	68%	5%	0%	3%	21%	1%
Taneatua	71%	5%	0%	3%	15%	8%
Edgecumbe	70%	3%	1%	3%	23%	1%
Te Teko	66%	9%	2%	6%	13%	2%
Matahina-Minginui	70%	4%	0%	3%	22%	2%
Waimana	73%	5%	0%	3%	14%	3%
Urewera	73%	4%	0%	2%	16%	4%
Murupara	68%	5%	0%	4%	21%	2%
Ohope	71%	1%	0%	4%	22%	3%
Matata	68%	5%	0%	3%	21%	1%
Taneatua	71%	5%	0%	3%	15%	8%
Edgecumbe	70%	3%	1%	3%	23%	1%
Te Teko	66%	9%	2%	6%	13%	2%

In 2001[4] in the Whakatane District, approximately 77% of dwellings were separate private dwellings, while 23% of dwellings were classed as 'other private dwelling' (i.e. units or joined houses). The highest concentration of 'other private dwellings' is in the following CAUs:

- Whakatane North (33.8%);
- Trident (28.0%);
- Ohope (27.9%); and
- Allandale-Mokorua (26.7%).

These were most concentrated in the CAUs with higher proportions of the 65 years and over age cohort.

[4] This data is not available for the 2006 Census.

3.3.3 Unoccupied Dwellings

Unoccupied dwellings are those dwellings not occupied at any time within 12 hours from midnight on Census night. In Whakatane District, approximately 10.1% of all dwellings were unoccupied at the time of the 2006 Census (up from 8.3% in 2001). This is a continuation of the increase seen between the 1996 and 2001 Census years. It is significant that the number of unoccupied dwellings in the District is steadily increasing, from 708 in 1996, to 1,041 in 2001, to 1,338 in 2006 (an increase of 29%).

Of further note is that the highest proportion of unoccupied dwellings in urban Whakatane in 2006 was within the Ohope CAU (32.7%). This is largely attributed to the high number of baches and holiday homes in the beach area.

In absolute terms, the number of unoccupied dwellings in Matahina-Minginui continued to increase, from 51 in 1996, 102 in 2001, to 135 in 2006. This reflects the population decline in the same period of seventeen percent (292 people).

3.3.4 Dwelling Demand since 2006

Based on Census dwelling and population data, coupled with recent building consent data, Table 3.10 shows the number of new dwellings (including apartments) in the Whakatane Urban Area.

Table 3.10 – Number of New Dwellings in Whakatane Urban Area (2006-2008)

	2001 Census Total Dwellings	2006 Census Total Dwellings	Building Consents Issued FY 06/07	Building Consents Issued FY 07/08	June 2008 Total
Whakatane Urban Area	**6,270**	**6,546**	**89**	**69**	**6,704**

Infill Development

Analysis of building consents issued for Whakatane, Ohope and Coastlands 2000-06 provides an estimate of recent **infill** development (see Table 3.11 below). Infill development can be defined as development or subdivision of already occupied land in the residential zone with additional lots for residential development. This is typically small-scale low rise and occurs on lots of 2,000m² or less (see Section 4.2).

Based on a 5-year average (2000-2006), about 48% of new building consents issued in the urban area since 2000 were for infill development (excluding apartments). We propose to use an assumed rate of infill (exclusive of apartment living) uptake of 20% over the next 10-20 years, which reflects the constraint of land availability over time. As discussed in section 4.3, this infill uptake is expected to decrease over time as infill sites are developed.

Table 3.11 – Urban Infill Development 2000-2006

	Total Building Consents issued	No. of Consents for Infill	% Infill
2000/2001	120	39	33%
2001/2002	102	32	31%
2002/2003	109	33	30%
2003/2004	70	65	93%
2004/2005	59	50	85%
2005/2006	74	32	43%
2006/2006*	33	20	61%
TOTAL (2000-2006)	**567**	**271**	**48% average**

* denotes part-Financial Year July-December 2006

Apartment Developments

A recent change in new dwelling characteristics is evident since the 2000 Strategy was published. There have been a number of building consents issued for apartment developments in urban Whakatane and Ohope. Specifically, these include:

- Beach Point Apartments, Ohope (building consent was issued in FY 2002/03 for 42 units);
- Horizon Apartments, Ohope (building consent issued in FY 2004/05 for 12 units);
- Port Ohope Apartments, Ohope (building consent issued in FY 2005/06 for 31 apartments);
- Waterfront Quays, Whakatane (building consent issued in FY 2005/06 for 22 apartments);
- White Isles, Whakatane (building consent issued in FY 04/05 for 15 apartments); and
- Quayside, Whakatane (consent issued FY 2007/08 for 43 apartments).

Analysis of this data indicates a recent trend of 1 or 2 apartment developments each year, with an average of about 25 units per development. It is unlikely that the pace of this trend will continue in the long-term given the market demand and population base of the area, as well as availability of suitable land. However there will always be some apartment development each year.

3.3.5 Future Dwelling Demand Based on Statistics NZ Population Projections

Population projections are available for each CAU in the Whakatane District for low, medium and high growth scenarios. Projections for the number of households within each CAU are only available for the medium growth scenario. However, using the assumption that household occupancy rates would remain constant between growth scenarios (i.e. that the occupancy rates for the medium growth scenario are applicable for low and high growth scenarios), the projected number of dwellings under low and high growth scenarios were able to be determined. These are shown for both the district as a whole, and for the urban area of Whakatane, in Tables 3.12 and 3.13 below.

The dwelling projections are based on the following assumptions:

1. While population growth in Whakatane is lower than the New Zealand average growth rates, the growth rates in urban Whakatane are more comparable to the NZ average and therefore the national projections are considered to be generally more valid within the urban areas;
2. The national trends project continued growth in the number of dwellings at a faster rate than population growth;
3. National trends indicate a continued decrease in occupancy rates, with an increasing proportion of 1, 2 and 3 person dwellings.
4. The CAU trend of increasing age and a corresponding decrease in occupancy per dwelling will continue. However, it is considered that the occupancy rate for the District will not be as low as the national average due to the higher proportion of the population of New Zealand Maori ethnicity (whose population is not ageing at the same rate as the general population);
5. Based on national and District trends, growth will continue to be dominated by urban Whakatane, with the rate of population decline in rural areas increasing through 'natural' population change and net migration loss (two notable exceptions to this are the rural fringe and the coast rural areas); and
6. The household projections are based on 2006-base population projections provided by Statistics NZ to Whakatane District Council which have been calculated by WDC based on both occupied and unoccupied dwellings. Unoccupied dwellings typically account for about 10% of the dwelling profile.

Table 3.12 – Preliminary Household Projections – Whakatane District (2011-2021)

Year	Population Usually Resident (Actual and Projected)	Households	
		Actual Total Households	Projected Total Households [a]
1986	31,254	9,370	
1991	32,094	10,431	
1996	33,125	11,190	
2001	32,814	11,535	
2006	33,297	11,931	
Low Projection			
2011	34,200 [b]		13,636
2016	33,640 [b]		13,803
2021	32,810 [b]		13,668
Medium Projection			
2011	34,970 [b]		13,938
2016	35,170 [b]		14,742
2021	35,100 [b]		15,060
High Projection			
2011	35,740 [b]		14,255
2016	36,720 [b]		15,739
2021	37,490 [b]		17,824

Source:
All figures for 1986-2006 taken from Statistics New Zealand (actual census data).
[a] Projection household figures provided by Whakatane District Council (based on 2006-base population projections). Includes occupied and unoccupied dwellings.
[b] Figures taken from *'Projected Resident Population, 2006-2026(2006 base)*, Statistics New Zealand (using low, medium & high projections, respectively).

The following table provides a summary of household projections for the Whakatane District, with additional households stated below in bold, and projected total households in parentheses.

Table 3.13 – Projected Additional Households – Whakatane District

Year	Existing households	Low	Medium	High
2006	**11,931**			
2011		**1,705** (13,636)	**2,007** (13,938)	**2,324** (14,255)
2016		**1,872** (13,803)	**2,811** (14,742)	**3,808** (15,739)
2021		**1,737** (13,668)	**3,129** (15,060)	**5,893** (17,824)

Table 3.14 – Preliminary Household Projections – Urban Whakatane (2011-2021)

Year	Population Usually Resident (Actual and Projected)	Households	
		Actual Total Households	Projected Total Households [a]
1991	15,510	5,550	
1996	16,209	5,979	
2001	16,512	6,267	
2006	16,953	6,546	
Low Projection			
2011	17,430 [b]		7,521
2016	17,210 [b]		7,653
2021	16,860 [b]		7,652
Medium Projection			
2011	17,830 [b]		7,693
2016	17,990 [b]		8,180
2021	18,030 [b]		8,715
High Projection			
2011	18,230 [b]		7,875
2016	18,810 [b]		8,753
2021	19,260 [b]		10,024

Source:
All figures for 1986-2006 taken from Statistics New Zealand (actual census data).
[a] Projected household figures provided by Whakatane District Council (based on 2006-base population projections). Includes occupied and unoccupied dwellings.
[b] Figures taken from *'Projected Resident Population, 2006-2026(2006 base)*, Statistics New Zealand (using low, medium & high projections, respectively).

The following table provides a summary of household projections for the Whakatane Urban Area, with additional households stated below in bold, and projected total households in parentheses.

Table 3.15 – Projected Additional Households – Urban Whakatane

Year	Existing households	Low	Medium	High
2006	**6,546**			
2011		**975** (7,521)	**1,147** (7,693)	**1,329** (7,875)
2016		**1,107** (7,653)	**1,634** (8,180)	**2,207** (8,753)
2021		**1,108** (7,652)	**2,169** (8,715)	**3,478** (10,024)

Population, and subsequently demand for residential expansion within urban Whakatane, is expected to continue in line with the current trend.

3.3.6 Future Dwelling Demand Based on Recent Building Consent Data

It was considered useful to verify dwelling demand based on population projections, with dwelling demand based on recent certificate of compliance data, as shown in Table 3.16 below. Certificate of compliance data was considered a better indicator than building consent data (as used in previous growth studies), due to the lag time between building consent date of issue and completion of building projects (whereas Certificates of Compliance indicate that building has been completed, and therefore the dwelling is available to be occupied).

The calculation for the 'Certificate of Compliance Projections' is based on a crude assumption of an average of 98 certificates of compliance each year through to 2021 for the urban Whakatane area. This is based on the number of certificates of compliance issued in the 2005/2006 financial year (refer Table 3.10). **Note that this estimate makes no allowance for apartment building consents, which show a recent trend of 1 or 2 building consents issued each year for an average of about 25 units.** This could account for an additional 50 dwellings each year, however this is unlikely given that the current pace of apartment developments is not likely to continue as the same rate that it has done over the last five years.

The table below provides a summary of projected dwelling demand using Statistics New Zealand population projections (low, medium and high growth scenarios) compared to projected dwelling demand based on recent Certificates of Compliance issued.

Table 3.16 – Comparison of Dwelling Projections for Whakatane Urban Area

	2006 (Actual)	2011 (Estimate)		2016 (Estimate)		2021 (Estimate)	
		Total Dwellings	Change since 2006	Total Dwellings	Change since 2006	Total Dwellings	Change since 2006
Low Growth Projections[1]	6,546	7,521	**975**	7,653	**1,107**	7,652	**1,108**
Medium Growth Projections[1]		7,693	**1,147**	8,180	**1,634**	8,715	**2,169**
High Growth Projections[1]		7,875	**1,329**	8,753	**2,207**	10,024	**3,478**
Certificate of Compliance Projections[2]		7,036	**490**	7,526	**980**	8,016	**1,470**

Note:
[1] Based on '*Projected Households at 30 June 2006-2021 (2001 Base)',* Statistics New Zealand.
[2] Based on WDC CoC statistics, provided April 2007.

It is evident from the above table that the dwelling projections based on Certificate of Compliance figures is below the low growth scenario in the short term (i.e. the 5 years to 2011), rising to a point between the Low and Medium growth scenarios. However, the actual absolute change in household numbers is similar to that for the Medium growth scenario (being in the order of about 500 households per 5yr Census period). Based on historic trends, this appears to confirm the use of the medium growth scenario as the basis for future growth.

3.3.7 Population Trends to 2051

Statistics New Zealand does not take its sub-national projections out beyond 2026. The University of Waikato *Demographic Forecast 2051* report shows that the District-wide population is projected to decrease over the period to 2051 to a level below 2001 levels, however the report acknowledges that this may not be a particularly realistic forecast. It is considered that the urban Whakatane population is likely to continue to increase given the continuing trend of urbanisation, its climate, and its location on the coast.

3.4 Housing Affordability

Identifying housing preferences is important to ensure that the growth strategy adequately provides for different housing markets. A lack of affordable housing has potential negative social and economic impacts in housing market 'hotspots', for example, in Ohope and Coastlands. Recent housing research by CHRANZ indicates that affordability becomes a concern "when the housing costs of households in the lower 40% of the household income distribution exceed more than 30% of their gross income."[5] Table 3.17 below highlights some of the underlying demographic data for the Whakatane urban area. This information is relevant to housing affordability and is taken from the 2006 Census.

Table 3.17 – Housing Data for Urban Whakatane, 2006 Census

CAU	Household Income					% Property in Owner/ Occupier	Mean Number of Usual Household Members	Rent Paid	
	% Income < $30k	% Income $50k +	Median Income	Income from Wages/ Salary/ Rent etc.	Income from ACC, Benefit, Pension etc.			Mean Weekly Rent Paid ($)	Median Weekly Rent Paid ($)
Whakatane North	35%	29%	$36,000	1,269	966	56%	2.4	204	181
Coastlands	10%	60%	$75,100	405	108	76%	2.9	237	260
Whakatane West	28%	33%	$40,700	1,050	765	61%	2.9	173	181
Trident	38%	27%	$32,200	1,068	954	56%	2.6	179	160
Allandale-Mokorua	28%	41%	$48,300	1,827	984	67%	2.4	220	181
Ohope	20%	51%	$59,600	1,560	615	64%	2.4	219	210

It is evident from Table 3.17 above that housing affordability is a concern in some areas of Whakatane particularly given the high proportion of households that have an annual income of less than $30,000. For example, in Trident and Whakatane North the proportion of the population earning less than $30,000 per annum is 38% and 35% respectively. In these CAUs, where just under 50% of households are rented, median rent paid is equal to or greater than 30% of household income, meaning they do not meet the CHRANZ affordability threshold.

[5] CHRANZ Fact Sheet, *'Affordable Housing in New Zealand'*, Centre for Housing Research Aotearoa New Zealand, October 2006.

It is likely that this issue will become more important in the future as house and land values increase at a higher rate than income. While this is an issue that requires serious consideration, there is potential for this to be offset to a small extent by internal migration within urban Whakatane. That is, as people from the inland areas of urban Whakatane move to the coast, this may free up less expensive land in the non-coastal areas of the town.

Average rateable land value for the Whakatane urban area (listed in Table 3.18 below) has been provided by WDC and shows the higher cost of property on or near the coast. The data also indicates the average rateable capital value for each Area Unit, from which a reasonable estimate of sale price can be deemed.

Table 3.18 – Average Rateable Values in urban Whakatane (2007)

CAU	Average Rateable Land Value ($)	Average Improvements Value[6] ($)	Average Rateable Capital Value ($)
Whakatane North	108,966	136,421	245,387
Coastlands	184,780	128,091	312,871
Whakatane West	73,967	123,157	197,124
Trident	83,767	104,535	188,302
Allandale-Mokorua	109,558	142,318	251,876
Ohope	371,934	146,656	518,590

Note: The data in this table is based on residential land only. Certain parcels of land have been excluded where it is known that they are not residential and would skew the results.

A quick comparison of the median incomes in the urban CAUs with the average rateable capital value indicates that the housing market is likely to be out of reach for many residents. For example, the median annual income of Trident is $32,200 and the average rateable capital value is $188,302. It is noted that the prospect of owning one's own home is likely to become less of a reality for a larger proportion of the population, nationally as well as locally. The home ownership rate is declining across the country (the New Zealand average has reduced from 74% in 1991 to 66% in 2006) and the Bay of Plenty is no exception (down from 76% in 1991 to 66% in 2006). Home ownership rates are expected to fall further in the future, with the regional rate expected to be 62% by 2016.

[6] Calculated as the difference between the land value and the capital value.

3.5 Summary

From the above assessment, the following population and dwelling themes are evident in reference to Whakatane urban areas.

Population

- The population of urban Whakatane increased by 2.7% over the 2001-2006 Census period (0.5% per annum);
- As at 2006, rural areas in the District had a higher proportion of under-35 year olds, while coastal and urban areas generally had an older population;
- District-wide there has been an increase in the population earning through salary and wages and a decrease in the numbers on unemployment benefits. The medium income level has increased by more than the rate of the CPI over the 2001 to 2006 intercensal period. As expected, those living in coastal areas tend to earn more than those in rural parts of the District; and
- Statistics New Zealand projections indicate negative growth under the 'Low' projection for the urban area. Under the 'Medium' projection, population is expected to rise slowly through to 2021. Under the 'High' projection, an increase of 2,380 people is anticipated between 2006-2031.

Dwellings

- In urban Whakatane, the average increase in occupied dwellings was 4.4%;
- Twenty-seven percent of all dwellings in Ohope were unoccupied on 2006 Census night;
- Building consent data indicates the growing trend towards apartment complexes and higher density developments, with 1 or 2 developments gaining building consent each year. The average size is about 25 units per development. The development of apartment complexes is not expected to continue at the same rate as it has done over the last five years given the current market;
- Dwelling projections (based on Statistics NZ data) indicate that new housing/dwelling demand will continue with urban areas (particularly Ohope and Coastlands) over the next 10 years; and
- For the purposes of this study, the Medium rate of dwelling demand has been used. This equates to an estimated 1,634 additional dwellings in Whakatane urban area over the 10 years (to 2016) and an estimated 2,169 additional dwellings to 2021.

Housing Affordability

- Housing affordability is a serious issue, with a comparison of median income and average rateable capital value/annual rental showing the growing gap between income and housing costs;
- Predictably (being coastal and hence desirable land), land prices in Ohope are at least twice that of any of the other urban areas; and
- Whakatane West and Trident have the lowest average land values of any of the CAUs, which is also where the lowest weekly rents in the urban area are found.

4 Capacity of Residential Zoned Land

In order to assess the amount of existing residential zoned land available for future housing, a number of sources have been used. These included:

- Subdivision plans recently approved by WDC; and
- Aerial photographs (most recently flown in March 2004) and various site visits by WDC staff.

Three types of properties have been assessed for accommodating future residential growth:

- Currently vacant land;
- Land with infill potential (less than 2,000m^2); and
- Land with subdivision potential (greater than 2,000m^2).

Those properties that have been assessed are broken down into urban Whakatane, Ohope, and Coastlands. Where known, major constraints (including topography, coastal hazards or other physical limitations) have been taken into account, resulting in some vacant properties being removed from the land supply database or their potential yield has been reduced in this analysis. The potential for infill housing has been judged principally by a review of aerial photographs and, in some cases, site inspections. Other limiting factors may apply to a number of these sites such as inadequate access, servicing constraints, or land ownership issues. For the purposes of this assessment, it has been assumed that the land identified as suitable for further residential development can be serviced with basic infrastructure requirements. It is noted that the identification of available existing residential-zoned land was undertaken in 2007 therefore potentially reflects more than is currently available today in 2009.

4.1 Vacant Land

Parcels of vacant land and major housing constraints on such properties were identified with WDC staff. This information was verified through site visits, which resulted in some smaller vacant parcels also being identified. The table below identifies the number of potential lots available for residential development, and assumes one dwelling can be built on each lot. The average lot size of the potential lots provided below is about 650m^2.

Table 4.1 – Vacant Land

	Number of Potential Lots
Allandale-Mokorua	34
Trident	3
Whakatane North	14
Whakatane West	8
Coastlands	148
Ohope	153
TOTAL	**360**

Note: The information in this table has been provided by Whakatane District Council, April 2007.

Table 4.1 shows that there is a total of 360 lots of vacant land in 2007, down from a total of 370 as previously estimated in December 2005. The greatest numbers of vacant lots available for residential development are located in Coastlands (148) and Ohope (153). Some vacant land also exists in central urban Whakatane. Correlating Table 4.1 with the average rateable value of land parcels in each of the CAUs (refer Table 3.18), it can be concluded that:

- 83% of the vacant land is found in Coastlands and Ohope where average rateable land value exceeds $185,000 and $370,000 respectively, thus primarily providing for the higher end of the housing market; and
- Only 3% of the vacant land is available in Trident and Whakatane West which have an average rateable land value of less than $100,000 and could be considered to provide for the lower end of the housing market.

4.2 Infill Potential within the Residential Zone

Properties with an area of less than 2,000 m^2 were identified as having infill potential. It is noted that the minimum lot size in the Whakatane Proposed District Plan is 350m^2 in the Residential zone[7]. Through aerial photographs and site visits, the infill potential of such properties was further assessed in terms of constraints (e.g. natural hazards) and the location of existing dwellings (e.g. not in the middle of the property).

Table 4.2 – Land with Infill Potential

	Number of Potential Lots
Allandale-Mokorua	159
Trident	84
Whakatane North	115
Whakatane West	88
Coastlands	0
Ohope	153
TOTAL	**599**

Note: The information in this table has been provided by Whakatane District Council, April 2007.

Table 4.2 shows that the total infill potential of residential zoned land is 599 new lots. As expected, most of the potential is in the traditional urban area of Whakatane (446 new lots), while in the newer residential area of Coastlands there is no capacity for infill. Subject to coastal hazard and geotechnical constraints, the infill potential in Ohope also appears to be significant (153 new lots).

It is difficult to accurately assess the present rate of infill housing. A figure of 20% has been adopted for the purpose of estimating the rate of infill housing over the next 10 years. This is considered to be generally in line with recent trends, and reflects the recent increase in higher density living (for example, apartment complexes in urban Whakatane). However it is noted that

[7] Rule 4.1.7.5(a) of the Whakatane Transitional District Plan states that the minimum lot area is 350m^2 (exclusive of access), provided that in any subdivision containing four or more lots, one half of all lots shall have an area greater than 650m^2.

the number of potential infill sites will continue to decline as they are developed and in fact, that some may never get developed. Therefore, the rate of uptake of future infill has been assumed to be 20% to 2016, equating to a potential infill uptake in the order 120 lots (assuming 20% uptake). The figures have taken account of the fact that the Otarawairere community (currently 42 lots) is connecting to the Ohope reticulated sewerage scheme.

Correlating Table 4.2 with the average rateable value of land parcels in each of the CAUs (refer Table 3.18), it can be concluded that there are infill opportunities across all land values, presuming that one can afford to purchase the land and subsequently build a house.

4.3 Land with Subdivision Potential

Properties with an area greater than 2,000m^2 were identified as having subdivision potential. Serious constraints to further subdivision have been identified where possible. In determining the number of potential future lots, a density of 12 dwellings per hectare has been used where no physical limitation has been identified. Where topography, coastal hazards or other physical limitations are known, these factors were taken into account when assessing potential yield. No allowance was made for multiple dwellings or apartment development on vacant lots.

Table 4.3 – Land with Subdivision Potential

	Number of Potential Lots
Allandale-Mokorua	29
Trident	10
Whakatane North	-
Whakatane West	-
Coastlands	553
Ohope	72
TOTAL	**664**

Note: The information in this table has been provided by Whakatane District Council, April 2007.

As expected, the greatest numbers of lots with subdivision potential are within the Coastlands area (553), a greenfield site that is available for development.

Correlating Table 4.3 with the average rateable value of land parcels in each of the CAUs (refer Table 3.18), it can be concluded that there are limited opportunities for subdivision in older parts of Whakatane and Ohope. There is however, large potential for subdivision in the newer area of Coastlands. This again raises issues of affordability given that the average land value (2007) in Coastlands is about $185,000, which does not include the cost of building a house on the land. As coastal land is increasingly costly, there is likely to be fewer opportunities for true low-cost housing in this area.

4.4 Summary of Existing Residential Land Supply in 2016 and 2021

Table 4.4 summarises the amount of existing residential zoned land available for future housing within urban Whakatane. This table combines all of the available vacant and subdividable land with a proportion of the infill potential land. The key assumption made regarding the development of land to 2016 is that only 20% of infill potential sites will be developed. This equates to 120 lots.

It is noted that currently no allowance has been made for multiple dwellings or apartment development on any of the lots identified.

Table 4.4 – Existing Residential Land Supply (available at 2016)

	Vacant Land	Infill Potential	Subdivision Potential	Total Number of Lots*
Allandale-Mokorua	34	159 (32)	29	**95**
Trident	3	84 (17)	10	**30**
Whakatane North	14	115 (23)	-	**37**
Whakatane West	8	88 (18)	-	**26**
Coastlands	148	0 (0)	553	**701**
Ohope	153	153 (30)	72	**256**
Total Number of Lots	**360**	**599 (120)**	**664**	**1145**

* Assuming 20% uptake for infill to 2016

There are a total of 360 potential lots identified from existing parcels of vacant land (mainly in Coastlands and Ohope). A further 664 potential lots were identified from land of an area greater than 2,000m^2 and these lots are mostly located in Coastlands where greenfield development is currently occurring. 120 parcels were identified as having infill potential (assuming a 20% uptake), with all of these properties being in Ohope and the traditional urban areas of Whakatane.

It is estimated that a total number of 1,145 new dwellings could be available for development to 2016 within the existing residential zones of Whakatane and Ohope. We have postulated that 20% of the 10-year demand will be satisfied by infill development. Further monitoring will indicate the proportionate uptake beyond the 10 years.

4.5 Matching Demand and Supply

The 'Medium' rate of growth in dwelling demand is preferred. Based on the Medium Growth scenario for the Whakatane urban area, it is estimated that 1,634 new dwellings would be needed over the 10 years to 2016, with 2,169 needed to 2021.

The development potential of existing residential zoned land is about 1,145 dwellings (Table 4.4). Such an estimate takes into account environmental and servicing constraints. The table below compares future demand (based on population projections) with existing land supply. We note the land available (1,145 lots) assumes full development of all vacant and subdividable land which is unrealistic. Therefore it is likely that the deficit of land supply is underestimated. The uptake of existing zoned land should be monitored

Table 4.5 – Demand and Supply

Projected Year	Future Dwelling Demand (Medium growth scenario)	Existing Land Supply	Surplus/Deficit
2016	1,634	1,145	-489
2021	2,169		-1,024

Table 4.5 matches the future supply and demand for housing within urban Whakatane, demonstrating that there is a deficit of residential land in the order of almost 500 lots to 2016, and over 1,000 lots to 2021. A quantum in the order of 85 hectares is required (based on an average density of 12 dwellings per hectare) to 2021. This indicates a need to zone additional residential land within the Whakatane urban area to accommodate future growth to 2021.

Notwithstanding, a consideration of the housing affordability analysis in Section 3.4 against the location of available properties identifies that affordable housing choice is likely to be a significant issue in future.

In this section, it can be concluded that there is limited vacant land available to meet the future low cost housing demand. The location of available vacant land is predominantly in the coastal settlements of Ohope and Coastlands where land prices are the highest.

While the investigations to date indicate that there is a need to find additional residential land to meet the projected demand, it is also clearly evident that the land that is available is not necessarily the land that the market desires. Whakatane District is experiencing the same rush for coastal property that is currently occurring across New Zealand, indeed globally. There is only so much land that is available on the coast for development, and this is further limited by coastal hazards and the need to future proof against the implications of climate change and potential sea level rise.

Furthermore, there is a real problem with housing affordability throughout New Zealand. In Whakatane, it is evident that there is a need to provide affordable housing to sectors of the population, particularly as, at the time of the 2006 Census, 54% of the District's working population recorded an annual income below $30,000.

4.6 Summary

- By the year 2021, the anticipated demand for additional dwellings in the Whakatane and Ohope urban area is in the order of 2,169 dwellings and the supply of land currently zoned could accommodate approximately 1,145 dwellings; and
- Assuming that all available vacant and subdividable land is taken up to 2016 (at an average rate of 12 dwellings per hectare), and assuming a declining proportion of infill development, there is a need to find approximately 85 hectares of residentially zoned land.

5 Constraints and Opportunities

5.1 Introduction

The purpose of this section is to assess the capacity of land within the Whakatane District to accommodate further residential development. This is achieved by analysing land recently subdivided, vacant land, and land with infill potential. Following this, the major infrastructural, environmental, social and cultural constraints to future housing within and around urban Whakatane are identified. For each constraint, the implications for future housing and housing value bands (low, medium and high) are identified.

It should be noted that the various constraints have been mapped at a large scale and, therefore, their boundaries are not accurately defined.

The constraints mapping is shown in Figure 5.1.

5.2 Study Areas

The areas that have been investigated as part of this study can be broken into two distinct areas, being Whakatane Surrounds and Edgecumbe (see Figure 1.1). These areas have been chosen as potential areas for future residential growth in the Whakatane District given their proximity to existing residential development, and they offer fewer constraints than other areas in the District. The assessment of constraints and opportunities for the study areas are split into the following sections:

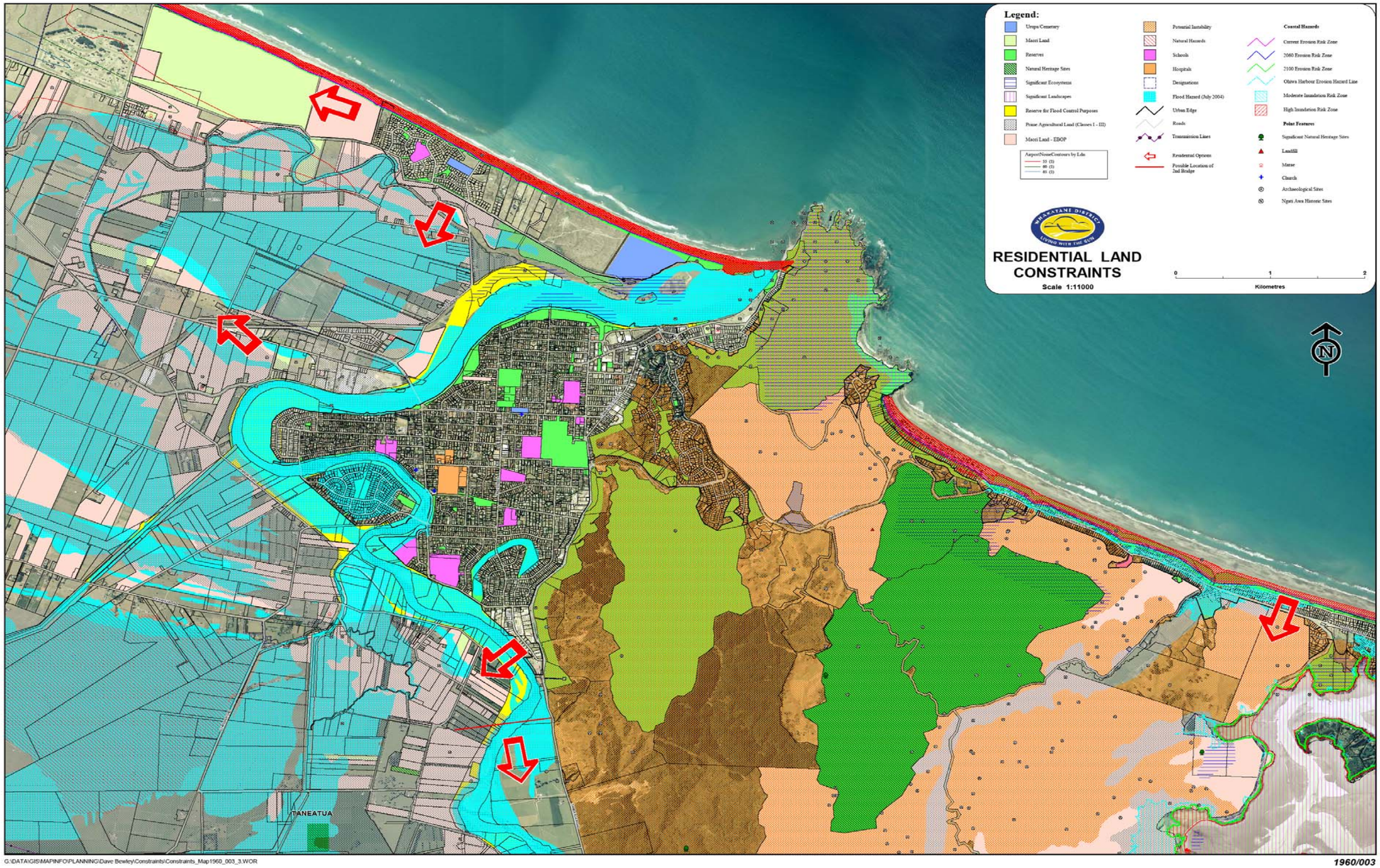
Whakatane Surrounds

This area includes a number of different locations, namely Coastlands, Keepa Road, Ohope/Maraetotara, Rewatu, and Whakatane South / Taneatua Road (Black's Farm). These are all areas surrounding urban Whakatane, and all are located west of the Whakatane River except Ohope/Maraetotara, which is located east of the town over the escarpment, and Black's Farm, which is located on the eastern side of the river, but south of Whakatane township.

Edgecumbe

The area of Edgecumbe is located approximately 15 kilometres inland (to the southwest) from Whakatane and includes the entire town of Edgecumbe, both east and west of the Rangitaiki River. Edgecumbe is located within the Census Area Unit of Edgecumbe Community, which recorded a 2006 population of 1,626, a reduction of 2.5% since the 2001 Census (when the population was 1,668).

Figure 5.1 – Constraints to Development Mapping



5.3 Infrastructure

5.3.1 Whakatane Surrounds

a. Water

i. Treatment Plant

The Whakatane and Ohope urban area is supplied with treated water by the Whakatane Water Treatment Plant, located south of Whakatane on Te Tahi Road/Valley Road. The resource consent for the plant stipulates a maximum water take from the Whakatane River of 20,000 cubic metres per day. The current design capacity of the plant is about 30,000 people given the efficiencies that can be gained through applying improved technologies. At the 2006 Census, the population of Whakatane Urban Area (including Ohope) was approximately 16,953, an increase of 2.7% since the 2001 Census. The temporary additional population of Ohope over the summer holiday period is approximately 3,500. Therefore the present maximum population to be serviced by the Whakatane Water Treatment Plant is approximately 20,500.

The present excess capacity of the treatment plant is in the order of 9,500 people, or approximately 3,558 households (based on the 2006 Census an average occupancy rate of 2.67 for Urban Whakatane). There is sufficient capacity to accommodate expected future population growth in and around Whakatane.

ii. Reticulation

A trunk main was recently installed along Arawa Road and Hinemoa Street to service the Coastlands and Piripai area. Full development of the Coastlands/Piripai area will require additional trunk mains to service the new areas.

An additional population of, for example, 5,000 people to the west of the Whakatane River would require additional trunk main capacity from the Landing Road bridge.

A study of the capacity of the whole system has been carried out with a network model to establish whether the present network is capable of delivering the additional capacity to the Landing Road bridge. This study has identified $4 million worth of pipe extensions and upgrades to meet the demand if the whole area is developed.

Some areas at Paroa Road, Huna Road, and Ferguson Road are presently serviced by the Town supply. Depending on the siting of any future urban development, some of the existing feeder mains in these areas may need to be upgraded. Similarly, $3.5 million worth of capital works have been identified to upgrade the water system in Ohope if the full potential area is developed.

It is noted that some of the works to extend and/or upgrade water reticulation in Whakatane and Ohope have been included in the Council's Long Term Council Community Plan 10-year Capital Expenditure programme. The other works will be included in future LTCCPs as those works will be carried out outside the present LTCCP period if developments go ahead.

b. Wastewater

i. Treatment Ponds

The present wastewater treatment ponds are located north of State Highway 30 (near Ferguson Road) at the western entrance to Whakatane. The resource consent for the plant expires in

2025. The ponds have a capacity of 17,000 people (maximum population in winter months but system can cater for a population of 25,000 in the summer months). This is potentially a significant constraint to future population growth in Whakatane. It is noted this figure could be increased by applying technological improvements to the operation of the plant. The number of people currently serviced is in the order of 14,400 (Whakatane and Coastlands). Therefore there is an excess capacity of 2,600 people. It is likely that should any new residential area be planned and connected to the wastewater reticulation system, then any existing properties located between the new development and the treatment ponds (and presently on septic tanks) would also be connected.

It is noted that the site of the treatment ponds is itself a constraint to development, given the issue of reverse sensitivity on residential amenity from odour.

Ohope has a separate wastewater treatment system, including an ocean outfall, the resource consent for which expires in 2010. The system has a capacity of 3,200 permanent residents. However, the ponds have a total capacity of 9,000 visitors and residents in summer. Currently a population of about 2,900 is serviced. This is potentially a significant constraint to future population growth in Ohope.

ii. Reticulation

All of urban Whakatane is reticulated, as are Coastlands and Ohope. A constraint to urban expansion to the west is that the land is basically flat; a system of gravity sewers falling to pump stations and a rising trunk main to the ponds would need to be installed. The cost of this work could be significant, due to the high water table in the majority of the areas being considered for development.

It is noted that works to extend the wastewater reticulation system for the Otarawairere community/Cliff and Brown Roads (to be part of Ohope reticulated supply) has been completed. This will add a further 42 properties to the supply area, with an anticipated potential for 70 additional lots that could arise from further development of land in this area once reticulated. Some upgrade projects in Whakatane and Ohope are included in the Council's Long Term Council Community Plan 10-year Capital Expenditure programme.

c. Stormwater

The whole of the Whakatane urban area is serviced by a system of pipes and open drains. These discharge to the Whakatane River via a series of gravity and/or pumped systems. Stormwater from buildings and impermeable surfaces in the Coastlands area is managed through soakholes. In many cases, that includes controlled discharges to road reserves. In Ohope, drainage is predominantly to the ocean often via stream discharge and dune soakage systems.

To the west of the river, the Rural-zoned land is crossed by a series of open drains and canals operated and maintained by Environment Bay of Plenty. These discharge to the Whakatane River via floodgates at low flow, or by pumping when the Whakatane River level is high.

The majority of the areas being considered for urban development are generally flat. They may in some instances be below the present flood levels as set by EBOP, where minimum floor levels are required in some catchments. EBOP and WDC are currently discussing the long-term needs of the stormwater disposal systems and the level of flood protection to be achieved. WDC is continuing to upgrade the required floor levels for future development in urban Whakatane given the estimate from the regional council that a 1 in 300 year AEP in 2005 is likely to become a 1 in 100 yr AEP in 2050 due to climate change and sea level rise. These

minimum floor levels should provide direction to future residential development in urban Whakatane.

The disposal of stormwater from urban development areas to the west of the town will require pumping into the present drains or canals. In order to increase overall flood protection, the height of some existing stopbanks may need to be raised, and the capacity of the pump stations increased (see section 6.4.4b later in this chapter).

An overall evaluation of the whole of the lower plains stormwater catchment and disposal schemes would be needed before a final decision was made as to the siting of new urban development.

d. Other Services

i. Gas

There is a trunk main to a station at Mill Road. The Whakatane township and some rural areas are serviced from this site. It is expected that the existing reticulation could be extended as required to service new development, presumably at cost to the developer.

ii. Power and telecommunications

It is expected that the present networks would be extended to any new development, with a potential cost to the developer.

e. Roading

Analysis of traffic volumes (July 2004) indicates the road network entering Whakatane has some capacity to accommodate additional traffic flows that may result from new residential growth. It should be noted that with respect to the Hinemoa/Landing Road roundabout, it is clear Landing Road (east) approach is already at capacity (based on desktop calculations) during the evening peak period with long queues and delays. Hence, whilst the Whakatane Bridge at the western edge of town can accommodate additional traffic the single lane roundabout is considered a bottleneck in the system and will continue to inflict greater delays to vehicles approaching from the west on Landing Road.

Gorge Road and Valley Road (the arterials to the east) can accommodate an increase in traffic flows. However, an increase on either will limit the extent of increase available on the other approach road. Hence both roads cannot increase to the capacity indicated above.

Council has identified in its LTCCP that the main arterial route (Landing Road, Domain Road, McAlister Street, Commerce Street and Gorge Road) will reach its maximum traffic capacity in the next 10-15 years. A transportation study including traffic modelling of various growth scenarios will be undertaken to assess the impact of future growth in various locations on the roading network.

5.3.2 Edgecumbe

a. Water

Water supply is fully reticulated within the township from the Plains Water Supply, mainly from bores and springs. This supply can be increased in capacity or additional sources found if the population of Edgecumbe was to be significantly increased. It should be noted that a review of the Plains Water Supply is underway to determine whether the current supply sources need to

be replaced with new supply/supplies to reduce the current levels of arsenic in the supply, and to comply with proposed new drinking water standards.

b. Wastewater

Edgecumbe is currently serviced by wastewater treatment ponds that were constructed in the 1960s when the population of the town was higher. Treated effluent currently discharges from the treatment ponds to the Omeheu Canal and then into the Tarawera River. As part of the Tarawera River Management Plan, WDC has recently initiated discussions with the Regional Council on resource consent issues.

The current wastewater ponds have a design capacity of 3,000 people, although the system capacity is compromised by the infiltration of stormwater into the system during heavy rain events. The current population being serviced is approximately 1,625 (2006 Census). Any significant increase in population would be likely to require changes or upgrading of the existing ponds.

c. Stormwater

There have been issues with stormwater inundation. The 1987 earthquake resulted in the slope of land and the relationship with the Tarawera and Rangitaiki Rivers being altered significantly in and around Edgecumbe. This has affected stormwater management in the area, as the southern sector of the town settled 1.8m in the earthquake, altering the overland stormwater flow paths significantly. Before 1987, stormwater drained south to the Rangitaiki River, however after the earthquake stormwater now drains out to the west to the rural drainage system. Existing drains and pumping schemes operated by EBOP downstream of the town were not designed for the disposal of rainfall from urban development. An investigation of options to provide for rural and urban flood hazard mitigation in the Edgecumbe community is underway. It is a joint project between EBOP and the WDC.

A study of Edgecumbe South catchment was carried out by Opus Consultants in 2002. The report concluded that rerouting of the Town Drain and the installation of a new pump station at the south end of the town could relieve the present problems in that catchment. Council has included in its LTCCP Capital Expenditure programme some funding for a remedial urban stormwater system for Edgecumbe.

5.4 Land Tenure

Maori land, that is, land owned by Maori under the provisions of the Maori Land Court, has a different land title system to that of freehold land which is managed through the Land Registration system within New Zealand.

Maori land is commonly held in multiple ownership because of the communal and hereditary nature of traditional ownership. Maori land can be subdivided (or partitioned), for the purposes of creating additional land titles which maybe owned by different people within the same hapu or whanau group. Partition of Maori land allows the land to be divided up into new titles which may be individually, or jointly, owned by the shareholding parties provided that the Maori Land Court has granted the partition orders. The District Land Registrar does not issue new titles until the Maori Land Court has signed the partition orders. This process is quite complex and in some cases locks the land out from conventional financial and commercial options for practical use and enjoyment. Often there are poor ownership and title records, potentially un-surveyed blocks and irrational partitions that may result in fragmented and uneconomic land holdings.

The Te Ture Whenua Maori Act 1993 contains in its objectives the confirmation that Mäori land is to be retained by its owners and that development and occupation by its owners is to be encouraged. Progressively since the post war years Maori rural land has become increasingly developed for diversified rural activities and housing. In the Bay of Plenty there are many Trusts established under the Te Ture Whenua Maori Act operating horticultural, dairying and pastoral (i.e. commercial rural activities) operations on rural lands. However, the use of Maori land for urban (particularly residential) purposes has historically been difficult to achieve while retaining ownership of the land in the family. Leasehold of land, or land and buildings, has been applied within New Zealand although this is more common with regard to commercial development.

We understand that the legal procedures for the lease of Maori land are not onerous. It is more likely that the market may have a reluctance to enter into lease arrangements, even for long term (99 year) arrangements, where it is seen as a less secure form of tenure than fee simple ownership.

With the Te Ture Whenua Maori Act and successive Waitangi Tribunal Decisions including financial and land compensation there is an increasing number of Maori groupings who are pursuing alternative legal and financial instruments to secure better financial and social returns on their lands. In this climate of change we consider that the inclusion of Maori land within the options for urbanisation is not impractical and it is appropriate to canvass these options with the Tangata Whenua in the consultation phase.

For example, there are a number of types of tenure instruments now being used in residential situations that could be applied to multiple-owned Maori land including the licence to occupy (commonly used in retirement villages), long term leases (typically 99 years on endowment leasehold property or 999 years used “cross”-leases) as well as other short-term tenancy arrangements.

5.5 Environmental

Environmental constraints have been identified through desktop research and discussions with Whakatane District Council and Environment Bay of Plenty officers. The main environmental topic areas and potential constraints have been entered in WDC’s geographic information system (GIS) and a composite map created (refer Figure 5.1). These have included:

- Areas of Maori land;
- Urupa and cemeteries;
- Schools and hospitals;
- Marae and churches;
- Reserves;
- Designations;
- Landfill;
- Natural heritage sites;
- Significant ecosystems;
- Significant landscapes;
- Archaeological and Ngati Awa historic sites;
- Prime agricultural land (classes I – III);
- Areas reserved for flood control purposes;
- Noise contours for Whakatane Airport;
- High Voltage transmission lines; and

- Natural hazards including potential land instability, coastal erosion risk zones and inundation risk zones.

5.5.1 Landscape

The Regional Coastal Environment Plan (RCEP) identifies Outstanding and Regionally Significant Natural Features and Landscapes (Fourth Schedule and Volume 2 – Sheets 24 and 25). The following areas are located within the Headland, Harbour and Duneland landscape types and are relevant to the residential growth strategy.

- Kohi Point and Otarawairere Bay and catchment (Outstanding - O4);
- Ohiwa Harbour (Outstanding - O5); and
- Distal Point of Ohiwa Spit (Regionally Significant - S16).

The 1995 Whakatane District Landscape Evaluation (WDLE) by Boffa Miskell Ltd reinforces the regional coastal plan by identifying landscapes of district significance. In addition to the areas identified in the regional coastal plan, Outstanding Natural Features and Landscapes identified by the WDLE include:

- Whakatane Spit and River Mouth (CP2);
- Whakatane River and Margins (20 metres from waters edge) (FH3/CP3); and
- Ohope Duneland Hillocks (OH2).

These landscape units are located within the Plains, Foothills and Harbour landscape types.

The WDLE also assessed the overall visual sensitivity of all landscape units. Only the Matata – Whakatane Coast, the Kohi Point - Waimana Forest, and the Ohope Spit units were ranked as “high” in the study area. Piripai is located within this landscape unit and the implications of landscape and other values (ecological, cultural) for development at Piripai have been assessed in detail by Boffa Miskell (May 1995).

The Proposed Whakatane District Plan lists a number of outstanding natural features and landscapes (Schedule 5.3). The following sites within the study area have been listed in this schedule:

- Kohi Point (L5); and
- Ohope Spit Distal End (L6).

Housing Implications

The RMA requires outstanding natural features and landscapes to be protected from inappropriate subdivision, use and development (Section 6(b)).

The RCEP encourages the management of landscapes and natural features by the application of guidelines in the Fifth Schedule. The guidelines need to be considered for any area with high landscape values, and are particularly important for areas identified as having “outstanding” values. The implications for housing include:

- Scale, density and height restrictions on headlands and the visual catchment of bays to reduce skyline effects and to maintain natural landforms;
- Protecting visual corridors and public vantage points on headlands;
- Protecting dunelands from inappropriate use and development; and

- The use of buffers, height restrictions and other mitigation measures to avoid adverse effects on estuarine edges, land backdrops, spits and ridges.

No residential zoned land currently falls within outstanding and regionally significant features identified in the RCEP. Applying the above guidelines will be particularly important to consider if additional residential land is considered in the vicinity of areas with high landscape values (e.g. Whakatane and Ohope Spits).

5.5.2 Natural Heritage

The RCEP classifies the Ohiwa Harbour/Ohope Beach as an Area of Significant Conservation Value. The RCEP also lists areas of Significant Indigenous Vegetation, and the study area includes the listed Ohope Scenic Reserve (SSL 48). The RCEP recognises that sites above MHWS need to be protected by District Councils.

The study area falls within part of two ecological districts: Te Teko and Taneatua. In addition to sites identified by the RCEP and the Proposed Whakatane District Plan, the following unprotected natural heritage sites within the study area have been ranked as significant in terms of section 6(c) of the RMA by Beadel *et al:*

- Otamarakau - Matata - Whakatane Dunes, including Piripai Conservation Area and WDC Recreation Reserves (Category 1 - 23); and
- Whakatane Estuary (Category 2 - 41).

The following protected natural areas administered by the Department of Conservation are also of relevance and are ranked as High to Exceptional by Beadel et al:

- Keepa Road Reserve (part) (High - 41);
- Ohope Scenic Reserve (Exceptional);
- Port Ohope Recreational Reserve (part) (High); and
- Ohiwa Harbour Wildlife Refuge (High).

It is noted that WDC has withdrawn the Significant Natural Heritage Features schedule from the Rural Review of the Proposed District Plan; therefore there is no statutorily binding information.

Housing Implications

The protection of significant indigenous vegetation and habitats of indigenous fauna is matter of national importance (Section 6(c) RMA).

The emphasis in the RCEP is on excluding all activities that may have any actual or potential adverse effects on the habitats in the Coastal Habitat Preservation Zone. It is appropriate that the landward margin of significant sites is managed in a manner that is consistent with their seaward component. Housing development, therefore, should be prohibited where values within the Coastal Habitat Preservation Zone are adversely affected and restricted where sites of local significance are adversely affected. This approach is supported by the Proposed Whakatane District Plan, which states that subdivision and buildings within the Coastal Protection Zone and the Reserve Zone is a discretionary activity.

Development should avoid all areas of known significant natural heritage values.

5.5.3 Versatile Soils

Productive potential of soils is an important consideration under the RMA. The New Zealand Land Resource Inventory (NZLRI) classifies land according to its suitability for productive use after taking into account any physical limitations that the land may have. The NZLRI establishes eight land use capability classes whereby class I is the most versatile land unit and class VIII land exhibits the most limitations. Only 4.7% of NZ's soils are suitable for intensive farming uses which are dependent upon soil quality for production.

The most versatile land within the study area is to the west of the Whakatane River and to the east of the Maraetotara Stream (Classes I - III), being of moderate to high value for food production. Such land has been identified as 'prime agricultural land' (Figure 5.1).

Housing Implications

The residential zoning of high-class soils would compromise the use of their life supporting capacity for productive purposes. However, the Environment Court has established that while section 5(2)(b) of the RMA recognises the importance of soils be requiring the safeguarding of its life supporting capacity, this is not to be interpreted as being a requirement to ring-fence land containing high-class soil.[8] The Proposed District Plan also requires the protection of high quality soils as far as practicable (objective LRS4 and policies).

Rezoning of rural land to residential should avoid, where possible, high quality soils.

5.5.4 Natural Hazards

a. Instability

Whakatane District is in an active volcanic and seismic region of New Zealand. The Whakatane Fault runs through the central Whakatane area and there are several other faults within a few kilometres. The Whakatane Fault is considered to be active.

In addition to structures suffering damage from surface rupture along faults, when founded on deep alluvial deposits structures can be damaged by amplified ground shaking, and liquefaction causing ground settlement. Central Whakatane, the adjacent plains and areas around Ohope are on deep alluvial deposits. New subdivisions should be avoided in areas where liquefaction could occur in small to moderate earthquakes. Ground movements can also cause rupturing of underground services. Therefore urban areas built on deep alluvial deposits will experience more damage than those built on firmer foundations.

The presence of peat in low-lying alluvial areas, such as Poroporo, Keepa Road, Piripai and Maraetotara could cause foundation problems for buildings. Where peat deposits are encountered these should either be excavated or piled foundations should be used.

In central Whakatane there is the possibility of slips from the steep hills and cliffs along the eastern boundary. Slipping of the weak surface materials has occurred on some steep faces in the upland hill area. Falls of individual rocks from steep faces have also occurred in the Ohope area. It is considered that there should be no future development immediately below these slopes.

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[8] *Pokeno Farm Family Trust v Franklin District Council* (A37/97); *Becmead Investments Ltd v Christchurch City Council* [1997] NZRMA 1.

Housing Implications

In addition to the requirements of Part II of the RMA, Council is required to manage development so that natural hazards are avoided or mitigated (Section 31).

It is considered that housing development should not be carried out in the following areas:

- Areas susceptible to liquefaction in small to moderate earthquakes;
- Along the base of the steep hills and cliffs at the eastern boundary of central Whakatane; and
- Behind existing houses at the west end of Ohope.

Housing development could be undertaken in the following areas subject to specific geotechnical reports addressing, stability, and stormwater and sewage disposal issues:

- **The upland area between central Whakatane and Ohope;**
- **Between Pohutukawa Avenue and the hills above;**
- **The hills above Ohope; and**
- **The area between Bunyan Road and Orini Stream.**

b. Flooding Hazards

There are many low-lying areas within the greater Whakatane area which could be, and have been, subject to flooding. The constraints map (Figure 5.1) has been updated to include the areas that flooded during the July 2004 event. These areas include Awatapu, south of the Whakatane River at Rewatu Road, and west of Keepa Road.

The central Whakatane area is protected by stopbanks designed for a 100-year return period storm. Stormwater within the town is discharged into the Whakatane River either through flapgates or pumps. Some parts of the town are low lying and subject to surface flooding. In these areas temporary stormwater storage is provided by on site soakage (back lawns). Infill development will reduce the stormwater storage capacity and could cause other dwellings to be flooded. It is therefore likely that stormwater disposal systems will have to be upgraded for infill development, and this is likely to be required by the market.

Further development near the streams flowing onto Ohope Beach should be avoided where there is the possibility of stream bank erosion and damage caused by wave run-up on saturated sands. There may also be some flooding potential in the Maraetotara Valley.

Several streams flow from the hills through central Whakatane to the Whakatane River. Development in the hills needs to be designed so that there is no increase in the rate of runoff through Whakatane. Any increase could overload the existing stormwater control systems.

Upgrading of stopbanks is likely to be required if urban development is carried out onto rural lands to the west and south of central Whakatane. The stopbanks protecting these rural areas from flooding are built to a lower flood level than those around central Whakatane. Any breach to the west of the Whakatane River north of Rewatu Road is likely to fill the low lying Te Rahu basin and then move into the Poroporo area and across SH 30 to the Orini basin. According to an Opus report (August 2008), it would be good practice to design a residential area to more than a 100yr standard.

The Opus report goes on to assess the cost implications of raising ground levels west of the Whakatane River. To provide a reasonable minimum ground level would require over a million

cubic metres of fill with an approximate cost of $31M, which assumes a local fill source could be found. This figure excludes other significant costs such as raising road levels, retrospective mitigation for existing dwellings; amendments to the drainage network, and existing services infrastructure which may be affected. Filling the land in this area would result in a large increase in runoff into the Kope/Orini Canal system and pump station, and a corresponding decrease in the flood storage volume. This system is already at capacity. A new pump station would be an additional cost in the order of $3M.

Edgecumbe is located on low-lying land on either side of the Rangitaiki River. It sits on an active fault line that most recently faulted in 1987. The town also lies within the Taupo Volcanic Zone. The town is also susceptible to flooding and experienced major flooding in July 2004 when there was a breach in the Rangitaiki stopbanks. The desirability of further urban development in an area where the possibility of the stopbanks being overtopped in a major flood should be considered. The Council, with assistance from Environment Bay of Plenty, is investigating options to provide for rural and urban flood hazard mitigation in the Edgecumbe community. This is at a preliminary stage.

Due to the nature and risk of natural hazards to the Edgecumbe area, and the preliminary stage of investigation into options for hazard mitigation works, it is currently considered that the constraints to future residential development are of a magnitude that Edgecumbe has not been considered further as an option for accommodating any significant future residential growth.

Housing Implications

Development of areas subject to flooding will be constrained by predicted flood plains and the determination of appropriate minimum floor levels. The provision of pumped stormwater and sewage disposal may be a constraint in areas such as Piripai.

Infill development may cause stormwater disposal problems and each site should be assessed individually.

Raising of ground levels or upgrading of stopbanks would be required if urban development is carried out to the west and south of central Whakatane. This will incur a significant expense to the community estimated to be in the order of $31M.

Development in the hills above Whakatane should be constrained if the increased stormwater runoff is not prevented from causing downstream problems in central Whakatane.

c. Coastal Erosion and Inundation

There is potential for coastal erosion and inundation throughout the Whakatane District as identified in the Tonkin and Taylor reports prepared for Variation No. 6 to the Proposed Whakatane District Plan, including in the Ohope and Piripai areas. This is the most recent information available for defining the extent of coastal erosion and inundation hazards. The determination of coastal hazards uses the methodology provided in the Environment Bay of Plenty Regional Policy Statement and builds on the hazard areas defined in the Regional Coastal Environment Plan.

The Coastal Hazard Assessment prepared by Tonkin and Taylor identifies three coastal erosion hazards – the current erosion risk zone; the 2060 erosion risk zone; and the 2100 erosion risk zone – as well as areas of moderate and high risk to coastal inundation. It is intended that the Current Erosion Risk Zone is the limit for new development and that new residential activities

within the 2060 and 2100 erosion risk zones may be constrained depending on the type of development proposed. The assessment takes into account the most recent data on climate change and sea level rise from the Inter-governmental Panel on Climate Change (IPCC).

The hazard at any one site depends on long-term trends (including sea level rise), short-term erosion potential, dune stability, site-specific risks such as stream movement and possible mitigation measures. The District Council has adopted a precautionary approach as far as practicable, towards activities in this area.

New development around the Ohiwa Harbour and close to the coast is also subject to the setting of minimum floor levels to take into account the potential for flooding in a 1 in 100 probability event. Minimum floor levels for infill development take into account possible effects on neighbouring properties in terms of impacts on overland flow paths and reducing the storage capacity of low-lying areas. Variation No. 6 provides rules relating to floor levels and location of dwellings in these areas.

Housing Implications

There is potential for coastal erosion and inundation in the Piripai and Ohope areas as defined in the coastal hazards assessment prepared for Variation No. 6 to the Whakatane Proposed District Plan and in the Regional Coastal Environment Plan. New development within the Current Erosion Risk Zone is likely to be declined by Council in accordance with the Building Act or Section 106 of the Resource Management Act and is prohibited by Variation No. 6.

Development elsewhere in the areas subject to coastal hazard is subject to specific rules in the District Plan as provided for in Variation No. 6, or would require site specific Coastal Hazard Assessments.

New development around the Ohiwa Harbour is subject to minimum floor levels above predicted flood levels. Minimum floor levels for new and infill development also take into account possible effects on neighbouring properties.

5.6 Social and Cultural

5.6.1 Cultural Heritage

Cultural heritage sites include areas of value to both Maori and the general community. The Proposed Whakatane District Plan schedules a number of Significant Cultural Heritage Features within the study area (Schedule 5.2):

- Pa sites south of Rewatu Road (CH39 and CH41);
- Camellia Court Homestead (CH90);
- Goulstone Rd House (CH91);
- Paru site, Kakahoroa Drive (CH93);
- Kapua Te Rangi (CH94);
- Te Ana o Muriwai (CH95);
- Historic Reserve/Hinetuahoanga (CH96);
- Pohaturoa (CH97);
- Te Toka a Houmea (CH98);
- Wairere Stream Waterfall (CH99);
- Ohuirehe Urupa (CH100);
- Pupuaruhe Urupa (CH101); and

- Maraetotara Urupa (CH102).

There are a number of other cultural heritage sites that are not listed in the Proposed District Plan, but are located in or adjacent to the study area. These include Tauwhare Pa Scenic Reserve (administered by Ngati Awa and the Department of Conservation), Te Paripari Pa.

Consultation with Ngati Awa in preparation of the 2000 Strategy identified a significant urupa (Opihiwhanangakore) near Piripai Spit, which is also discussed in the Boffa Miskell Report (May 1995) and the RCEP. This area, and part of the adjacent Council land to the west, has been excluded from the database of land available for future housing. It is also important to note that significant cultural heritage sites are located on the margins of the Ohiwa harbour.

There are a number of marae within the study area, with the majority being to the west of the Whakatane River and urban area. Compared with other urban settlements there is also a significant amount of Maori land within the study area (refer Figure 5.1). The extent to which Maori land presents a constraint to future residential housing will depend upon the aspirations of the particular Maori landowners.

The cemetery between Whakatane and Ohope has also been identified as a major environmental constraint.

There are no sites of cultural heritage in or around Thornton listed in the Proposed Whakatane District Plan.

Housing Implications

The relationship of Maori and their culture and traditions with waahi tapu and other ancestral taonga is a matter of national importance to be recognised and provided for under the RM Act (Section 6(e)).

Similarly, Section 7(e) requires the heritage values of sites and buildings to be recognised and protected.

Infill development may threaten these sites. Future zoning of land to residential should consider the location of cultural heritage sites, and avoid these where possible.

Further consultation with Tangata Whenua will be undertaken as part of the consideration of this draft report.

5.6.2 Reserves

The Proposed District Plan recognises the value of reserves and open space for a number of purposes, including recreation, amenity, wildlife, ecosystems, cultural heritage and natural hazards. Existing and proposed reserves have been identified on the constraints plan. A number of reserves coincide with other constraints discussed in this section, such as coastal hazard and flood control reserves. For this reason, it is even more important to avoid residential development of these reserves. Examples are:

- Mahy Recreation Reserve (D191);
- Kohi Point Scenic Reserve (L5);
- Ohope (Mokorua) Scenic Reserve (D186);
- Coastlands Coastal Protection Reserve (D189); and
- Awatapu Flood Control Reserve.

The current supply of reserves for the Whakatane and Ohope urban area is as follows (note that this excludes Edgecumbe). These figures include all reserves (drainage, access, plantation etc).

Table 5.1 – Reserves Provision

Reserve type	Existing Area (ha)	Proposed Level of Service for 19,170 People
Active (e.g. sportsfields)	37 ha (excludes the golf course of 131 ha)	32.58 ha
Passive (e.g. walkways, gullies)	530 ha (includes 153.91 ha of Kohi Point Scenic Reserve, and 237.55 ha of Mokorua Bush Scenic Reserve)	32.58 ha
Neighbourhood (e.g. local parks)	97 ha	
Esplanade	11.55 ha	

Applying levels of service of 1.7 ha per 1,000 head of population for both active and passive reserve provision, and 0.05 ha per 1,000 population for community reserves, **66.13 hectares** of reserve would be required for the future population of 19,170 (2021). This is exclusive of esplanade, historic, and stormwater reserves. There appears to be a surplus of reserve provision in the urban area, particularly for passive and neighbourhood categories. The passive reserves quantum reflects the very large landholdings about the coast that are not technically labelled esplanade reserves.

Housing Implications

Reserves are considered to be significant public assets and, in conjunction with the values contained within the reserves (e.g. ecological, cultural heritage), they can be considered as major constraints or “no-go” areas for future housing.

We note the provision of active sports fields (exclusive of the Golf Course) is finely balanced to the population. The demand for additional parks for the provision of sportsfields and playgrounds will increase as the population growth increases in the settlements of Whakatane and Ohope.

Council advises that the current provision of active recreation areas designated for organised sport is at the maximum threshold with many sporting codes requiring additional reserves in the short term. Where new greenfield growth areas are identified consideration should be given to the provision of active sportsfields to ensure that the long-term provision remains adequate.

Quality neighbourhood reserves linked by safe walkways/accessways/cycleways and streetscapes that are accessible to residents all physical abilities are also a key requirement. Neighbourhood reserves ranging in size from 1.5 to 2 ha within a 5-minute walking radius or 500m radius from the furthest household. These neighbourhood reserves are to accommodate facilities such as a neighbourhood playground, a kick-about area and other features that enhance the passive recreational value of the reserve and the quality of the residential experience e.g. amenity planting, trees, seating.

5.6.3 Tangata Whenua

The Tangata Whenua of the area maintain relationships with ancestral taonga in a variety of ways including protecting waahi tapu (e.g. Piripai), fishing and shellfish gathering (e.g. Ohiwa Harbour), and maintaining marae and papakainga.

Housing Implications

Urban zoning of Maori land is likely to result in land alienation from the Maori landowners. **Due to the cultural significance of land and the limited amount of land remaining in Maori ownership, urban zoning of Maori land should be avoided unless it is supported by the particular landowners**.

5.6.4 Incompatible Activities

A number of existing and proposed landuses place constraints on the location of future residential development due to issues of reverse sensitivity. The constraints include factors such as:

- The existing Burma Road Landfill (only for Council use), and the proposed Recycling Park at Te Tahi Street;
- Proximity to Industrial zoned lands;
- Noise (e.g. urban arterial streets, the State Highway, and the Whakatane Airport flight paths which extend into the Piripai area);
- Odour from the sewage treatment plant; and
- High voltage power lines.

Housing Implications

Location of residential areas in close proximity to these types of existing uses cannot only reduce the quality of life experienced, but also place future constraints on the operations of the existing uses.

It is important to ensure that any areas defined for future urban expansion provide for a balance between the needs of the existing uses and the requirement for new areas to have an amenity appropriate for residential use.

5.7 Summary

In summary, the following constraints have been identified within the identified potential growth areas.

Wastewater

The Whakatane wastewater treatment ponds have a maximum winter capacity of 17,000 people (and a summer capacity of 25,000 people) and this will be a constraint to the anticipated future population growth. The excess capacity is currently 2,600 people.

The Ohope wastewater system has a capacity of 3,200 permanent residents and the current population being served is 2,900.

Stormwater

- The disposal of stormwater from urban development areas to the west of the town will require pumping into the present drains or canals. In order to increase overall flood protection, the height of some existing stopbanks may need to be raised, and the capacity of the pump stations increased.
- An overall evaluation of the whole of the lower plains stormwater catchment and disposal schemes would be needed before a final decision was made as to the siting of new urban development.

Natural Hazards

- Housing development could be undertaken in a number of areas subject to specific geotechnical reports addressing stability, and stormwater and sewage disposal issues. These include the upland area between central Whakatane and Ohope; between Pohutukawa Avenue and the hills above; the hills above Ohope; and the area between Bunyan Road and Orini Stream.
- Raising ground levels or upgrading of stopbanks would be required if urban development is carried out to the west and south of central Whakatane. This will incur a significant expense to the community - perhaps a prohibitive expense.
- Development in the hills above Whakatane should be constrained if the increased stormwater runoff is not prevented from causing downstream problems in central Whakatane.
- Development elsewhere in the areas subject to coastal hazard is subject to specific rules in the District Plan as provided for in Variation No. 6, or would require site specific Coastal Hazard Assessments.
- Due to the nature and risk of natural hazards to the Edgecumbe area, it is considered that the constraints to future residential development are of a magnitude that Edgecumbe has not been considered further as an option for accommodating any significant future residential growth.

Reserves

- Council advises that the current provision of active recreation areas designated for organised sport is at the maximum threshold with many sporting codes requiring additional reserves in the short term. Where new greenfield growth areas are identified consideration should be given to the provision of active sports fields to ensure that the long-term provision remains adequate.

Cultural

- Due to the cultural significance of land and the limited amount of land remaining in Maori ownership, urban zoning of Maori land should be avoided unless it is supported by the particular landowners.

Incompatible Activities

- It is important to ensure that any areas defined for future urban expansion provide for a balance between the needs of the existing uses and the requirement for new areas to have an amenity appropriate for residential use.

6 Assessment of Future Growth Options

6.1 Introduction

As outlined in section 1.3 of this report, eleven options have been considered to cater for future residential growth in the Whakatane urban area over the next 20 years. These options have been considered in light of the opportunities and constraints identified in the previous sections of this report, and have been assessed against a set of common assessment criteria.

6.2 Future Growth Options

Table 6.1 describes the growth options assessed.

Table 6.1 – Future Growth Options

Option No.	Option Name	Description of Option
1	Coastlands (previously referred to as Piripai West)	▪ 221 ha plus ▪ Consists of land on Golf Links Road/ Bunyan Road West (see Figure 6.1)
2	Keepa Road	▪ 138 ha ▪ Consists of land on Keepa Road/Bunyan Road/Ferguson Road
3	Board Mills West	▪ 234 ha ▪ Consists of land on Huna Road/SH 30/ Shaw Road/Paroa Road/Patuwai Road/ Kope Drain Road
4	Black's Farm (previously referred to as Whakatane South/Taneatua Road)	▪ 82 ha ▪ Consists of land on Taneatua Road (see Figure 6.2)
5	Mokorua East	▪ 20 ha
6	Kohi Point South	▪ 13 ha
7	Maraetotara Valley (previously referred to as Maraetotara/Bluett Road and Pohutukawa Avenue East)	▪ Combined into one option called 'Maraetotara Valley' (totalling 104.28 ha). ▪ Bounded by Pohutukawa Avenue, Wainui Road and Bluett/Maraetotara Roads (see Figure 6.3)
8		
9	Edgecumbe	▪ Township of Edgecumbe
10	Rewatu Road	▪ 135 ha ▪ Consists of land on Rewatu Road/Pahou Pa Road/Mason Road/Mokai Road
11	Medium density inner town (CBD & Kope)	▪ Two distinct areas – CBD (10.5 ha) and Kopeopeo (23.1 ha) ▪ Apartments and mixed use developments ▪ CBD area bounded by Commerce Street/ McAlister Street/Domain Road/Pyne Street (see Figure 6.4) ▪ Kopeopeo area bounded by Stewart Street/Hinemoa Street/Victoria Avenue/King Street (see Figure 6.5)

Figure 6.1 – Option 1: Coastlands

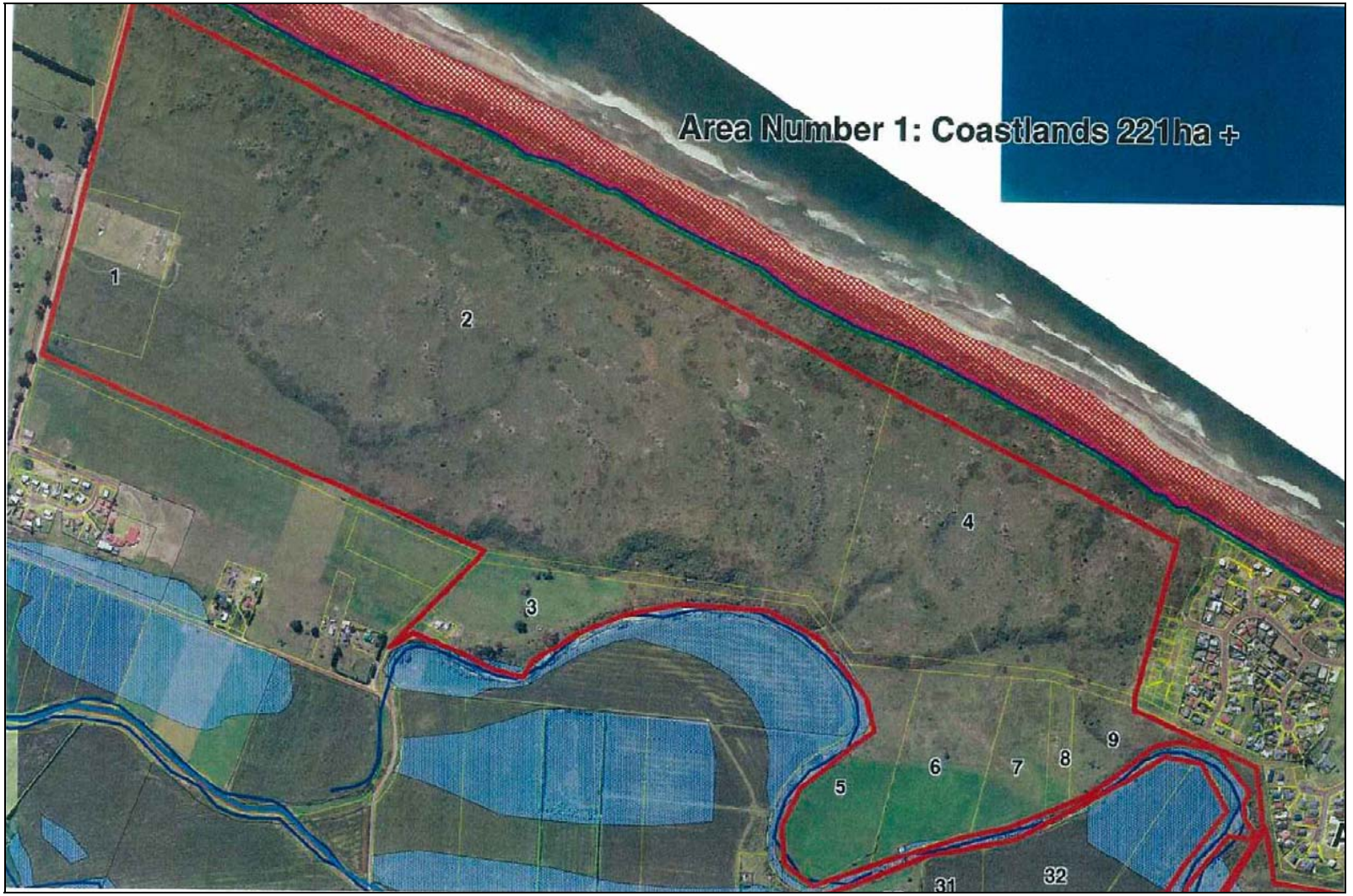


Figure 6.2 – Option 4: Black's Farm

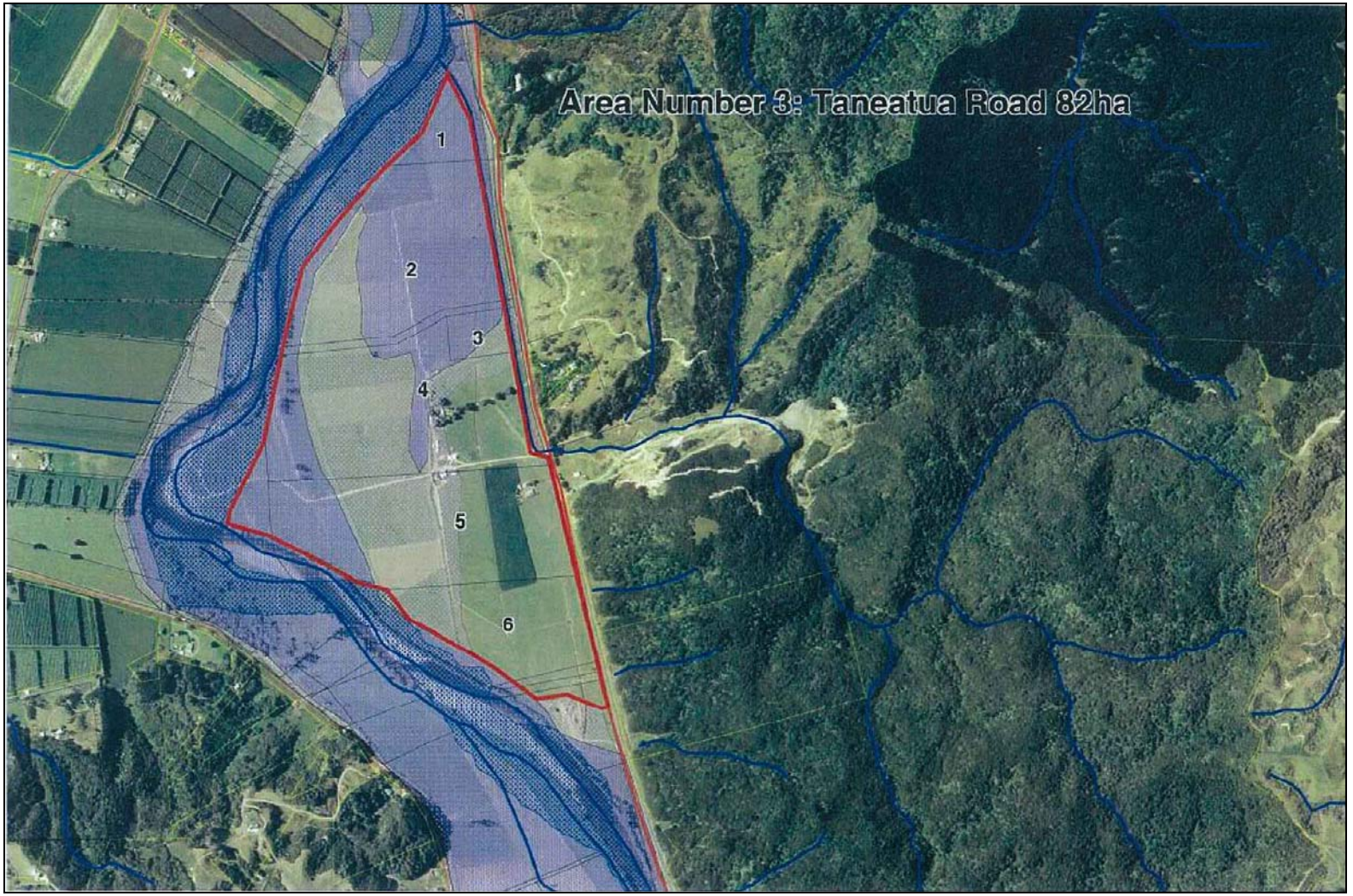


Figure 6.3 – Option 7/8: Maraetotara Valley

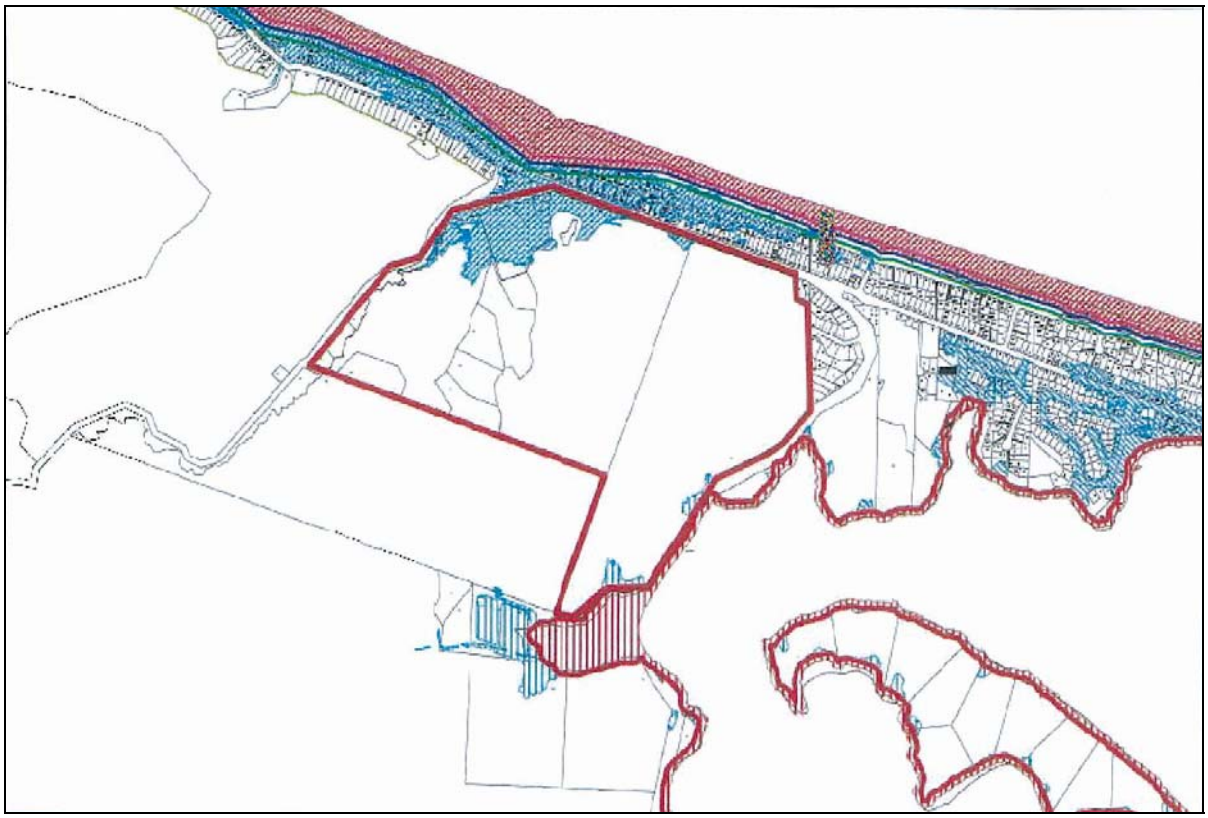


Figure 6.4 – Option 11: Medium Density Inner Town (CBD)

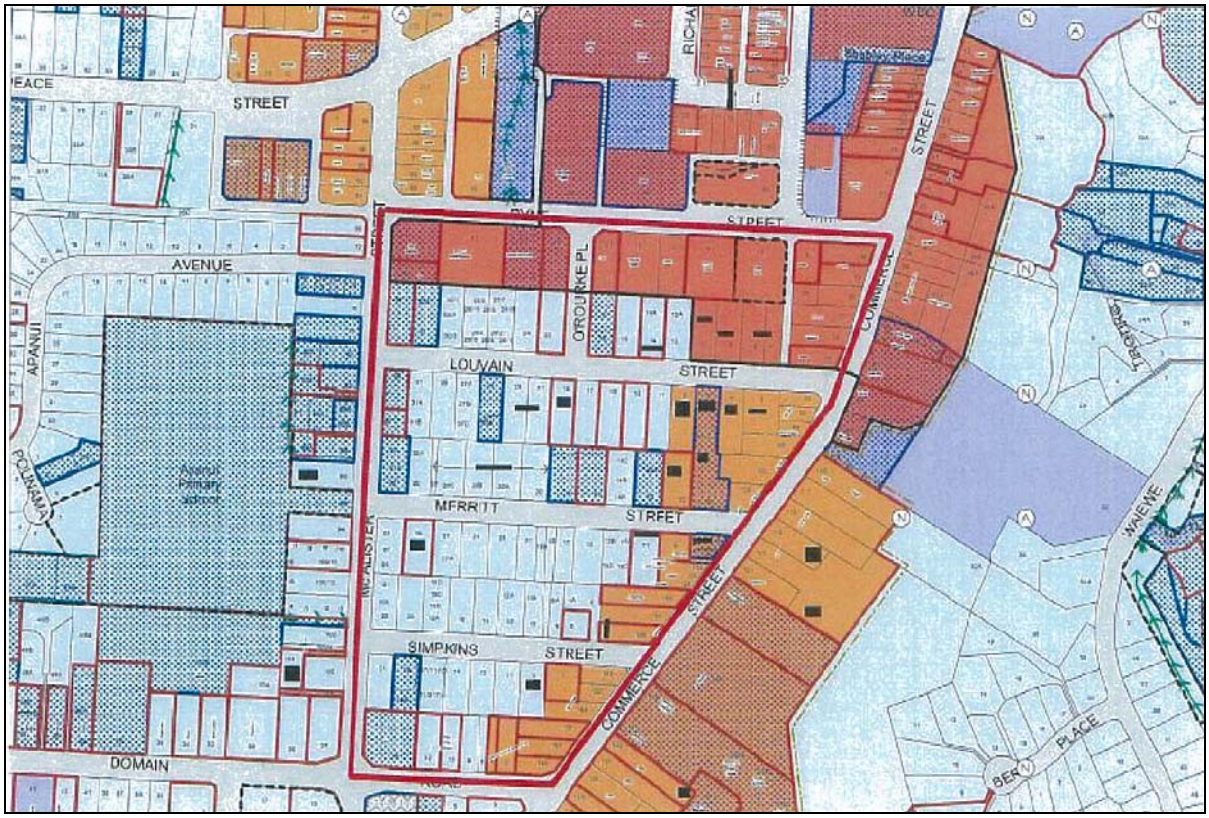
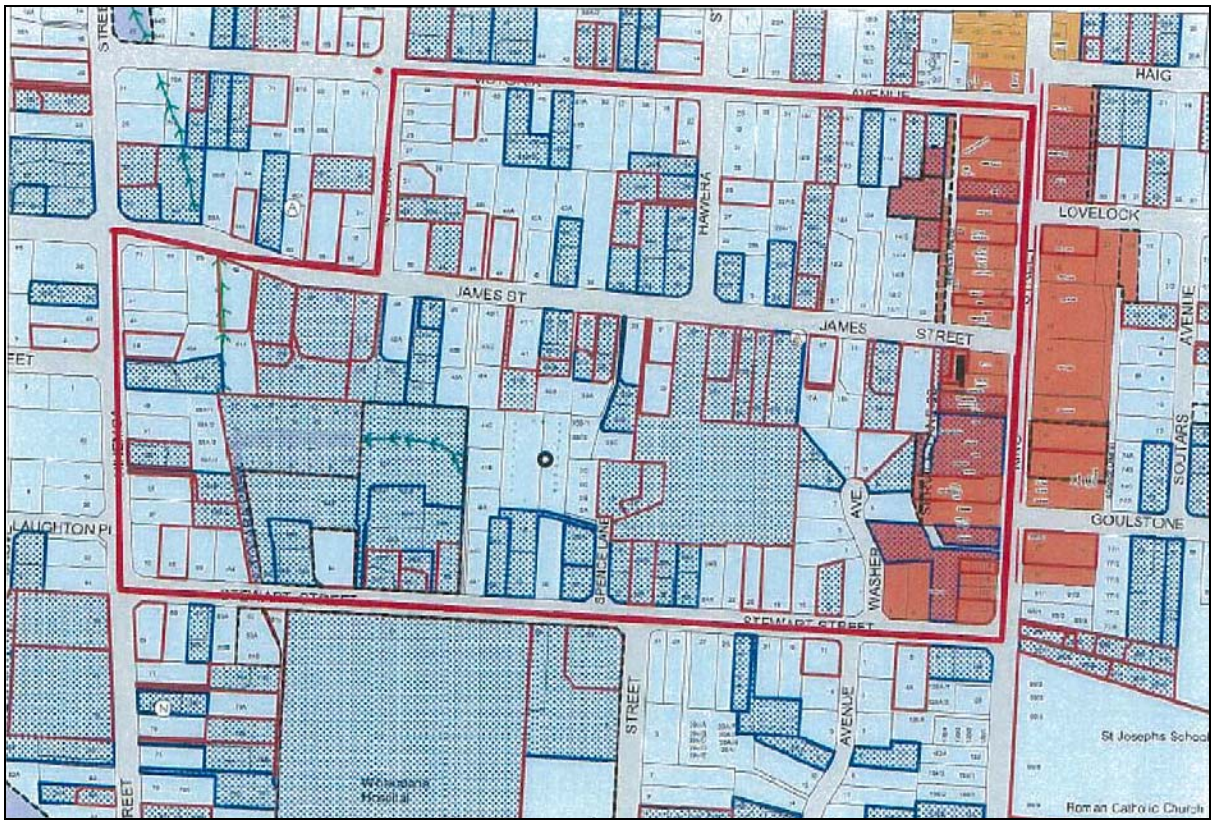


Figure 6.5 – Option 11: Medium Density Inner Town (Kope)



As indicated in section 1.3, as part of the review of the 2000 Strategy, Thornton was suggested as a possible future growth option and some preliminary investigation was undertaken. Thornton was subsequently dropped as an option, due to its distance from central Whakatane, anticipated increased demands upon existing community facilities and the need for costly water and wastewater infrastructure and stopbank upgrades. The opportunities and constraints data for Thornton is now contained in Appendix A.

6.3 Assessment Criteria

The assessment criteria used in this analysis include the following initial assumptions:

- Land ownership – Number of owners associated with each potential development option. Fragmented land ownership can be an inhibiter to urbanisation;
- Cultural heritage – Avoidance of cultural sites of Section 6 RMA significance, alienation of Maori land title, historic and cultural sites of regional significance etc;
- Natural heritage – Avoidance of areas of Section 6 RMA significance and sites of regional significance etc;
- Landscape features – Avoidance of areas of Section 6 RMA significance and sites of regional significance etc;
- Socially and physically contiguous – so that new development can use the existing social and physical infrastructure rather than having to establish new facilities;
- Versatile soils/Land contamination – Avoidance of areas of highly versatile soils, known areas of land contamination;

- Social and land use incompatibility (e.g. airport, power lines etc) – Avoidance of areas adjacent to State Highways, business uses, high voltage power lines and airport flight paths etc;
- Natural hazards/Land stability/Flooding/Inundation – avoidance of areas within 100-, 200-, 300-year floodplains, geotechnical hazard areas were possible;
- Infrastructure
  - Stormwater – technically feasible systems exist
  - Water – technically feasible systems exist
  - Sewerage – technically feasible systems exist
  - Transport – technically feasible systems exist.

Each future growth location option was assessed against the above criteria in an assessment matrix, and using a colour-coded system of red, orange and green, a number of preferred options were identified. As part of the assessment process, a fourth score of 'pink' was also assigned to some criteria.

The assessment matrix includes comments on each option under the various assessment criteria, and a colour-coded judgement of the effect of various constraints and opportunities according to:

- Green = not considered a constraint, or easily mitigated for
- Orange = considered a constraint that may be acceptable or mitigated for
- Red = considered an undesirable constraint, a "show-stopper"
- Pink = significant (and costly) mitigation measures required for option to be feasible.

It is noted that a key driver to the assessment of the options was the economic cost of any mitigation required. This is because the cost would largely need to be met by developers and in some cases (highlighted 'red') was considered to be prohibitive.

Based on a system of "show-stopper" principles (such as the economic costs of flood protection measures), a number of options were discarded, and others were deemed acceptable to take forward to the next phase, further analysis and public consultation.

The assessment matrix (Table 6.2) is included on the following pages.

Table 6.2 – Comparative Assessment of Whakatane Residential Growth Options

Key: xyz **Probable** xyz **Potential** xyz **Possible, with significant and costly mitigation** xyz **Undesirable**

Growth Option	Land Ownership	Cultural Heritage	Natural Heritage	Landscape Features	Socially and Physically Contiguous	Versatile Soils/ Land Contamination	Social and Land Use Incompatibility (e.g. airport, power lines etc)	Natural Hazards/ Land Stability/ Flooding Inundation	Infrastructure			
									Stormwater	Water	Sewerage	Transport
General Comments	*Land fragmentation can make urbanisation difficult*	*Number of significant cultural heritage features within the study area to be avoided where possible. Subject to consultation*	*Due to potential effects on regionally significant natural heritage from urban development, future residential growth to avoid significant natural heritage areas*	*No outstanding or regionally significant features as identified in Regional and District Plans affected by any options*	*Contiguous urban growth assists in ensuring a sense of belonging to the community with all its social infrastructure and physical services*	*Active volcanic and seismic region with active Whakatane fault, potential for liquefaction, construction problems on peat, needs to be excavated or use of piled foundations*	*Proximity to incompatible landuses*	*All options subject to earthquake risk to a varying degree*	*Many of the areas generally flat, some below flood levels set by EBOP, disposal of stormwater to the west of the town will require pumping into present drains and canals, stop banks improvements needed in some locations*		*Site of treatment ponds a constraint to development, due to reverse sensitivity, but existing excess capacity of 5,000 population* *Ohope separate system, with additional capacity*	*New State Highway river crossing required regardless of options. Additional bridge capacity required near The Hub development also.*
1. Coastlands	Around 10 landowners including Maori land.	Maori land. Potential for waahi tapu. Known Urupa and no other recorded sites.	No significant values identified in District or Regional Plans behind the Coastal Hazard Zone of the District Plan. Limited coastal plant and wildlife values	Need to avoid effects on dune landscape	Contiguous with existing residential development	Not highly versatile soil Pockets of mill waste disposal at site boundary	Near edge of possible flight path and 55 and 60Ldn noise contour. Contour as per Whakatane airport master plan	Relatively stable contours. Some earthquake risk in high water table areas. Presence of coastal hazards but considered low risk	No major stormwater constraints	Water upgrading underway	Trunk sewer upgrading underway	Landing Road Bridge route possible security constraint (structural and scouring). Minor impact on bridge existing capacity issues.
2. Keepa Road/ Canal Area	Over 30 landowners including Maori land.	Maori land. No recorded sites.	No significant values Reasonably close proximity to Whakatane Estuary.	Not near significant features and creates opportunity to reinforce connections with river.	Contiguous with existing residential development.	Highly versatile soils lost to housing. Mill waste disposal.	Near edge of possible flight path and 60Ldn noise contour. Contour as per Whakatane airport master plan	Relatively stable contours. Some earthquake risk in high water table areas Some areas of higher land may be suitable for development. However, Low lying area with potential foundation and flooding problems Raise land to required building platform levels and stop bank treatment	Engineering and pumping stations - Necessary to either raise land for stormwater reticulation or establish stormwater pumping scheme and ring banking.	Water upgrading	Trunk sewer upgrading	Landing Road Bridge route possible security constraint (structural and scouring). Minor impact on bridge existing capacity issues.

Growth Option	Land Ownership	Cultural Heritage	Natural Heritage	Landscape Features	Socially and Physically Contiguous	Versatile Soils/ Land Contamination	Social and Land Use Incompatibility (e.g. airport, power lines etc)	Natural Hazards/ Land Stability/ Flooding Inundation	Infrastructure			
									Stormwater	Water	Sewerage	Transport
3. Board Mills West	Over 30 land owners	Recorded sites, Maori land and nearby urupa.	No significant ecological values.	No significant landscape features.	Isolated - Creating a new residential area.	Highly versatile soils. Mixture of pastoral and intensive agriculture. Some areas used for mill waste disposal.	Adjacent to industrial uses and intensive agriculture. Potential to conflict with housing.	Low lying land and possible foundation problems. Manageable by pumping as areas of higher ground	Constraints on lower ground. Need to raise or establish stormwater pumping scheme. Limited constraints on higher ground closer to river.	Extension to water reticulation from bridge needed.	Extension to sewerage reticulation needed.	Landing Road Bridge route possible security constraint (structural and scouring). Minor impact on bridge existing capacity issues. Route E for future State Highway or upstream bridge may potentially impacts on area. State highway intersection upgrade would be required.
4. Blacks Farm (Whakatane South/ Taneatua Road)	Around 5 landowners	No recorded sites.	No significant ecological values.	No significant landscape features.	Would represent ribbon development along arterial road.	Loss of pastoral activities to farming. Loss of versatile soils. No known waste disposal.	Light industry to north and adjacent to district arterial road and state highway. Isolated from town and Hub.	Debris Fan. **Flooding problems. Some upgrading of stop banks required on both Whakatane River and side streams** Possible land stability issues.	Land raising and/or pumping scheme required.	Extension to existing reticulation required.	Extension to existing reticulation required.	Limited road upgrading needed Possible New state highway bridge position. Would require connectivity to SH2. Would result in pressure on arterials and Landing Rd bridge.
5. Mokorua East	Rural residential possibly difficult to convert.	No recorded sites	Adjacent to Mokorua reserve. Potential effects on wildlife.	Encroachment into open space between Whakatane and Ohope. Not significant site	Difficult to connect to surrounding areas	Not highly versatile soils.	Adjacent to arterial road.	Potential instability in steep areas. Requires geotechnical studies to establish potential pockets of residential housing. Needs well controlled stormwater disposal.	No major stormwater constraints.	Possible header tank required.	Extension to sewer trunk main required to Whakatane.	Would result in increased pressure on local roads, arterials and Landing Rd bridge.

Growth Option	Land Ownership	Cultural Heritage	Natural Heritage	Landscape Features	Socially and Physically Contiguous	Versatile Soils/ Land Contamination	Social and Land Use Incompatibility (e.g. airport, power lines etc)	Natural Hazards/ Land Stability/ Flooding Inundation	Infrastructure			
									Stormwater	Water	Sewerage	Transport
6. Kohi Point South	Maori land.	Maori land. No recorded sites	Close proximity to Kohi Point reserve.	Encroachment into open space between Whakatane and Ohope. Not significant site	Contiguous with existing Kohi Point development.	Not highly versatile soils.	No incompatible uses nearby.	Needs well controlled stormwater disposal. Potential instability in steep areas.	Possible outlet constraints.	Possible header tank and pumping required.	Extensive extension required to sewer trunk main to Whakatane.	Would result in increased pressure on local roads, arterials and Landing Rd bridge.
7. Maraetotara/ Bluett Road	Limited number of land owners, Maori land	Maori land Some recorded sites and	No significant ecological values. Adjacent to stream.	No significant landscape features.	Contiguous with existing residential development.	Majority of area not highly versatile soils. Small pocket of high versatile soils adjacent to stream.	No incompatible uses nearby.	Low lying areas present with potential foundation and flooding problems. Foothills with potential stability problems.	Stopbanking of stream required and raising of sites. Limited stormwater constraints on western side of stream.	Extension required from Ohope reticulation and additional reservoir capacity.	Extension required to Ohope reticulation and upgrade of existing pumping station.	Would result in increased pressure on local roads, arterials and Landing Rd bridge. Particular pressure on Pohutukawa Ave may result in amenity issues. Maraetotara Rd would require upgrade.
8. Pohutukawa Avenue East	Limited number of land owners, Maori land	Maori land. Some recorded sites and	No significant ecological features.	No significant landscape features.	Contiguous with and reinforces existing residential development	Majority of area not highly versatile soils. Small pocket of high versatile soils adjacent to Pohutukawa Avenue.	Adjacent to district arterial road.	Low lying areas present with potential foundation and flooding problems. Foothills with potential stability problems.	Stormwater trunk main required.	Reservoir capacity upgrading required.	Extension required to Ohope reticulation and upgrading of existing pumping station.	Would result in increased pressure on local roads, arterials and Landing Rd bridge. Particular pressure on Pohutukawa Ave may result in amenity issues. Maraetotara Rd would require upgrade.
9. Edgecumbe (See page 45 of report)								Major flood risks. Business case to support existing development, not for expansion.	1987 earthquake changes slope characteristics. Need town drain to be re-routed and the installation of a new pumping station	Fully Reticulated within township, opportunity for capacity increase or additional sources to be identified.	Treatment ponds have an additional population capacity of 1,300 opportunity for technology improvements.	Reverse sensitivity a result of existing SH2 through town. Increased pressure on Landing Rd bridge.

Growth Option	Land Ownership	Cultural Heritage	Natural Heritage	Landscape Features	Socially and Physically Contiguous	Versatile Soils/ Land Contamination	Social and Land Use Incompatibility (e.g. airport, power lines etc)	Natural Hazards/ Land Stability/ Flooding Inundation	Infrastructure			
									Stormwater	Water	Sewerage	Transport
10. Rewatu Road	Over 50 land owners including some Maori land.	Adjacent Maori land	-	No significant landscape features.	Isolated - Creating a new residential area. Not reinforcing existing town character.	Pockets of versatile soil	No incompatible uses nearby.	Flood risks but have pockets of available land	Engineering and pumping stations - Necessary to either raise land for stormwater reticulation or establish stormwater pumping scheme and ring banking.	Water upgrading	Trunk sewer upgrading	Limited road upgrading needed Requires new state highway bridge to proceed. Would also require connectivity to SH2. Would result in pressure on arterials and Landing Rd bridge.
11. Medium Density Inner Town (CBD and Kope)	Multiple landowners in existing residential titles.	Sites unknown but possible finds in construction phase	Unlikely to be any sites of natural heritage due to extensive development having already taken place.	Unlikely to be any landscape features due to extensive development having already taken place.	In keeping with existing town character	Extensive residential / urban development already taken place. Minor likelihood of contamination.	Extensive residential / urban development already taken place. Kope Substation located within Kope infill option. Potential for reverse sensitivities, but could be addressed through technology.	Whakatane River stop banks provide protection to urban area	Upgrade of infrastructure likely to be required	Upgrade of infrastructure likely to be required	Upgrade of infrastructure likely to be required	Would result in increased pressure on local roads, arterials and Landing Rd bridge.

Table 6.3 – Summary Assessment for each Growth Option

Growth Option		Undesirable (Red)	Possible, Costly Mitigation (Pink)	Potential (Orange)	Probable (Green)
1.	Coastlands	0	0	6	6
2.	Keepa Road/Canal Area	1	2	3	6
3.	Board Mills West	4	0	5	3
4.	Blacks Farm (Whakatane South/ Taneatua Road)	0	3	5	4
5.	Mokorua East	2	0	8	2
6.	Kohi Point South	1	0	8	3
7.	Maraetotara/Bluett Road	0	0	8	4
8.	Pohutukawa Avenue East	0	0	9	3
9.	Edgecumbe	2	0	2	1
10.	Rewatu Road	2	1	2	7
11.	Medium Density Inner Town (CBD and Kope)	0	0	5	7

6.4 Comparative Assessment of Options

6.4.1 Land Ownership

Fragmented land ownership and multiple ownership will always be a constraint to urbanisation and it is important for the Council to continue to consult with all parties and be aware of development propositions.

6.4.2 Cultural Heritage

Only one site (Board Mills West) has known heritage values of significance. The consultation programme will clarify whether there are any additional areas of constraints.

6.4.3 Natural Heritage/Landscape Features

No sites have significant natural or landscape features within their boundaries; however both Kohi Point and Mokorua East are located adjacent to the open space between Whakatane and Ohope.

6.4.4 Socially and Physically Contiguous

Board Mills West and Rewatu Road are relatively isolated locations, and thus development of these sites would require the creation of a new residential area. This is considered to be a constraint to their development, as they do not make use of the character of existing developed areas. Similarly, Mokorua East is sited in an area that would be difficult to connect to surrounding areas. Other sites are contiguous with existing residential development.

6.4.5 Soils/Contamination

Highly versatile (and potentially productive) soils are found in the locations of Keepa Road, Board Mills West, and Black's Farm. Keepa Road and Board Mills West have also got pockets of potentially contaminated land.

6.4.6 Social and Land Use Incompatibility

Coastlands and Keepa Road are located near to, but outside of, the flight approach paths and noise contours for Whakatane Airport. Board Mills West is adjacent to intensive agriculture and industrial land uses which has the potential to create reverse sensitivities for any future housing in the area. Mokorua, Black's Farm and Pohutukawa Avenue are adjacent to District arterial roads, and Black's Farm is located with light industry to the north.

6.4.7 Natural Hazards/Land Stability/Stormwater

Areas that are identified by EBOP as flood-prone or requiring extensive work to existing stopbanks to strengthen or raise them to latest design levels, have generally been colour-coded red under 'Inundation' and/or 'Stormwater' headings. Also, where a significant portion of the existing land area is below the latest EBOP-recommended building-platform levels, the area has been colour-coded red under these same headings, as the issue is still basically stormwater and inundation, and mitigation would require landfilling operations.

It is difficult to quantify the costs of upgrades to existing stopbanks or construction of new stopbanks, as level data is not readily accessible and geotechnical data would also need to be gathered. This data is typically gathered as further investigation, and is not warranted as part of a preliminary analysis. An indicative cost of new stopbank construction to an overall height of 4.0 metres above existing ground level is in the order of $4,000 to $5,000/m. Should an existing stopbank need to be heightened and strengthened, an indicative cost could be in the order of $2,000 to $2,500/m (2007). The raising of ground levels (particularly to the west of the Whakatane River) is expected to be in the order of $31M, plus a new pump station ($3M).

Where stopbanking or landfilling costs were necessary, or where there was a risk of significant flooding if a stopbank was breached, then an area was considered less attractive as a future urban growth area. It is appreciated that even with landfilling costs and stopbanking costs some lower lying land may still be economical to develop, but the ongoing risk of flooding if stopbanks were breached makes these areas less attractive for future urban growth in comparison to areas not requiring stopbanking. Several of the areas have been excluded from further consideration because of this.

General Council infrastructure costs of stormwater, water, sewerage and roading would be similar for many of the areas, or not so significantly dissimilar to warrant exclusion on this basis alone.

6.4.8 Water/Sewerage

All options except for Coastlands, Keepa Road and the Medium Density Inner Town locations would require extension to existing reticulation for both water and wastewater. Further residential development in Coastlands and Keepa Road may require upgrading of existing infrastructure, as is the case for the Medium Density Inner Town option. Development in Maraetotara Valley would require an increase of capacity at the Ohope reservoir and an upgrade of the existing sewerage pumping station.

6.4.9 Transport

The Transport model (BBO) concludes that a new State Highway river crossing is required regardless of the preferred growth options. Additional bridge capacity is also required on the existing Landing Road bridge. Most options would require upgrade of some existing roads, with increased pressure on district arterial routes. Rewatu Road (Option 10) and Black's Farm (Option 4) are both reliant on the construction of a second bridge over the Whakatane River.

6.5 Summary of Growth Options Assessment

The most significant issues arising from the 11 potential growth areas are:

- **Keepa Road (Option 2):** EBOP does not identify this as an area that could be inundated if a stopbank is breached. The required minimum building floor level of RL2.2m would necessitate filling in some areas. Furthermore, this would result in the loss of highly versatile soils, and there are potentially pockets of contaminated land (due to mill waste disposal).
- **Board Mills West (Option 3):** This area is protected by stopbanks on the Whakatane River. EBOP identify that in the case of a stopbank breach, inundation would occur over 60% of the area south of the Kopeopeo Canal to up to 2.0m deep, but there would be no associated inundation to north of the canal. The required minimum building floor level is RL2.2m in Paroa Road area, and up to RL2.9m in Patuwai Road north to SH30 area.

  Furthermore, there are recorded archaeological sites in this area, there are also pockets of potentially contaminated land, and the area is adjacent to industrial land use and intensive agricultural with potential reverse sensitivity issues. The site is also isolated from any other residential development.
- **Black's Farm (Option 4):** Protected by stopbanks that would require upgrading at possibly $2000/m. May require landfilling, but in case of a 1-in-300 year flood event plus breach, about 85% of the area would be flooded, and over 50% to a depth of greater than 1.5 metre.

  This area also has possible land stability issues.
- **Mokorua East (Option 5):** There is potential instability in steep areas and the area is not adjacent to any existing residential development. Also would require well controlled stormwater disposal.
- **Kohi Point South (Option 6):** There is potential instability in steep areas and the area would require well controlled stormwater disposal.
- **Maraetotara (Option 7 and 8):** EBOP's report suggests stopbanking the east side of the Maraetotara stream for about 900 metres but no height of stopbank is noted. Available data[9] suggests that the stopbank would on average be only 1.3m high, to provide 0.5m freeboard in a 1-in-50 year event. Increasing the stopbank height would cost in the order of $600/m, or an all up cost of about $540,000 (2007). Upgrading of the culvert across Pohutukawa Avenue should also be included. A ROC (Rough Order Cost) for this is $45,000 (2007).
- **Rewatu Road (Option 10):** Area is low-lying and it would be necessary to raise ground levels at an estimated cost of $31M, plus a new pump station at $3M. Furthermore, the area is not adjacent to any existing residential development.

[9] *"Maraetotara Stream Flood Risk Report"*

7 Preferred Options

Given the analysis of the 11 options identified, it is recommended that four options be taken forward to the public for consultation. These options, and the reasons they are preferred, are outlined below.

- **Coastlands (Option 1)**
  - Contiguous with existing residential development.
  - Not highly versatile soils; stable land.
  - Presence of coastal hazards, but considered low risk.
  - No stopbank works, or land-filling is required to meet the EBOP-recommended building platform level.
- **Maraetotara Valley (Options 7 + 8 combined)**
  - Contiguous with existing residential development.
  - Adjacent to district arterial road.
  - Majority of area not highly versatile soils.
  - Potential flooding issues, however development of the flatter lands east of the stream could be mitigated by construction of a low stopbank, at a ROC of $600,000.
- **Medium density CBD and Kopeopeo (Option 11)**
  - Promotes efficient use of existing infrastructure resources (with minimal upgrades required) and community facilities.
  - Builds on existing town character.
  - No additional infrastructure issues seen here with associated flooding or stormwater.
- **Black's Farm (Option 4)**
  - No significant heritage or landscape features.
  - Possible land stability issues.
  - Flooding hazard potential. Stopbank upgrade costs may be significant (including stopbanking to exclude flooding from the creek exiting the hills near the centre of the block). However, the site may warrant a closer investigation of exactly what is required to upgrade the stopbanks to a satisfactory level and factor of safety. At this stage a ROC of $2000/m (for 3.7 km = $7.4m) is anticipated.

7.1 Staging

Assessment of the land area required to accommodate future urban growth against the four preferred growth location options is shown in Table 7.1 below.

Table 7.1 – Future Urban Growth Demand and Available Supply

Location	Total Potential Household Capacity	10 year Potential Household Capacity
Option 1 - Coastlands (221 ha)	2,652[a]	541[c]
Option 4 - Black's Farm (82 ha)	984[a]	0[d]
Option 7/8 - Maraetotara (104 ha)	1,248[a]	540[c]
Option 11 - Medium Density Inner Town (34 ha)		160[e]
Infill (across Whakatane urban area)	599[b]	120[f]
Vacant and Subdividable land (across Whakatane urban area)	546[b]	273[g]
Projected households to 2016		**1,634 (± 10%)**

Notes:
a – Area of available land (ha) multiplied by average density of 12 dwellings per hectare
b – Taken from Table 4.4
c – Projected households to 2016 minus existing Residential zoned land and Medium density
d – Assumed that Black's Farm is a longer term growth option (beyond 2016) as it is not contiguous to any existing residential development and relies on the construction of a second bridge over the Whakatane river.
e –Based on assumption that 10% of growth to 2016 will be met through higher density living
f – Based on the assumption that 20% of potential infill sites are taken up in the ten year period to 2016
g – Based on the assumption that 50% of existing Residential-zoned land (classified as vacant or subdividable in chapter 4) will be taken up by 2016.

The assumptions used in the table above are consistent with the traffic model that was developed for the Whakatane urban area by BBO and provide a potential scenario of how future growth in Whakatane could be accommodated.

It is clear that the available land supply greatly exceeds the future projected demand (to 2016). Therefore, it is recommended that the above four future growth location options of Coastlands, Black's Farm, Maraetotara Valley and Medium Density Inner Town proceed to the next stage of public consultation.

It is further recommended that the staging of future land release and development be considered through public consultation as part of the District Plan review process, noting that any development should be contiguous with existing residential development for efficient use of resources.

It is imperative that Council and the community give serious consideration to the availability and provision of affordable housing (rental and owner/occupier) and how it could be provided by the private sector, being complementary to the provision by central government of rental accommodation.

Appendix A

Thornton Opportunities and Constraints Data

Thornton

This area is located at the mouth of the Rangitaiki River approximately 10 kilometres to the west of Whakatane. The settlement of Thornton is located on the east of the river inland of the coast, while there are some dwellings located on the west of the river nearer to the coast. Thornton is located within the Census Area Unit of Otakiri, which recorded a 2006 Census population of 3609, an increase of 0.7% on the 2001 Census population of 3585.

Infrastructure

Thornton is located near the mouth of the Rangitaiki River, west of Whakatane.

a. Water

The area of Thornton is currently supplied with piped water from the Plains Water Supply, or water is provided for individual sites by onsite rainfall storage tanks. The source of this water is Braemar Road springs and a number of bores across the plains. Additional water can be supplied for any future residential development that might be expected over the next 10-15 years. It is noted that there are trace levels of arsenic contamination in this water supply, however the Council is aware of this and is working on ways to address this. It is not considered to be a constraint to future development.

b. Wastewater

Existing properties in Thornton do not have any reticulated wastewater system. Each property has a septic tank to dispose of wastewater. Any significant population growth in Thornton may require further investigation into wastewater treatment.

c. Stormwater

All stormwater in and around Thornton is disposed of via ground soakage.

d. Other Services

Power – all sites supplied

Telecommunications – all sites supplied

e. Roading

A major rural arterial road from Matata to Whakatane crosses the Rangitaiki River at Thornton.

f. Natural Hazards

Any land below approximately 3m (Moturiki Datum) is vulnerable to various inundation risks. A significant part of Thornton is below this level. EBOP has conducted an in-depth review of all Rangitaiki stopbanks to ensure risk of future failure is prevented based on specialist engineering advice.