

Assessment of Development Feasibility for the Wairakei Urban Growth Area

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November 2010

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Assessment of Development Feasibility for the Wairakei Urban Growth Area

1. Executive Summary

Wairakei is currently a rural area located in Papamoa East, Tauranga. It has been identified for substantial residential, industrial and commercial development in the immediate future. However, concerns have been raised that development in Wairakei may not be feasible from a financial perspective.

This report provides an in depth assessment of development feasibility in Wairakei with particular emphasis on the impact of development contributions and land prices on development feasibility.

To assess development feasibility a hypothetical development model has been used. This excel based model includes all of the costs and revenues associated with land development and the timing thereof. The model allows the financial performance of a development proposal to be calculated and assessed as to whether it would be sufficient to allow a development project to proceed. This is the standard approach used by the development community.

The report concludes that there are significant development feasibility issues in Wairakei for both residential development and industrial development. These issues are also likely to exist in other new areas that Council might wish to open up for development. The report identifies a number of wider implications for Council and the future growth of Tauranga City.

The report also concludes that very little affordable owner-occupied or rental housing will be developed for low to middle income households because the cost structure of land development and house construction does not permit this to occur.

The report identifies that approximately 100 hectares of land in Wairakei (25% of the total) is likely to be returned to Maori ownership through the Treaty settlement process. This creates further risks, especially for Council, should Maori not have sufficient financial resources or inclination to develop this land in the foreseeable future.

The development feasibility issues that have been identified in this Report are not necessarily insurmountable. A number of recommendations have been made to address them at both a Wairakei level and a more general level. Many of these recommendations imply substantial change or the need to make difficult decisions.

Council in itself is unable to resolve all these issues that are faced. To do this would require a concerted effort from all involved: landowners, developers, builders, local government, central government and consumers, especially in regards to the issue of housing affordability for both owner-occupiers and renters in new growth areas.

2. Report structure

This Report is structured into a number of sections as follows:

- Purpose
- Background – Introduction to the Wairakei urban growth area
- Context – Wider issues associated with urban development in Tauranga
- Methodology and data inputs
- Assessment of development feasibility for residential development
- Assessment of development feasibility for industrial development
- Landowner risks
- Conclusions
- Recommendations
- Appendices.

3. Purpose

The primary purpose of this project is to assess development feasibility in the Wairakei urban growth area given the prominent role Wairakei is planned to have in accommodating the city's future population growth as the first stage of the city's expansion into Papamoa East. This report will give solid evidence for Council to respond to:

- developer concerns that development contributions and other Council costs are adversely affecting the feasibility of greenfield subdivision development
- an alternative view that developers have paid excessive prices for land which has created development feasibility problems.

This report will also help to identify wider strategic issues and financial risks associated with growth that will need to be considered and addressed by Council in the next few years.

4. Background

This section of the Report provides background information on the Wairakei urban growth area.

4.1 Location

- 4.1.1 The Wairakei urban growth area is located in Papamoa East approximately 15km ('as the crow flies') from the Tauranga CBD. It is set back from the ocean beach by approximately 500m. It is bounded by urban development to the north and west, the Tauranga Eastern Link motorway corridor to the south and the future urban area of Te Tumu to the east which is currently farm land (see maps in Attachment A).

4.2 History

- 4.2.1 Wairakei was formally identified by Council as a future urban area in the late 1980's. The role of Wairakei as a future urban growth area was reinforced through the SmartGrowth Strategy in the early 2000's and subsequently through Plan Change 1 to the Regional Policy Statement. This recognised that Council had initiated community consultation and planning research on opening up Wairakei as a growth area through rezoning of this land in the future.
- 4.2.2 The Council work was supplemented by a 10 day design charrette process funded by Bluehaven Holdings. The combination of the Council work and the charrette led to the preparation and notification of Plan Change 44 to the District Plan which has the purpose of rezoning Wairakei for urban development. The Plan Change has been through a full submission and hearing process. Over the last two and a half years Council has been working with appellants to finalise the planning provisions, infrastructure servicing and traffic issues. These appeals have now been resolved and the Plan Change is planned to become operative in January 2011.

4.3 Current land uses and land owners

- 4.3.1 The entire Wairakei land area (approximately 370 hectares) is currently used for farming purposes.
- 4.3.2 Most of the land holdings are relatively large although there are some smaller more fragmented land holdings at the western end of Wairakei. The most significant land owners are The Office of Treaty Settlements (OTS), Zariba Holdings, DM & RL Taylor, Bluehaven, Puketata (Tirau) and the New Zealand Transport Agency (NZTA).
- 4.3.3 Zariba Holdings owns approximately 20 hectares of land at the western end of Wairakei which is to be rezoned for industrial development. Zariba Holdings intends to hold this land for development in the medium term.
- 4.3.4 OTS owns a large block in the north-western corner of Wairakei. This block is likely to form part of a Treaty settlement to a local iwi or hapu in the near future. OTS is also likely to acquire a significant amount of the surplus land NZTA has purchased as part of the Tauranga Eastern Link motorway project. It is likely that this land will also be offered back to local iwi or hapu through the Treaty settlement process.

4.3.5 To the east of the OTS block is the Taylor farm. Property development company Hawridge has interests in this land. To the east of the Taylor block lies the Bluehaven and Puketata (Tirau) land holdings. Bluehaven is holding its land for future development. It has interests in the Puketata (Tirau) land as well.

4.4 Growth projections

4.4.1 Up until recently the fully developed Wairakei area was anticipated to house over 13,000 people and to have significant industrial and commercial development. This commercial development was to include a significant new town centre.

4.4.2 Much of the residential development was to be in the form of attached dwellings such as terraced houses and medium to high rise apartments. The initial structure plan for Wairakei showed approximately 6,700 dwellings. About 4,300 of these were in medium to high rise apartments. 1,800 were a mixture of detached dwellings on small lots (probably less than 400m²), duplexes, town houses and terraced housing. The remaining 600 dwellings were a more conventional detached housing product with lots at an average of 500m².

4.4.3 The overall yield achieved by this mix of product was over 25 dwellings per hectare. To put this in context most greenfield residential subdivision in Tauranga during the 1990's and 2000's was in the range of 10 to 12 dwellings / hectare. In recent times some subdivisions have achieved up to 15 dwellings / hectare. Upon review of these outcomes Council was concerned about the likelihood of these yields being achieved. Neil Gray was commissioned by Council to investigate these concerns.

4.4.4 The Neil Gray report titled *SmartGrowth Residential Intensification in Tauranga City* confirmed Council's concerns about the proposed structure plan, particularly with market acceptance and viability of the medium to high density residential offerings in this location. This led to a review of the structure plan. This review resulted in the total dwelling estimates in Wairakei being reduced to 3,160 and the total population to about 8,000 people (excluding the town centre). This is equivalent to 15 dwellings per hectare.

4.4.5 There is significant uncertainty about the amount of residential or mixed use development that will occur in the town centre which covers 27 hectares. Much will depend of the development economics of apartment buildings in this location. Development of the town centre in Wairakei is not likely to commence for at least 15 to 20 years.

4.4.6 There will be approximately 100 hectares of industrial zoned land and 40 hectares of commercial / mixed use zoned land (town centre and neighbourhood centres) in Wairakei.

4.5 Infrastructure servicing costs

4.5.1 A significant amount of infrastructure needs to be built to provide for urban development in Wairakei, much of which will be funded by Council. Approximately \$150m of capital expenditure directly related to urban development in Wairakei has been included in Council's Long Term Council Community Plan. In addition to this, tens (and possibly hundreds) of millions of dollars of capital expenditure that services all growth across the city such as water and wastewater treatment plants, trunk watermains and sports fields would also be partly attributable to Wairakei due to current infrastructure not having sufficient capacity to service the development of Wairakei. The Table below identifies some of the most significant Council funded infrastructure projects that are required either wholly or partly as the result of the planned urban development of Wairakei.

Table 1: Significant infrastructure projects required to service Wairakei

Project	Cost estimate in 2010/11 dollars
New water treatment plant + water mains	\$84.8m
Motorway interchange	\$31.5m
Wastewater treatment plant upgrade	\$29.8m
New arterial road (Te Okuroa Drive)	\$23.1m
Road upgrade (Tara Road)	\$13.3m
Wastewater pump station	\$11.0m
Sports fields and facilities	\$8.8m
Trunk water main	\$7.1m
Wastewater pump station	\$9.1m
Stormwater pond	\$3.5m
Wastewater pump station	\$3.0m

4.5.2 In addition to Council funded infrastructure, significant infrastructure investment related to Wairakei will be undertaken by the New Zealand Transport Agency (NZTA), network utility operators (electricity, gas, and telecommunications) and the developers themselves. This includes NZTA's \$455m eastern motorway.

5. Context

5.1 Population growth in Tauranga City

5.1.1 Tauranga City has experienced a rapid and sustained increase in its population for a number of decades. It had the highest population growth rate of any council area over the past decade. Forecasts indicate strong population growth to continue well into the future as outlined in the Table below.

Table 2: Population growth in Tauranga City

Year	Population	Cumulative increase	Five year increase
1991	66,736	-	-
1996	77,778	11,042	11,042
2001	90,825	24,089	13,047
2006	103,566	36,830	12,741
2011	116,236*	49,500	12,670
2016	129,336*	62,600	13,100
2021	142,226*	75,490	12,890
2026	155,066*	88,330	12,840
2031	166,966*	100,230	11,900
2036	178,796*	112,060	11,830
2041	189,616*	122,880	10,820
2046	199,566*	132,830	9,950
2051	209,286*	142,550	9,720

Source: Statistics NZ (1991 to 2006), SmartGrowth population projections (2011 to 2051)

Note: * Denotes forecast

5.1.2 In order to accommodate the population growth projections from 2006 to 2051 it is estimated that approximately 48,000 new dwellings will have to be built.

5.1.3 The majority of the population growth that has occurred in the past two decades in Tauranga has been accommodated through greenfield development in the suburbs of Welcome Bay, Ohauiti, Pyes Pa, Bethlehem and Papamoa. These greenfield areas are now largely full and have little capacity for continued development. A smaller amount of growth has been accommodated through infill development and the redevelopment (intensification) of the older parts of the city¹.

¹ More information on the location of growth in Tauranga City is available through Council's *Development Trends Reports*.

- 5.1.4 To manage population growth out to 2051 the SmartGrowth growth management strategy was developed in the early 2000's. The strategy covers the wider Western Bay of Plenty region and was developed collaboratively by Tauranga City Council, Western Bay of Plenty District Council, Bay of Plenty Regional Council², the New Zealand Transport Agency³ and Tangata Whenua.
- 5.1.5 A significant component of the SmartGrowth Strategy is the settlement pattern. The settlement pattern outlines the location where population growth is anticipated to occur both spatially and over time. The settlement pattern anticipates that 64% of population growth out to 2051 will be located in greenfield areas, 8% through infill development and 28% through intensification. This equates to around 70,000 more people being accommodated in greenfield areas in 28,000 new dwellings.
- 5.1.6 Because Tauranga City's existing zoned greenfield areas have largely been developed, there is a need to open up further greenfield land to accommodate population growth and associated retail, commercial and industrial development. Greenfield land in Pyes Pa West (residential), West Bethlehem (residential) and Tauriko (commercial / industrial) was opened up in the mid 2000's for this purpose. Further greenfield land in Wairakei has been identified in the SmartGrowth Strategy for urban development in the immediate future. Other greenfield areas have been earmarked for urban development post 2021.

5.2 Housing affordability

General comment

- 5.2.1 Housing affordability has become a major nationwide issue in recent years as the result of the property boom of the mid 2000's. In general terms, houses have become much more expensive in dollar terms and relative to household incomes. This has resulted in fewer households owning homes and more households relying on the rental market.
- 5.2.2 A report titled *Housing Stock and Housing Demand* was prepared by Council staff in November 2009. That report outlines the housing affordability issue from a Tauranga perspective.
- 5.2.3 The report identified that given current household incomes in Tauranga by far the largest market segment for property is in the less than \$400,000 category. This has been confirmed by the developers and the building companies Council has worked with in this project who have consistently said that achieving price points for house and land packages significantly below \$400,000 is required to achieve substantial sales volumes in Tauranga.
- 5.2.4 Despite 63% of existing properties in Tauranga City having a capital value of less than \$400,000 the number of new homes in this price range is decreasing rapidly. Only 34% of properties built in the last five years have a capital value less than \$400,000.
- 5.2.5 Tauranga ranks as the most unaffordable urban area in New Zealand based on the ratio of median house prices to median household incomes. This ratio is

² Formally Environment Bay of Plenty.

³ Formally Transit New Zealand.

6.8 in Tauranga⁴. A ratio in excess of 5.1 is considered severely unaffordable by the authors of the Annual Demographia Housing Affordability Survey.

- 5.2.6 A major component of the housing affordability issue that has emerged in Tauranga has been the increase in section prices in new subdivisions. Prices have increased from a median of about \$90,000 in 2003 to a current median of approximately \$170,000. In a number of the subdivisions in Tauranga where sections are currently for sale, the average asking price for a section is around \$200,000 or even higher. It should be noted that as section prices have risen, section sizes have on average decreased.
- 5.2.7 A significant challenge in making future greenfield development viable will be to achieve a balance between keeping section prices low enough to maintain some degree of affordability (and thus demand) whilst at the same time being high enough to provide a commercially bankable return on investment for the development community.

The wider impact of section prices on the property market

- 5.2.8 While it is evident that section prices play a critical role in the affordability of new housing stock it is also likely that section prices have a significant bearing on the affordability of the existing housing stock.
- 5.2.9 The capital value (total value) of the existing housing stock is made up of two components:
1. The value of improvements i.e. houses and other buildings
 2. The value of the underlying land.

The value of the land is effectively what a property would be worth if it was a vacant section. If the market price for sections across Tauranga increases (driven by prices in greenfield subdivisions) then this is likely to be reflected in a rise in the land value component of the existing housing stock because land in general is worth more.

- 5.2.10 In Tauranga during the 2000's section prices soared and so did the land value component of the existing housing stock.
- Between 1997 and 2009, 75% of the increase in the capital value of the 30,000 dwellings that existed in Tauranga at 1997 related to the land value⁵.
 - Over this period the total land value associated with these properties increased by an average of 181% compared to an increase of only 41% for improvements.
 - In 1997 land value made up approximately 40% of capital value of these properties
 - In 2009 it made up approximately 60% of capital value of these properties.
- 5.2.11 This indicates a strong correlation between section prices and the underlying value of the land component of the existing housing stock. In all likelihood these two variables are not just correlated. Changes to section prices are likely to cause changes to the value of the land component of the existing housing stock. In other words, the increase in house prices in Tauranga over the 2000's has probably been driven in the most part by the increasing market

⁴ Source: 6th Annual Demographia Housing Affordability Survey (<http://www.demographia.com/dhi.pdf>).

⁵ Based on valuations for Council rating purposes.

price of new sections being embedded in the land component of existing houses.

- 5.2.12 If this were true the relative affordability of Tauranga's entire housing stock, not just new housing stock, depends, to a significant degree, on section prices in new subdivisions.

Reducing the cost of housing

- 5.2.13 Because most of the costs associated with delivering new sections and new houses are fixed there are relatively few ways of delivering cheaper and more affordable houses. The limited options available include:

Land development

- More favourable land purchase terms
- Delivering more sections by reducing the average section size
- Lower Council fees (especially subdivision impact fees).

House construction

- Building smaller houses
- Using lower cost building materials / specifications
- Lower Council fees (especially building impact fees).

5.3 Development yield

- 5.3.1 Development yield is usually measured in terms of dwellings per hectare. As section size reduces the housing product and typology changes. Yields in excess of about 20 dwellings per hectare generally require a significant amount of attached product to be built such as duplexes, terraced houses and apartments. Even at lower yields such as 15 dwellings per hectare if a developer wishes to offer a wide range of product such as larger 600 and 700m² lots then some attached product would also be required to achieve the 15 per hectare average.

- 5.3.2 As outlined earlier, the proposed development yield in Wairakei has been reduced significantly from that originally planned. The yield is now anticipated to be 15 dwellings per hectare which is likely to be achieved primarily through detached houses on small to mid sized sections. The main reasons the proposed yield was reduced include:

- Relatively small market demand for living in attached residential product in the Tauranga market at the present time, especially in this location on the fringes of the city and set back significantly from the ocean beach
- The likelihood that this market demand will not change significantly in the short to medium term
- The high cost of delivering mid to high rise apartments due to steel and concrete construction methods, underground car parking and the like.

5.4 'Growth pays for growth' philosophy / development contributions

- 5.4.1 A significant factor that affects the cost of land and property development in Tauranga is Council's 'growth pays for growth' philosophy. This involves the use of upfront fees levied on property development to recover the cost that Council incurs in providing infrastructure to service growth.

- 5.4.2 These upfront levies increase the cost of new housing and to some extent are likely to create a hurdle that prevents some households from building or purchasing new houses to live in or as rental investments. This is a significant downside of this approach to funding growth-related infrastructure.
- 5.4.3 These levies are required by Council through the use of development contribution powers under the Local Government Act 2002 and to a much lesser extent financial contribution powers under the Resource Management Act 1991. These costs are broken into what are termed *building impact fees* and *subdivision impact fees*.
- 5.4.4 It should be noted that TCC is the only council to charge development contributions in two stages (partly on subdivision consents and partly on building consents). Other Councils charge development contributions at the earliest opportunity which is usually a subdivision consent.
- 5.4.5 Building impact fees (BIFs) are charged at the time a building consent for an additional residential dwelling or a building consent for additional commercial / industrial floor area is issued. They are used to fund infrastructure that services all development in Tauranga regardless of its location e.g. increased water and wastewater treatment capacity. BIFs are the same across the whole city and for the 2010/11 financial year they are about \$13,000 plus gst per residential dwelling and \$23 per m² of floor area for commercial / industrial development.
- 5.4.6 Subdivision impact fees (SIFs) are charged at the time a subdivision is completed or in the case of multi-unit development at the time a building consent is issued. SIFs are used to fund infrastructure that services particular areas of the city. This is normally the local infrastructure located in or near an urban growth area. Council only uses SIFs to fund local infrastructure where it is designed to service more than just an immediate subdivision. Local infrastructure that does not meet this criteria is vested free of cost by the developer to Council.
- 5.4.7 The amount of SIFs payable differs across each urban growth area. SIFs are lowest in the infill areas where only modest investment in infrastructure is required to support further development. SIFs are higher in the older greenfield urban growth areas of Bethlehem, Pyes Pa, Ohauiti, Welcome Bay and Papamoa than in the infill areas (\$12,000 -16,000 per lot). The level of SIFs is the highest in the new urban growth areas of Pyes Pa West, Tauriko, West Bethlehem and Wairakei. This is because land and construction costs have increased significantly in recent years, and because the SIF calculations now take account of both inflation and the cost of capital (interest costs on debt serviced by contribution income) which was previously not the case.
- 5.4.8 One approach adopted by Council to mitigate the high SIFs in new growth areas is to charge these fees on a per hectare basis instead of the traditional per lot basis. This makes them a fixed fee which may incentivise higher density development because the fixed contribution costs can be spread across a larger number of lots / dwellings.
- 5.4.9 The other approach Council has adopted is to maximise the amount of capital expenditure which is directly provided and financed by developers. However there are significant constraints to doing this including fragmented land ownership and the inability of developers to raise finance to build lead infrastructure which has long payback periods and a significant risk profile.

- 5.4.10 Reduced development contributions could significantly improve the profitability of development. However if infrastructure costs cannot be reduced the implication of lower development contributions means higher rates. This is due to the limited funding sources available to local authorities in New Zealand compared with their peers in others parts of the world, particularly those in the US.
- 5.4.11 It should be noted that development contributions cover only capital expenditure related to growth and therefore they do not include the likes of operating costs, depreciation, excess capacity, a return on investment, administrative costs associated with the development contributions policy and capital expenditure that is not growth related (e.g. renewal and backlog). Territorial Authorities are constrained by the LGA 2002 to development contribution charges only being collected for the total cost of growth-related capital expenditure.
- 5.4.12 Development contributions are charged at the time a subdivision is completed or a building consent is issued. This is often well before sections are sold or houses are built which can create cashflow issues for developers. Council could look at altering the time of payment although the legislation as it currently stands creates some difficulties in this regard. These issues relate to the lack of security that exists in the event of payment default.

5.5 Financial challenges of growth to Council

- 5.5.1 As is evident from the discussion above, one of the financial challenges of growth for Council is to keep development contributions at a level that is affordable to developers.
- 5.5.2 Other challenges of growth relate to its impact on the sustainability of Council's debt position and the affordability of rates. Council's ability to borrow to fund investment in infrastructure to service growth (amongst other things) is constrained by its revenue. The 2009-19 Long Term Council Community Plan shows Council's debt envelope being pushed to its limits, mainly as the result in investment in growth-related infrastructure. Much of this debt is expected to be repaid via development contributions. This development contribution revenue is expected to be collected over a long period (out to 2050 in some cases) and therefore the associated debt will not be fully repaid for a long time. This puts Council (and thus its ratepayers) at significant financial risk should the rate of growth slow down significantly as this would:
- Reduce development contribution income
 - Reduce growth to the rating base
 - Put further pressure on Council's debt position
 - Restrict Council's ability to invest in facilities for the existing community
 - Cause development contribution charges to rise as interest costs increase.
- 5.5.3 While Council is careful to build infrastructure on a just in time basis, most infrastructure has to be built in large capacity steps to take advantage of economies of scale rather than incrementally which means that there is often a significant lag between infrastructure capacity being built for growth and the growth arriving. This has a significant impact on the ratepayer because operating costs begin as soon as an asset is completed. All operating costs are rate funded. This is part of the reason why rates in Tauranga have increased significantly in the last few years and are likely to continue to do so in the short to medium term.

5.5.4 Tauranga City Council staff, along with staff from a number of other similar 'growth' Councils, has had initial discussions with central government about the financial challenges of growth. Little has come of this to date.

5.6 Economic environment / property market

5.6.1 While the boom years of the mid 2000's were kind to property developers, the current economic environment is very challenging. Property prices have come back forcing some developers to reduce asking prices, sales are slow (especially for sections in general and for houses at the high end of the market), bank lending has become more difficult to access and mezzanine finance is unavailable due to the demise of most finance companies.

5.6.2 This has directly affected Council's financial position. Council's development contribution revenue has progressively decreased from a peak of \$23.2m in the 2006/7 financial year to \$19.0m in 2007/8, \$11.7m in 2008/9 and \$11.5m in 2009/10 due to the sharp reduction in development activity.

5.6.3 While the property market situation will no doubt improve in due course, affordability issues are likely to remain for sometime for would be property buyers. This may be a more significant issue in Tauranga than in other places where household incomes are significantly higher. The reason for this is that the cost structure of land development and building / construction is substantially the same in Tauranga as it is anywhere else in New Zealand. As such, the price developers are able to deliver a product to the market at in Tauranga is more or less the same as it is in Auckland (or anywhere else in New Zealand) but this price is much less affordable in Tauranga than it is in places like Auckland or Wellington.

5.6.4 This is supported by the Annual Demographia Housing Affordability Surveys which show Tauranga as being the most unaffordable urban area in New Zealand taking into account both house prices and incomes (and the 20th most unaffordable city in all of NZ, Australia, the US, Canada, the UK and Ireland).

6. Methodology / Data Inputs

6.1 Project team

6.1.1 The core project team was made up of:

- Martin Udale (property development expert from the private sector)
- Representatives from three property development companies in Wairakei (Bluehaven, Hawridge and Zariba)
- Council staff.

6.1.2 Some data inputs were sourced for independent experts outside the project team. These independent experts were:

- Two valuation firms (Colliers International and Middleton Valuation)
- The following local building firms: Classic Builders, Generation Homes, GJ Gardner, Signature Homes, Universal Homes and Venture Developments
- S&L Consultants.

6.1.3 A key element to making the project successful was the "buy-in" from the three developers and the local building firms. This has allowed the project team access to accurate cost information, some of it confidential and commercially sensitive, as an input into the development feasibility model.

6.2 Land development model

6.2.1 To assess the feasibility of development in Wairakei a hypothetical development model was built. This is an excel spreadsheet based model that includes all of the costs and revenues associated with land development and the timing thereof. The model allows the financial performance of a development proposal to be calculated.

6.2.2 The model was built using the in-house financial modelling expertise within Tauranga City Council based on specifications provided by Martin Udale. The model itself is similar to that used for most major property developments. It has been reviewed and approved by the three development companies and it has also been independently audited by Epsilon & Associates Ltd.

6.3 Revenue inputs

6.3.1 Revenue comes from the sale of developed land. Sale prices for developed land (i.e. residential or industrial sections) were obtained from a registered valuer (Nigel Dean of Colliers International). A range of sale prices were provided based on different section sizes ranging, in the case of residential development, from 200m² to 700m². An average sale price was then determined in consultation with the developers based on the required yield and the likely mix of section sizes necessary to achieve this yield.

6.4 Cost inputs

6.4.1 Cost inputs into the land development equation can be broken down into the following categories:

- Land purchase costs
- Development setup costs
- Construction costs
- Council costs
- Indirect costs
- Direct sales costs
- Project finance costs.

Land cost

6.4.2 Land cost and purchasing arrangements can be a key determinant of the viability of a development. The financial model is designed to calculate what a developer could afford to pay for land. This amount can then be compared to what developers have actually paid (or agreed to pay) for land or the likelihood of that dollar amount being acceptable to the landowner. Alternately, a specific dollar amount for land purchase can be entered into the model along with other costs to determine the average amount that sections would have to be sold for if the development were to be viable. This section price can then be compared against the likely market demand for sections at that price.

6.4.3 The timing of land purchase can also be important. The closer land purchase can be aligned with land development and section sales timeframes the more can be paid for land as interest costs and risk are reduced. As such, purchasing land in small increments as required is preferable to purchasing it all upfront.

6.4.4 It needs to be recognised that for land to change from its current rural use to an urban use, a premium must be paid for the land. In other words the amount paid needs to exceed the present value of a property given its current land use and taking into account other uses already permitted on the land.

6.4.5 The underlying value of land in Wairakei for rural use with no prospect of urban development has been estimated by Middleton Valuation at \$45,000 to \$55,000 per hectare depending on soil conditions. Peat soils are at the lower end of this range and sandy soils at the higher end.

6.4.6 While a detailed discussion of the market for developable land is outside the scope of this report, it should be recognised that there are a number of reasons why the premium paid for land above its underlying value is likely to be significant. These include:

- Vendors only have one chance to sell their land and are therefore likely to hold out for a high price rather than sell quickly for a small profit
- Land blocks have often been used as family owned farms for many years and have little or no debt. This means that landowners are under no urgency to sell and are happy to wait for the market to meet their price expectations
- Finite supply of developable land blocks
- Expectations set by the unsustainably high prices paid for developable land through the 'boom' years of the mid 2000's
- Expectations set by the rezoning or impending rezoning of land for urban development

- Competition from overseas investors.

Development setup costs

- 6.4.7 Development setup costs are associated with planning approval processes associated with the rezoning of land. Much of these costs have already been incurred in the case of Wairakei.

Construction costs

- 6.4.8 Construction costs can be divided into estate costs (bulk infrastructure) and per lot costs. Estate costs relate to the cost of building infrastructure assets that cannot be staged as development proceeds e.g. lead infrastructure. There is relatively little in the way of estate costs for Wairakei except for stormwater ponds as most lead infrastructure is built by Council and funded by way of development contributions. Estate cost estimates have been sourced from S&L Consultants and from Council's own experience with similar projects.
- 6.4.9 Per lot construction costs relate to the direct costs of delivering finished lots. They are made up of earthworks, roads, services (water, wastewater, electricity, gas and telecommunications), landscaping, design and supervision. Per lot construction costs have been sourced from S&L Consultants. They are based on a revision of actual costs associated with the construction of the Excelsa Village development in nearby Papamoa.

Council costs

- 6.4.10 Council costs relate to resource consents (both land use and subdivision), 223 and 224 certificates, development contributions (subdivision impact fees) and rates. The costs are based on Council's operative fees at the time the report was written. Because Council is reviewing some cost estimates for projects in Wairakei the draft 2011/12 development contributions for Wairakei may prove to be different to the amounts used in this Report although not to the extent that it would alter the conclusions that have been reached.

Indirect costs

- 6.4.11 Indirect costs include utilities, insurance, site office, security, office expenses, project management, administration, legal, consultants, bank charges, valuations, accounting and marketing. The amount of these costs is based on Martin Udale's experience with other large development projects (such as Addison in Takanini, Auckland) and the developers' experience.

Direct sales costs

- 6.4.12 Direct sales costs are made up of real estate agent commissions and legal costs associated with sale and purchase agreements and the transfer of legal title. The amount of these costs is again based on Martin Udale's experience with other projects and the developers' experience.

Project finance

- 6.4.13 Project finance relates primarily to the interest incurred on debt used to finance the project. Holding costs have been calculated on the net debt position of the project over time. The interest rate used to calculate holding costs is 10%. This figure has been agreed as a reasonable long term average by the Project Team in consultation with Council's Treasury Manager and property lending experts within the banking sector⁶.
- 6.4.14 The financing assumptions used in the financial model are relatively simple. They are that:
- Land purchase cost will be funded 50% by debt and 50% by equity
 - Other costs will be funded 70% by debt and 30% by equity
 - A minimum working capital amount funded by equity of \$1m at all times
 - A bank interest rate of 10% which is assumed to also include all bank fees e.g. the cost of settling up and rolling over banking facilities.
- 6.4.15 Other financial measures commonly used in relation to property development financing such as loan to value ratios (LVRs) and interest cover ratios have been ignored for the purposes of this project due to the complexity that they add.

Confidential information

- 6.4.16 Some of the cost inputs used in the financial model are commercially sensitive and have been supplied by the developers on a confidential basis.

6.5 Inflation

- 6.5.1 The financial model has been designed to allow the impact of different inflation assumptions to be considered. The model allows for separate inflation assumptions for costs and for revenue. It also allows the time period over which these inflation assumptions apply to be selected.
- 6.5.2 The base financial model assumes no inflation for a number of reasons:
- Difficulty of making accurate assumptions about what inflation is likely to be, especially in regards to section prices (revenue)
 - That if both costs and revenues are inflated by the same amount they largely cancel each other out
 - To mitigate risk, the financial viability of a development should not rely on significant increases to section prices over its lifespan i.e. the development should 'stand on its own feet' given current information about costs and revenues.
- 6.5.3 Despite this, a number of scenarios have been run with different cost and revenue inflation assumptions to understand the sensitivity of the model to these assumptions. Assuming the development is profitable, it should be noted that if the same inflation rate was applied to both costs and revenue it would increase the profitability of a development. However, the view of the project team is that affordability constraints will limit section sales price increases to low levels in short to medium term.

⁶ ANZ National Bank.

6.6 Financial analysis

- 6.6.1 Three financial measures are used to analyse whether development is feasible. They are the gross margin, the project internal rate of return and the equity internal rate of return. These are commonly used in the evaluation of development projects by developers and financiers.
- 6.6.2 The gross margin is a key measure of the financial viability of the project. It is calculated by dividing net profit before tax by total costs. A gross margin of about 20% or greater would be acceptable for the project to proceed.
- 6.6.3 Internal rate of return (IRR) is another measure of a project's profitability. In more specific terms, the IRR of a project is the interest rate at which the net present value of costs (negative cash flows) of a project is equal to the net present value of the benefits (positive cash flows) of a project. Two IRR calculations are used to assess development feasibility.
1. The Project IRR (excluding funding costs): This measures the return on investment for all cashflows (revenues and expenses) in the project excluding funding costs. A Project IRR excluding bank interest in the range of about 18-20% is broadly acceptable for development to proceed.
 2. The Equity IRR: This measures the return on equity by calculating the interest rate required to make the net present value of equity injections and withdrawals equal to zero. An equity IRR in the range of 20-25% has been agreed as broadly acceptable for the purpose of development proceeding.
- 6.6.4 While developers own expectations of an appropriate gross margin and internal rate of return are important, the main driver of the agreed gross margin and internal rates of return is what the banking industry would expect to see if it were to provide project finance. It is critical that these measures are acceptable to the banking sector as without project finance, development cannot be undertaken. In light of this the assumptions adopted above were reviewed and approved as being reasonably reflective of banking industry practice by ANZ National Bank.

6.7 Timing of revenues and costs

- 6.7.1 The timing of revenue and costs is driven by an agreed development scenario. This scenario assumes that 150 lots per annum will be developed in the first five years of the project, 220 lots per annum in the five years after this and 350 lots per annum from then on. This scenario is based on analysis of likely development uptake contained in the Tauranga City Council report titled *Wairakei Development Timeframe and Local Services Cost Recovery* and has been vetted and confirmed as reasonable by the developers involved. It is assumed that section sales will increase overtime as developments build momentum and as the remaining development opportunities in the adjoining Papamoa area are exhausted. Section sales are assumed to be evenly split between the two main Wairakei developers while both still have land to develop.
- 6.7.2 In terms of industrial land uptake, it is assumed that about 3.5 hectares per annum will be developed in Wairakei initially with this increasing over time to about 6.5 hectares per annum. This is based on an assessment of total demand for industrial land in Tauranga City and an allocation of this demand by

geographic areas based around main transport corridors. Industrial land take up (i.e. demand) has been monitored by Council over many years which provides a reasonable basis for the assumptions above.

- 6.7.3 Given the timing of the delivery of finished lots discussed above, costs and revenues have been timed to occur in a realistic fashion. The majority of costs are incurred prior to sales revenue being received.
- 6.7.4 The timing of costs and revenues is important as it determines the overall debt position of the development and thus the amount of interest costs incurred. To minimise interest costs it is assumed that, within reason, costs will be incurred on a just in time basis.

6.8 Goods and services tax

- 6.8.1 All costs and revenues in the financial model are gst exclusive. However when considering retail section prices and house prices, gst is added because consumers are required to pay gst. The gst rate is assumed to be 15%.

6.9 Developer / property specific model scenarios

- 6.9.1 Two base financial models have been built – one for residential development and one for industrial development. The residential development model has two different base scenarios – one for each of the two developers. This is done to allow the differences in the cost inputs for the two developers to be reflected accurately. The only significant differences between the two residential model scenarios are the land purchasing arrangements (price and timing) and the length of the two developments (one goes for longer than the other because one land block is larger than the other).
- 6.9.2 No assessment of the feasibility of developing the town centre and commercial zones has been made due to the 20 year plus timeframe for this development to begin.

6.10 'Bottom up' and 'top down' approaches

- 6.10.1 The financial viability model can work in two ways. The first is what is termed the 'bottom up' approach. This involves adding in all costs including land costs and an appropriate profit margin to determine the average price that sections need to sell for in order for the project to be financially viable.
- 6.10.2 The 'top down' approach on the other hand starts with the net realisation (total revenue from sections sales based on the likely average section price). From this, development costs and an appropriate profit are removed. What is left is the amount of money a developer can afford to pay for the land to make development viable. This is termed the *residual land value*.

6.11 Residential construction

- 6.11.1 The residential financial model has been extended beyond land development to include house construction. This has been done to determine the full cost of new houses in Wairakei and to allow an assessment of this against the likely demand for product in this price range.
- 6.11.2 Construction costs have been sourced from the building industry in Tauranga. The building industry in Tauranga is highly competitive. It was felt that sourcing construction costs directly from the local building industry would be more

accurate and efficient than building a separate financial model for construction similar to the financial model used for land development. This approach also had the advantage of allowing Council staff to build better and more constructive working relationships with this industry.

- 6.11.3 A variety of housing types from small modest homes to reasonably large homes has been used to provide an indication of the possible range of final house prices in Wairakei. It should be noted that these costs are based on contract build prices and not spec homes. Because of the additional risk and costs associated with spec homes (e.g. real estate agent commission) the cost of spec homes would be somewhat higher. It is conceivable that 50% of the homes built in Wairakei might be spec homes.
- 6.11.4 Construction costs include appliances (excluding a fridge), floor coverings, curtains / blinds, driveways, paths, lawns, landscaping, fences, building plans and Council costs including building consent and development contributions (building impact fees).
- 6.11.5 In terms of construction materials they were almost exclusively based on single level brick and tile construction. The base model assumptions for residential construction use the average building costs from the builders surveyed plus an additional 10% margin. The addition 10% reflects a number of factors:
- Design rules or restrictive covenants are likely to increase costs e.g. they may restrict or prohibit the use of brick and tile construction in favour of more expensive options such as weatherboard or plaster cladding.
 - Some of the product offered, especially on smaller sites, is likely to be two stories. This increases construction costs.
 - Some homes will be built by building firms whose focus is more towards the higher end of the market compared to the building firms surveyed who tend to focus more at the value end of the market.
 - The need to offer a quality, well designed product due to the relatively high density of the product offering compared with traditional residential densities in Tauranga.
 - The likelihood that some customers will customise the builders' standard plans which generates additional cost.
 - Recent increase to building costs e.g. concrete.
 - The impending increase in gst from 12.5% to 15% as it was at the time the building cost data was collected.

6.12 Model accuracy

- 6.12.1 While every reasonable effort has been made to ensure data inputs are accurate it should be recognised that this type of exercise is not a science and the model cannot be expected to be 100% accurate for numerous reasons such as the lack of any detailed designs for development in Wairakei and general uncertainty about the future. To address this, a significant amount of sensitivity analysis has been undertaken to determine the impact on development feasibility of adopting alternate assumptions within the model.

7. Residential development feasibility

7.1 Base model

7.1.1 The cost and revenue assumptions used in the base model are set out in the Table below. They are based on two different scenarios. Scenario 1 is that land is purchased on a yearly basis as required at a rate of \$350,000 per hectare and Scenario 2 is based on land being purchased by way of an upfront lump sum at the beginning of the development at a rate of \$140,000 per hectare. More detail about the base model assumptions can be found in Attachment B.

Table 3: Base financial model assumptions for residential development in Wairakei

	Scenario 1		Scenario 2	
	\$ per lot (excl. gst)	% of total costs	\$ per lot (excl. gst)	% of total costs
Revenue				
Average section sale price	\$135,900	124.5%	\$135,900	142.6%
Cost				
Land purchase	\$25,300	23.2%	\$10,100	10.6%
Lead infrastructure	\$11,800	10.8%	\$11,800	12.4%
Lot development costs	\$32,200	29.5%	\$32,200	33.8%
Development contributions ⁷	\$22,800	20.9%	\$22,800	23.9%
Rates	\$1,000	0.9%	\$1,000	1.1%
Other Council fees	\$2,600	2.4%	\$2,600	2.7%
Direct sales costs	\$5,100	4.7%	\$5,100	5.4%
Development & project mngt	\$4,100	3.7%	\$4,100	4.3%
Other costs	\$3,200	2.9%	\$3,200	3.3%
Bank interest	\$1,000	0.9%	\$2,300	2.4%
Total costs	\$109,100	100%	\$95,200	100%

⁷ See Attachment B for a full breakdown of the development contribution charges (i.e. subdivision impact fees).

- 7.1.2 It should be noted that a significant amount of the costs associated with stormwater, wastewater and reserves that would normally be development contribution funded are being directly developer funded in Wairakei⁸. If this was not the case *development contributions* would be a higher percentage of total costs and *lead infrastructure* and *lot development costs* would be a lower percentage of total costs. This does not present any issues for assessing the overall viability of development in Wairakei but it does present issues in assessing the impact of development contributions on development viability and in comparing development contributions in Wairakei with development contributions in other parts of the city.
- 7.1.3 The Table above identifies that the most significant costs of development are construction costs (lead infrastructure and lot development costs) followed by land purchase and development contributions.
- 7.1.4 The base model assumptions indicate that development is marginally viable with a land cost of either:
- \$350,000 per hectare if land is purchased on a yearly basis as required; or
 - \$140,000 per hectare if land is purchased by way of a lump sum at the beginning of the development.
- 7.1.5 It is acknowledged that the land cost assumptions, especially the \$140,000 / ha, are significantly less than the speculative prices that were paid for land in Tauranga during the mid 2000's and significantly less than the current price expectations from some landowners. Despite this they are a significant premium above the underlying rural land value of approximately \$50,000 / ha. As such, they are realistic given the costs associated with development in Wairakei and profit margins required to secure development finance.
- 7.1.6 These two scenarios are summarised in the Table below.

Table 4: Base model financial summary

	Land cost / ha	Purchase timing	Gross margin	Project IRR	Equity IRR	Development feasible?
Scenario 1	\$350,000	As required	24.5%	19.9%	20.6%	Y (marginal)
Scenario 2	\$140,000	Upfront	42.6%	18.9%	20.1%	Y (marginal)
Acceptable	n/a	n/a	20%+	18-20%+	20-25%+	n/a

7.2 Sensitivity analysis

- 7.2.1 The sensitivity of the base case scenarios to changes in key variables has been measured. The Table below identifies the range of scenarios that were modelled and provides some general comments about the sensitivity of the model to changes in key assumptions.

⁸ Council has been able to do this because the land holdings in Wairakei are much less fragmented than the land holdings in other growth areas and therefore on-site stormwater ponds, local wastewater pump stations and neighbourhood reserves generally only service a single property rather than multiple properties.

Table 5: Sensitivity modelling scenarios

Variable	Modelling range	Comment
Average section sale price	20% +/-	Model results are very sensitive to this variable. Based on Scenario 1 with av. section price at: <ul style="list-style-type: none"> • \$187,500 (+20%) the gross margin is 48% • \$125,000 (-20%) the gross margin is -4%.
Subdivision impact fees	20% +/-	Model is somewhat sensitive to this variable. Reduction by 20% improves gross margin by about 5%.
Construction costs	20% +/-	Model is somewhat sensitive to this variable. Reduction by 20% improves gross margin by about 9%.
Land purchase costs	20% +/-	Model is somewhat sensitive to this variable. Reducing land cost of \$350,000 / ha by 20% improves gross margin by about 6%.
Land purchase timing	From yearly instalments to lump sum 5yrs before development begins	Model results are very sensitive to this assumption. Based on land cost of \$350,000 / ha the gross margin is: <ul style="list-style-type: none"> • 25% if land is purchased in yearly instalments as required • But -18% if it is purchased as a lump sum 5 years before development begins.
Section sales timing	20% faster / slower	Model is somewhat sensitive to this variable if land is purchased up front.
Development yield	12 – 18 dwellings / ha	<ul style="list-style-type: none"> • Model is somewhat sensitive to a reduction in yield from 15 to 12 dwellings / hectare. The gross margin decreases by about 8%. • The model is not very sensitive to an increase in yield from 15 to 18 dwellings / ha. This has a minor negative impact on the model results, partly as the result of additional costs (e.g. rear lanes) being required at higher densities.
Inflation	Cost inflation higher than revenue inflation (and vice versa)	The model is reasonably sensitive to inflation assumptions, particularly where revenue inflation is assumed to be higher than cost inflation. In this situation the feasibility of development improves significantly.
Interest rate	8% to 12%	The model is not very sensitive to interest rates as interest costs are only a small part of the total development costs. This is especially so in circumstances where land is bought in regular instalments rather than up front.
Finance structure	100% equity funded to 100% debt funded	The model is not very sensitive to the finance structure of the project because the project IRR calculation is not affected by the mix of debt or equity funding used. The gross margin would reduce if a higher proportion of debt was used to fund the project but because the gross margin in both scenarios is significantly above the minimum of 20% it does not affect the feasibility of development. If a high proportion of debt was used and interest rates were significantly higher (say 15%) it would likely make the development unviable.

7.2.2 Because both Scenario 1 and Scenario 2 are relatively marginal development propositions it should be noted that even small adverse changes to some of the variables and assumptions in the development model may cause the development to be unfeasible.

7.2.3 Please refer to Attachment C for the full results from the sensitivity analysis that was undertaken.

7.3 House prices and rents

House prices

7.3.1 As identified earlier in this report Council has undertaken some research into housing affordability in Tauranga. This research indicates that new housing needs to be delivered between \$300,000 and \$400,000 to be affordable to a large part of the city's residents. The builders and developers that Council has been working with in this project have consistently voiced the same opinion.

7.3.2 The Table below shows the likely range of house prices in Wairakei. They are based on section prices used in the financial model and building costs provided by the local building industry. They are considered to be a reasonably accurate reflection of current average development costs. In reality prices will vary somewhat (especially upwards) based on factors such as the type of building materials used and the quality of the fit out. It should also be noted that 'spec' homes are likely to be more expensive than the prices in the Table below as discussed earlier in this Report.

Table 6: Likely range of house prices in Wairakei

Section size	House floor area / type				
	120m ² 2 bedrooms	140m ² 2-3 bedrooms	160m ² 3 bedrooms	180m ² 3-4 bedrooms	200m ² 4+ bedrooms
300m ²	\$340,000	\$360,000	\$380,000	n/a	n/a
400m ²	\$355,000	\$375,000	\$395,000	\$420,000	\$440,000
500m ²	\$385,000	\$405,000	\$425,000	\$450,000	\$470,000
600m ²	\$410,000	\$430,000	\$450,000	\$475,000	\$495,000
700m ²	\$430,000	\$450,000	\$470,000	\$495,000	\$515,000

Note: Prices include gst at 15%.

7.3.3 The Table indicates that a modest / basic three bedroom house with probably a single garage could be built for \$400,000 or less on sections in Wairakei up to about 500m². A standard three bedroom house with double garage could be delivered for \$400,000 or less on sections up to about 400m². Larger houses and/or small houses on larger sections would cost in excess of \$400,000 to deliver.

7.3.4 Based on an estimated distribution of section sizes in Wairakei and a distribution of house sizes based on an overall average floor area of 165m² per house, the Table below provides a general indication of how many houses are likely to be delivered in each price range. Based on this information the average house price in Wairakei is estimated to be about \$435,000. Although, again, it is likely to be higher than this is a significant amount of 'spec' homes are built.

Table 7: Likely distribution of house prices in Wairakei

Price range	Proportion of houses
<\$300,000	0%
\$300,000 - \$350,000	4%
\$350,000 - \$400,000	29%
\$400,000 - \$450,000	13%
\$450,000 - \$500,000	51%
\$500,000 - \$550,000	3%
>\$550,000	0%

Note: These prices include gst at 15%. The 5% of residential product in Wairakei that is likely to be attached rather than detached (e.g. duplexes, terraced housing, apartments etc) has been ignored due to greater uncertainty about its likely price.

- 7.3.5 It should be noted that the assumption of 165m² for the average house size is conservative. To put it in context the average size of new houses across New Zealand is currently 206m², in Tauranga it is about 210m² and in the large scale and reasonably upmarket subdivision in Tauranga called *The Lakes* which is partly developed, 236m². If for instance the average floor area assumption for Wairakei was increased by 40m² to the national average it would push the average house cost up by approximately \$40,000 or to an average of approximately \$475,000 or more if a significant amount of 'spec' homes are built.

Rents

- 7.3.6 Given the trend away from home ownership to renting that has gone hand in hand with the large house price increases over the last decade, consideration has been given to the likelihood of houses being built or purchased as rental investments in Wairakei. This was done by calculating the net present value of the costs and revenues associated with rental property ownership.
- 7.3.7 Based on the assumptions in the Table below it is estimated that the weekly rent required for investment in a three bedroom house costing \$400,000 to be financially viable would be \$455 / week. To put this in context, the current upper quartile rent for a three bedroom house in Papamoa is \$360 / week⁹.
- 7.3.8 Refer to Attachment D for further information about current rents in Papamoa and rents that would be necessary for property investment to be viable in Wairakei based on the assumptions in the Table below.

⁹ Source: Department of Building and Housing.

Table 8: Assumptions used to calculate acceptable weekly rental payment for investor

Variable Description	Value
Marginal Tax Rate	33.0%
House Price	\$400,000
Rate of inflation	2.80% p.a.
Long run capital gain on property	4.80% p.a.
Mortgage interest Rate	7.50%
Acceptable return (discount rate for NPV calculation)	8.80%
Tax deductible maintenance costs as a proportion of capital value	3.15%
Proportion of debt funding	80.00%
Term of mortgage (years)	15
Mortgage type	Interest only ¹⁰
Length of investment (years)	15
Selling costs (% of sale price)	3.00%
No. of weeks property empty / year	2

7.3.9 To put it another way, based on these assumptions an investor would be prepared to pay approximately \$320,000 for a three bedroom house if the expected rent is \$360 / week. Given the cost structure of subdivision and construction in Wairakei it is not possible to deliver a three bedroom house at this price.

7.3.10 Based on this information it has been concluded that the likelihood of rental investment underpinning a strong demand for sections and houses in Wairakei is very remote. If it were to happen it would be reliant on rental income being significantly higher than it currently is and/or expected capital returns being significantly higher (at least 5.7% p.a.) than the 4.8% per annum assumption above.

¹⁰ If a table mortgage was used instead of an interest only mortgage then rents would have to be substantially higher. Interest only mortgages are relatively commonplace for property investment but maybe not for a period as long as 15 years. As such the rents calculated by using this model are likely to be on the low side of what would actually be required to make property investment a viable proposition.

7.3.11 In regards to capital growth, it should be noted that at 4.8% per annum a \$400,000 house would be worth \$1,000,000 in 20 years time. Even this may seem optimistic given the significant rise to household incomes that would be required to sustain this. With year on year capital growth of 5.7% a \$400,000 house would be worth \$1,000,000 in about 17 years. The Table below shows how housing affordability is likely to decline significantly from today's levels based on these scenarios for capital growth, assuming an annual growth rate of 3.2% for household incomes. 3.2% is the national average growth rate for household incomes over the last 20 years¹¹.

Table 9: Impact of various capital growth scenarios on housing affordability

Year	House price	Annual capital growth	Median household income in Tauranga	House price to income ratio
2010	\$400,000	n/a	\$51,900 ¹²	7.7
2027	\$1,000,000	5.70%	\$88,650	11.3
2030	\$1,000,000	4.80%	\$97,450	10.3

Implications

7.3.12 Given the affordability constraints for both owner/occupiers and investors that are associated with the predicted house prices in Wairakei there is significant concern that the base financial model assumptions for section sales for residential land development in Wairakei may be moderately to significantly over optimistic. The base assumptions are set out in the Table below:

Table 10: Section sales assumptions for Wairakei

Year	Number of sales per year	Land area developed per year
1 to 5	150 sections	10 hectares
6 to 10	220 sections	14.7 hectares
11 plus	350 sections	23.3 hectares

7.3.13 If section sales are significantly slower it is likely to affect the viability of development. The Table below illustrates the impact of section sales being 20% slower than the base assumptions on the viability of development.

¹¹ Source: Statistics NZ care of Covec report for Tauranga City Council titled *Development Contributions Policy: Assessment and Review*.

¹² Source: 6th Annual Demographia Housing Affordability Survey (<http://www.demographia.com/dhi.pdf>).

Table 11: Impact of slower section sales on development feasibility

Variable & Scenario	Gross Margin	Project IRR	Equity IRR	Development feasible?	Reason / comment
Scenario 1: Land purchase \$350,000 / ha in yearly instalments					
Base model	24.5%	19.9%	20.6%	Y	Both IRRs marginal
Section sales 20% slower	24.0%	17.8%	18.0%	N	Both IRRs
Difference	-0.5%	-2.1%	-2.6%		
Scenario 2: Land purchase \$140,000 / ha as lump sum at start of development					
Base model	42.6%	18.9%	20.1%	Y	Both IRRs marginal
Section sales 20% slower	41.3%	16.3%	17.1%	N	Both IRRs
Difference	-1.3%	-2.6%	-3.0%		
Acceptable	20%+	18-20%+	20-25%+	n/a	n/a

7.3.14 As can be seen, if the number of sections sales slows down by just 20% the development becomes financially unviable. Conceivably section sales could be 50%+ slower given the relatively high house prices and existing affordability constraints.

7.3.15 It should also be noted that the analysis above assumes that Council's development contributions (subdivision impact fees and building impact fees) remain unchanged if the development takes longer to complete. In actual fact there is a strong likelihood that they will increase (especially the subdivision impact fees) which would further exacerbate the adverse affect that slower section sales would have on the development economics of the project.

7.3.16 Development contributions are made up of three cost components: base project costs in today's dollars, inflation for projects to be built in the future and interest costs on debt that is repaid through development contribution revenue. The reason development contributions are likely to increase if growth slows is that debt would be repaid more slowly due to development contribution revenue being delayed meaning interest costs would be higher.

7.4 Individual developer circumstances

7.4.1 Given confidentiality issues it is not possible to set out a detailed financial analysis for the two separate residential development projects. It is however fair to say that one developer is sitting on a marginally viable development proposition but would struggle to deliver a significant amount of product to its target market (\$300,000 to \$400,000). Given the inability to do this, there is a real risk that section sales would underperform expectations and cause the development to become unfeasible.

7.4.2 The financial model indicates that the other developer has an unviable development proposition. The only substantial difference between the two development proposals relates to when the land is purchased and how much it is purchased for. This has identified the need for this developer to renegotiate land purchase terms with the current property owner. To mitigate the financial risks associated with the number of section sales underperforming expectations it would be in this developer's interest to purchase land in instalments over time as it is required for development.

7.5 Land costs

7.5.1 As stated earlier in this report, one of the objectives of this project was to understand the impact of land costs on the financial viability of development. The following bullet points summarise the findings in this area as they relate to residential development:

- The land price is one of the major determining factors in whether development is viable.
- The timing of land purchase is critical. Financial modelling indicated that if land was purchased on a yearly basis, as it is required for development, at \$350,000 / hectare that, to the developer, this was roughly equivalent to paying \$140,000 / hectare as an upfront lump sum at the start of the development based on a development timeframe of 15 years.
- Residential development in Wairakei may be financially viable with either of the above two land purchase scenarios although it is fair to say that development is marginal and that there are downside risks especially if section sales are slower than anticipated.
- It may take a significant amount of time for existing landowners to accept these amounts as fair value for their land. Price expectations are currently high.
- The land values stated above are a significant premium to the underlying land value which is approximately \$50,000 / hectare.
- If the land could be purchased for a small premium above its underlying value development would be significantly more viable.
- If land could be purchased for significantly less, the developer would have scope to reduce section prices which in turn would moderately improve the affordability of the product offering.
- The likelihood of being able to secure land at or near its underlying value is very low, especially in the short to medium term.

7.5.2 There is an ongoing debate about the impact that metropolitan urban limits or similar planning tools have on land prices. While this is not a focus of this report some thoughts on this matter are set out in Attachment D. These thoughts are centred around the premise that de facto urban limits will always exist due to infrastructure servicing and funding issues associated with bulk water and wastewater mains and roading connections to State Highways.

7.6 Subdivision impact fees

7.6.1 One of the other objectives of this project was to understand the impact of subdivision impact fees on the financial viability of residential development in Wairakei. The bullet points below summarise the findings in this area:

- Residential development is likely to be marginally viable with the level of subdivision impact fees payable in Wairakei.
- Subdivision impact fees reduce the residual land value which means that developers are forced to pay less for the land than they could if the subdivision impacts fees were lower.
- Developers are still able to pay significantly more than the underlying value for land.
- Average section prices could be reduced by over \$30,000¹³ to around \$125,000 if the subdivision impact fees were removed assuming this did not

¹³ This is significantly higher than the subdivision impact fees of \$22,800 per lot (on average) because, by removing the subdivision impact fees, interest costs are reduced and the gross margin and internal

impact the land purchase arrangements and cost savings were passed on to consumers.

- Having no subdivision impact fees would have a reasonably significant impact on the ability to deliver housing product in Wairakei between \$300,000 and \$400,000. It would make it possible to deliver 160m² houses on 500m² lots or 180m² houses on 400m² lots at or slightly below \$400,000 for instance.

7.7 Housing affordability in Wairakei

7.7.1 The delivery of houses that are more affordable for middle to low income households to buy or to rent is likely to be an important component in whether residential development in Wairakei (and for that matter any other large scale growth area) is successful. However it seems very unlikely that a significant amount of affordable product can be delivered to these households.

7.7.2 As noted earlier in this report, because most of the costs associated with delivering sections and houses are substantially fixed there are relatively few ways of delivering cheaper and more affordable houses. The only real ways to reduce costs are:

Land development

- More favourable land purchase terms (price and/or timing of purchase)
- Delivering more sections by reducing the average section size
- Lower Council fees (especially subdivision impact fees).

House construction

- Building smaller houses
- Using lower cost building materials / specifications
- Lower Council fees (especially building impact fees).

Land price

7.7.3 The land price in the base financial model is \$350,000 per hectare based on land being purchased in yearly instalments or \$140,000 per hectare based on land being purchased up front at the start of the development. This is significantly less than the price residential development land sold for during the property boom years in the mid 2000's and because of this, property owners are likely to have expectations that their land is worth substantially more.

7.7.4 Despite this, land, like any other commodity, is only worth what someone is willing to pay for it. In this case the financial model indicates that these amounts are the absolute most a developer could pay for the land and that even at these amounts there is significant risk that development would not be viable. There is scope for these land prices to come back even further given the underlying value of the land for rural use is approximately \$50,000 per hectare.

7.7.5 Lower land price would enable developers to reduce section prices. For instance if the land prices adopted in the base model were reduced by 50%, section prices could be reduced by approximately \$20,000 incl. gst.

rate of return profitability measures can be satisfied with a lower level of profit from the development project.

Section size

- 7.7.6 Due to a large proportion of fixed costs associated with residential subdivisions (e.g. roads, development contributions) if the average section size was reduced then it would be possible to deliver a lower average section price. For instance if the average section size was reduced from the base assumption of approximately 470m² (15 lots / ha)¹⁴ to 390m² (18 lots / ha) then the average section price could be reduced by approximately \$20,000 incl. gst.
- 7.7.7 While this may seem like an obvious way to improve the affordability of houses in Wairakei (and elsewhere) there are likely to be significant challenges in changing consumers views about living on small lots especially in such a large scale on the fringe of Tauranga City. In addition, most or all of the cost savings would be lost if people still want to live in large houses on these small lots as this would require houses to be two storey. Two storey houses are significantly more expensive to build than one storey houses per m² of floor area.

Development contributions

- 7.7.8 This includes both subdivision impact fees and building impact fees. These fees have a significant impact on the cost of new houses and if they were reduced the affordability of housing in Wairakei could be improved. As an extreme example if these fees would removed entirely then the cost of a house in Wairakei could be reduced by over \$40,000 + gst.
- 7.7.9 Because these fees are charged to pay for the cost of necessary infrastructure if they were reduced or removed the costs would still exist and Council would need to find an alternate funding source for the infrastructure. Direct developer funding is not an option as this would not improve the financial viability of the project. This leaves rates as the only realistic alternate funding source available to Council due to the lack of other funding sources available to local authorities in New Zealand.
- 7.7.10 A considerable amount of work has already been done by Council, in conjunction with developers, in order to reduce the cost of infrastructure required. Significant cost reductions have been achieved for instance through changes to road designs. Other projects, such as stormwater ponds will be delivered by developers on the basis that they believe that they can deliver them at a cheaper cost than Council could.
- 7.7.11 It may however be possible to further reduce development contributions by re-examining some of the significant infrastructure projects in Wairakei such as the interchange with the proposed Tauranga Eastern Link motorway and the design of stormwater network.
- 7.7.12 Another possibility is to use a targeted rate over properties that are developed in Wairakei to fund some or all of the growth-related infrastructure costs instead of using development contributions (either completely or in part). Council has undertaken some work on this idea. Given Council's long-term average borrowing rate, each \$1,000 reduction to development contributions would require a targeted rate of \$100 for a period of 20 years.
- 7.7.13 This implies that if targeted rates were used instead of development contributions they would have to be significant to have a material impact on the amount of development contributions payable. This is likely to have an adverse

¹⁴ Calculated based on 30% of land being lot to roads, reserves and the like.

impact on the desirability of properties in Wairakei relative to the rest of the city as the total amount of rates payable in Wairakei would be much higher than the total amount of rates payable in other parts of the city (potentially multiple times higher).

House size

- 7.7.14 As stated earlier in this report a conservative average of 165m² has been used for the size of houses in Wairakei. There is probably little scope to reduce this further although it should be noted that in the early 1990's the average size of a new house was much smaller than this at only 140m².
- 7.7.15 It should be noted that each additional m² of floor area can cost in excess of \$1,000 and as such reducing the size of a house substantially can reduce the cost of building it substantially. This is significantly less than the average m² building costs. This is because there is not a linear relationship between house size and constructions costs. In other words, if the size of a house is reduced by 50% the cost of construction will not reduce by 50% but by a somewhat lesser amount due to the fact that there are a number of reasonably fixed costs in rooms like kitchens and bathrooms that tend not to vary as the overall size of a house fluctuates.

Building materials

- 7.7.16 The type of building materials and building specifications used can have a significant bearing on the final cost of building a house. For instance using plaster over brick rather than just plain brick for the house cladding can add over \$10,000 to the cost of a house.

Conclusion

- 7.7.17 Given the extent of the challenge to deliver new housing that is affordable to lower and middle income households a combination of all or most of the factors discussed above would need to be adopted. This would involve Council considering its position on affordable housing and its role in delivery it. Given that the most significant impact that Council has on the cost of housing is through development contributions by necessity this would involve a review of the appropriateness of Council's *growth pays for growth* philosophy.

7.8 Findings for Wairakei residential development prospects

- 7.8.1 While the Wairakei area does have a number of things going for it in terms of development (e.g. it's flat, close to the beach and to new schools) there are some significant challenges to the feasibility of residential development projects. These challenges are primarily related to the ability of developers to purchase land on reasonable terms and the difficulty of delivering houses between \$300,000 and \$400,000 due to the cost structure of development.

- 7.8.2 In a situation where 'reasonable' land purchase arrangements are modelled there is still some financial risk due to the apparent gap between the cost of delivering houses to the market and the market demand for houses in this price range for both owner/occupiers and property investors. This risk could be mitigated by reducing the cost structure of land development through more favourable land purchase arrangements or through reduced subdivision impact fees. Creating a greater market acceptance of smaller and more modest houses on smaller lots would also be helpful albeit this would may not be easy to achieve.
- 7.8.3 There is a strong likelihood that the development of Wairakei will be slower than anticipated if the cost of delivering sections to market cannot be reduced and that developers will target their product offerings more towards the higher end of the market.

8. Industrial development feasibility

8.1 Base model

- 8.1.1 As noted earlier in the report the financial model used for industrial land development is substantially the same as the financial model used for residential land development.
- 8.1.2 The cost and revenue assumptions used in the base model are set out in the Table below. More detail about the base model assumptions can be found in Attachment F. The land purchase assumptions are based on publically available information about a recent land purchase of an 18.5 hectare land parcel that is to be zoned for industrial purposes in Wairakei.

Table 12: Base financial model assumptions for industrial development in Wairakei

	\$ / m² of net saleable area	% of total costs
Revenue		
Section price	\$165.00	106.3%
Sale of bare land ¹⁵ to Council	\$1.00	0.6%
TOTAL REVENUE	\$166.00	106.9%
Cost		
Land purchase	\$16.50	10.4%
Lot development costs	\$59.00	35.9%
Development contributions ¹⁶	\$65.00	41.8%
Rates	\$0.50	0.3%
Other Council fees	\$2.50	1.6%
Direct sales costs	\$5.00	3.0%
Development & project mngt	\$5.00	3.2%
Other costs	\$3.00	1.7%
Bank interest	\$3.50	2.1%
TOTAL COSTS	\$159.00	100%

Note: All cost and revenue items are shown gst exclusive.

- 8.1.3 The Table above identifies that the two largest costs of development by some way are development contributions and lot development costs. It should be noted that, unlike residential development, land cost is a much smaller component of the overall development costs at only 10%.
- 8.1.4 The base model assumptions indicate that development is not financially viable by some margin. This is shown in the Table below.

¹⁵ This relates to the sale of 1.1ha of land to Tauranga City Council for a designated road.

¹⁶ See Attachment F for a full breakdown of development contribution charges (i.e. subdivision impact fees).

Table 13: Base model financial summary

	Land cost / ha	Purchase timing	Gross margin (GM)	Project IRR	Equity IRR	Development feasible?	Reason
Base model	\$135,391	Upfront	7.3%	8.2%	7.6%	No	GM ¹⁷ , Both IRRs
Acceptable	n/a	n/a	20%+	18-20%+	20-25%+	n/a	

8.2 Sensitivity analysis

8.2.1 Because the base model indicates that industrial land development in Wairakei is financially unviable by some margin the sensitivity analysis is focused on:

- large cost items (development contributions and lot development costs)
- land costs (because there is scope for this to vary)
- the impact of lower costs because higher costs will just make development even more unviable.

Table 14: Sensitivity modelling results

	Gross margin (GM)	Project IRR	Equity IRR	Development feasible?	Reason
Base model	7.3%	8.2%	7.6%	No	
SIFs -25%	20.8%	18.8%	19.0%	No (marginal)	Equity IRR
SIFs -50%	37.5%	31.3%	30.8%	Yes	
Lot development costs -25% ¹⁸	19.6%	17.8%	18.0%	No	GM, Both IRRs
Land purchase -25%	10.7%	11.2%	11.0%	No	GM, Both IRRs
Land purchase -50%	14.4%	14.6%	14.9%	No	GM, Both IRRs
Land purchase -75%	18.1%	18.5%	18.9%	No	GM, Equity IRR
Land purchase -100%	21.7%	23.2%	23.6%	Yes	
Sales price +10%	18.1%	17.0%	17.6%	No	GM, Both IRRs
Sales price +15%	23.2%	21.2%	21.9%	Yes	
Acceptable	20%+	18-20%+	20-25%+	n/a	

Subdivision impact fees

8.2.2 The sensitivity analysis indicates that the subdivision impact fees need to reduce by a bit over 25% (\$140,000) for development to be financially viable.

¹⁷ GM means gross margin.

¹⁸ Scenarios with lot development costs reduced by more than 25% have not been considered as there is no realistic way in which this could be achieved.

Lot development costs

- 8.2.3 The lot development costs in the base model are thought to be an accurate indication of the cost of the site specific works required to create finished industrial lots for sale. As such, there is little scope to reduce these costs. Even if these costs could be reduced by 25% the sensitivity analysis indicates that development still would not be financially viable.

Land purchase

- 8.2.4 As stated earlier the land purchase costs in the base model are reasonable and do not make up a large percentage of the total costs of development. The sensitivity analysis indicates that even if land purchase costs were reduced by 75% development would still be unviable.
- 8.2.5 The financial model indicates that development would be marginally financially viable with a land cost of approximately \$10,000 per hectare. This is obviously unrealistic given the underlying value of the land for rural purposes is approximately \$50,000 per hectare.

Sales price

- 8.2.6 The sales price used in the base model is \$165 + gst per m². The sensitivity analysis indicates that development would be marginally viable if the sales price rose to about \$190 + gst per m². Given current prices for industrial land in Tauranga, industrial rents, demand for industrial land and competing developments it is unlikely that this level of sale price could be achieved in the near term despite it being only 15% greater than the sale price used in the base model.
- 8.2.7 In the medium to longer term sales prices are likely to reach this level. However over this time the cost of delivering finished sections for sale is also likely to rise meaning that development may remain unviable.

8.3 Findings for Wairakei industrial development prospects

- 8.3.1 The financial modelling indicates a strong likelihood that industrial land development in Wairakei will not be financially viable given the cost structure of development and likely sales prices for developed sections. Viability relies on Council reducing its subdivision impact fees significantly, a significant increase to sales prices or a combination of the above.
- 8.3.2 While there is a chance that industrial land prices will increase to a sufficient level for industrial land development to proceed in Wairakei there is a significant risk that they will not.

9. Land owner risks

9.1 Iwi / hapu land ownership

- 9.1.1 As noted earlier in this report the Office of Treaty Settlements is currently one of the major land owners in Wairakei and its land holdings are likely to increase substantially as it acquires surplus land purchased by NZTA for the Tauranga Eastern Link Motorway project. It is likely that the Office of Treaty Settlements will end up owning approximately 100 hectares in Wairakei which is approximately 25% of the total Wairakei land area.
- 9.1.2 This land is likely to be given to one or more local iwi or hapu as part of the Treaty settlement process. There is significant risk that development of this land will not occur or will occur at a much slower rate than is currently envisaged. In addition to the general development feasibility issues set out earlier in this report, possible reasons for this may include:
- Lack of financial resources to undertake development.
 - Choice to use financial resources for other things instead of developing landholdings in Wairakei.
 - Desire to retain the land in Maori ownership through the use of leasehold rather than freehold developments which may not be desirable to the general public, especially for residential product.
 - Desire to develop land to house members of hapu / iwi rather than for sale to the general public.
- 9.1.3 Potentially these risks may not come to fruition if the Treaty settlement process delivers significant financial resources to the iwi / hapu who are given these landholdings and these iwi / hapu adopt commercial models similar to, say, Tainui in the Waikato which is a large player in property development. There is however some risk that this will not occur or that Maori choose to put the financial aspect of the Treaty settlement to work in other ways.
- 9.1.4 If these large blocks of Maori owned land remain undeveloped for a significant period of time it will result in the infrastructure in Wairakei being used inefficiently. In this regard it should be noted that Council would generally not be able to defer investment in things like roads and pipes if the Maori land is not developed because this infrastructure would be required to service development of the non-Maori landholdings in Wairakei. Because of this, development contributions would increase markedly in Wairakei due to higher than expected interest costs resulting from little / no development contribution revenue being collected from the Maori owned landholdings. This in turn would have a further negative impact on development feasibility for the entire Wairakei urban growth area.

10. Conclusions

10.1 Wairakei

10.1.1 The financial modelling as a whole indicates that there are significant challenges to development in Wairakei. The following conclusions have been reached:

- That at best residential development will be slower than anticipated and aimed primarily at a higher end of the market than where the developers want to be given the cost structure of residential subdivision and construction.
- That for a significant amount of affordable owner-occupied or rental housing for low to middle income households (say \$300,000 to \$400,000) is to be built in Wairakei it would require a concerted effort by developers, builders and Council. Central government may also need to play a role in this if it is to be achieved. This role could take numerous forms for example an enabling role, e.g. legislative change to provide new infrastructure financing and funding mechanisms for Local Government, or a financial role, e.g. providing low or zero interest loans for high growth Councils to build large lead infrastructure projects with long cost recovery periods.
- That there is a reasonable prospect that industrial development will not be viable at all given Council's 'growth pays for growth' philosophy. This would have a number of consequences such as a lack of service businesses for the population in Wairakei, a lack of local employment opportunities and effects on the transport network as more Wairakei residents are forced to drive out of the local area to access service businesses and employment opportunities. It would also raise significant cost recovery issues for Council.
- That SIFs may increase significantly in Wairakei if Council invests in lead infrastructure but development occurs at a slower rate than expected (or not at all). This would be due to the effect of compounding interest. Increased SIFs would increase the cost of development in Wairakei and compound the challenges to development feasibility identified in this Report. Slow or no development is a real risk especially in relation to the industrial land and the OTS landholdings that will be transferred to iwi / hapu. Capping the maximum amount of SIFs payable at the same level that the operative SIFs are at the time a development is consented may need to be considered to give developers and their financiers more certainty.

10.2 Overall city

10.2.1 The Wairakei area is located immediately adjacent to the existing built up area of the city and in a relatively flat and easy to develop land. This means that the financial viability issues identified in this Report are likely to be as challenging, if not more so, in the other greenfield areas that have been identified for future development in and around Tauranga. This raises the need for this discipline (development / market feasibility) to feature more prominently in Council's long-term growth management planning. It also raises a number of broader concerns, for instance:

- That Council's assumptions about long-term population growth may not be compatible with its *growth pays for growth* philosophy as the significant cost involved may harm Tauranga's competitiveness against other locations and the financial ability of some people and businesses to move to the City.

- That housing and business land in Tauranga may have to become significantly more affordable for significant population growth to continue in Tauranga.
- That Council and its current ratepayers are exposed to significant financial risk if population growth in Tauranga slows.
- That, as per Council's current policy direction, development contribution charges are likely to rise significantly if the growth rate slows substantially due to compounding interest costs on lead infrastructure that is currently being built or needs to be built imminently¹⁹.
- That alternate funding mechanisms for growth infrastructure that are used successfully overseas may need to be introduced into New Zealand. Legislative change would be needed to make this possible. These funding mechanisms may include:
 - The Tax Increment Financing and Municipal Utility District structures used in the US which make use of bond financing and allow infrastructure costs to be paid off over time rather than through large upfront fees.
 - A betterment / capital gains type tax on the windfall gain to the landowner associated with the rezoning of land to allow for urban development which could be used to fund a portion of the infrastructure costs and thus allow upfront development contribution fees to be reduced²⁰.

¹⁹ For example, the southern pipeline project (wastewater), Waiari water treatment plant and upgrades to the Te Maunga wastewater treatment plant.

²⁰ It should be noted that this is similar to the existing but unused power in s326 (Betterment arising from creation of widening of road) in the LGA 1974.

11. Recommendations

11.1 Wairakei urban growth area

General

1. Council further reviews the scope, cost estimates and cost allocations of major SIF funded projects in Wairakei with the aim of reducing SIF charges.
2. Council considers whether changing the timing of payment for development contribution charges to align more closely with developers' cashflows from section sales could be introduced.
3. Developers ensure that land purchase terms allow development to be feasible without reliance on Council reducing its development contribution fees.
4. Council liaises with the Office of Treaty Settlement about the implications of this report on the value of their landholdings in Wairakei to ensure that the land is transferred to iwi or hapu at an appropriate value along with sufficient capital to ensure it can be developed in a timely manner.
5. Council works collaboratively with the iwi or hapu that come to own land in Wairakei through the Treaty settlement process to identify and overcome barriers to the development of their landholdings.
6. That Council considers the use of alternate funding sources to development contributions for additional interest costs that arise from factors outside the control of the development community, such as the Maori owned land or the industrial land not being developed or the slower development of Wairakei in general.

Residential development²¹

7. Developers ensure that land is used efficiently and section prices are kept as low as possible by keeping section sizes to a minimum.
8. Developers work with the local building industry to ensure that sections are regular shapes to allow standard building plans to fit on them.
9. Developers ensure that no restrictions on the building of small houses are imposed.
10. Developers ensure that no unnecessary restrictions on the use of building materials are imposed e.g. the use of brick cladding.
11. Developers ensure that no unnecessary building specifications that add significant cost are imposed.

Industrial development

12. Council considers the reduction of SIFs to allow currently unfeasible development to proceed in circumstances where land has been purchased on reasonable prices / terms.
13. Council considers reducing the amount of industrial zoned land in Wairakei in favour of other land uses (probably residential) for which development is more financially viable. This would involve a variation to the District Plan.

²¹ It should be noted that Recommendations 9, 10 and 11 are outside Council's direct influence as they are dealt with through private covenants and/or design rules/guides. It should also be noted that an appropriate balance needs to be struck between cost considerations and design/amenity considerations to ensure the final product is saleable.

11.2 Wider strategic issues

14. Council reviews its *growth pays for growth* philosophy in light of its likely impact on housing affordability, population growth, economic growth and financial risk.
15. Council undertakes scenario modelling to understand the financial implications and risks of lower growth rates.
16. Council continues to engage with central government on the financial challenges of growth, in particular the problems associated with the existing funding sources for growth-related infrastructure that are available to Council and the inability to implement alternate funding mechanisms that are used successfully overseas without legislative change.
17. Council investigates funding mechanisms used overseas that might be appropriate for the Wairakei urban growth area.
18. That more emphasis is given to development feasibility by Council in its long-term growth management planning.

LOCATION OF THE WAIRAKEI URBAN GROWTH AREA

Attachment A

FINANCIAL MODEL ASSUMPTIONS FOT RESIDENTIAL DEVELOPMENT**Attachment B****Key Assumptions**1. Mix of Section sizes

Agreed distribution of section sizes to achieve an average density of 15 lots per hectare based on a hypothetical 10 hectare subdivision. This gives an overall average section price (including gst).

Range of section sizes	Av. section size	% of lots	No. of lots	Total saleable area (m2)	Sale price (\$)
200-250m ²	225m ²	5.0%	7.5	1,687.50	100,000
250-350m ²	300m ²	15.0%	22.5	6,750.00	120,000
350-450m ²	400m ²	20.0%	30.0	12,000.00	135,000
450-550m ²	500m ²	35.0%	52.5	26,250.00	165,000
550-650m ²	600m ²	20.0%	30.0	18,000.00	190,000
650-750m ²	700m ²	5.0%	7.5	5,250.00	210,000
		100.0%	150.0		
	Total Saleable area			69,937.50	
	Non Saleable area *			30,000.00	
	Total Land Area			99,937.50	

* Represents 30% of land required for roads and neighbourhood reserves.

Average section price \$156,250 incl. gst (Calculated based on above assumptions).

1. Take up of Residential Lots for sale

Rate of Development (Residential)	Sales per year	Area (ha) Sold per year
Years 1 to 5	150	10.00
Years 6 to 10	220	14.67
Years 11 to 15	350	23.33

It is assumed that these sales will be evenly shared between the two developers while both still have land to develop.

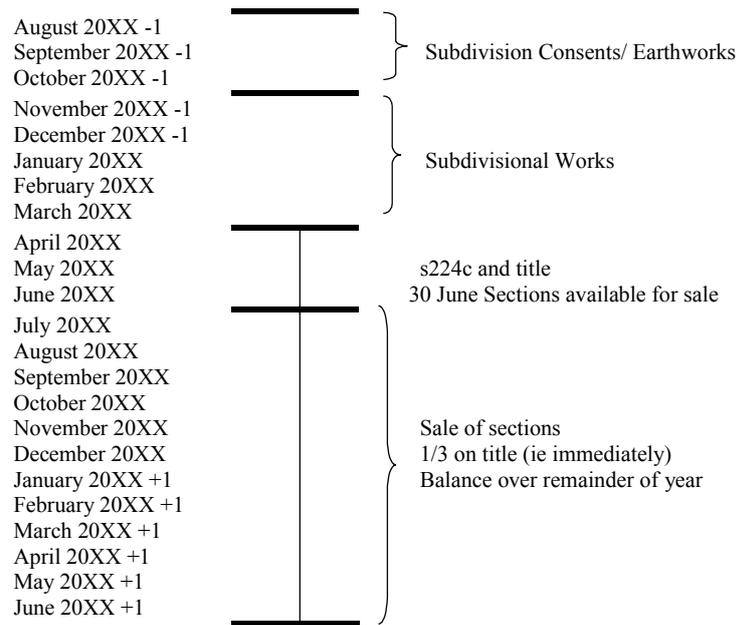
2. General Assumptions

Contingency Rates (Residential)	15%
Design and Supervision – Consents	\$2,000
Design and Supervision – Construction	\$2,500
GST	15%
Stage Development Plan required every	10 hectares
Earthworks Development Plan required every	25 hectares
Local Reserve Area Required	319m ² / hectare

Rear lanes are assumed to be required for 30% of lots in circumstances where density is over 18 lots per ha.

3. Timing

Timing of each lot of development and sale is based on the timeframe below.



Base Cost Information

4. Revenue (including gst)

Average section price \$156,250 (see 1 above for more on how this is derived)

5. Direct Sales Costs (excluding gst)

Sales Legal Fees	\$750
Marketing	\$1,000
Commission On Sale - Residential	2.50%

6. Consent Fees (excluding GST) (based on TCC 2010/11 Fees)

Generation of Development Master Plan	\$500,000
Generation of Stage Development Plan	\$50,000
Generation of Earthworks Stage Development Plan	\$50,000
Subdivision Consent Fees (Limited Notification)	\$2,861
Land Use Consent Fees (Limited Notification)	\$3,990
Development Plan Approval Fee (Base Charge)	\$1,467
Development Plan Approval Fee (Variable Charge on works)	0.62%
S223 Consent Fees	\$478
S224 Consent Fees	\$961
As-Built Plans and Survey Benchmark Records (Base)	\$142
As-Built Plans and Survey Benchmark Records (per lot)	\$44

7. Estate Direct Construction Costs (excluding GST)

Estate projects are ones that relate to the whole growth area (but constructed by the developer) rather than individual subdivisions.

Earthworks (Residential)	\$82,700	per ha
Stormwater Pond Construction	\$525,000	per ha of pond reserve
Reserve Development	\$250,000	per ha

8. Subdivision Construction Costs (excluding GST)

These costs have been split into three groups. The first group are those costs that are substantially fixed per hectare of land developed, and don't change based on the density of development. The second group relates to those costs directly related to the number of lots developed i.e. variable costs. The last group relates only to high density developments (i.e. over 18 lots per hectare)

8.1. Per Hectare Direct Construction Costs

Roading, Water, Stormwater, Sewer	\$277,500
Streetlights	\$6,825

8.2. Per Lot Direct Construction Costs

Service Connections for Water and Sewer (inc meters etc)	\$2,500
Power	\$1,000
Gas	\$0
Phone	\$1,100
Landscaping	\$1,000
EBOP inspections	\$350
LINZ	\$55
Iwi site inspections	\$100

8.3. Per Lot High Density Direct Construction Costs

Rear Lanes Cost per lot \$5,000

9. Per Ha Residential Development Contribution Costs (Excluding GST)

Development Contribution \$341,615

This is broken down as follows:

Water	\$52,209
Wastewater	\$83,819
Stormwater	\$29,133
Transportation	\$176,456
Reserves	\$0
Community infrastructure	\$0

10. Other Costs (Excluding GST)

Legal Subdivision Fee	\$275	Per lot
Total Direct Maintenance Costs per ha	\$100	Per ha per month
TCC Council Rates UAGC	\$620	Per lot
TCC Council Rates Charge per \$ of Value	\$0.001737	per \$1 of Capital Value
Wastewater UAC	\$300	Per lot
Regional Council Rates UAGC	\$52	Per lot
Regional Council Rates Charge per \$ of Value	\$0.000164	per \$1 of Capital Value
Developer Management and Project Management	3.0%	% of Sales Revenue
Indirect Costs (Including Security, legal costs, Valuations, Undeveloped land maintenance, Accounting Fees etc)	\$20,000	Per month

SENSITIVITY ANALYSIS FOR RESIDENTIAL DEVELOPMENT

Attachment C

Sensitivity analysis (land purchase in yearly instalments at \$350,000 / ha)

Variable & Scenario	Gross Margin	Project IRR	Equity IRR	Development feasible?	Reason / comment
Base model	24.5%	19.9%	20.6%	Y	Both IRRs marginal
Av. section price					
+20%	47.7%	36.2%	38.9%	Y	
+10%	36.2%	28.2%	29.9%	Y	
-10%	12.0%	11.2%	10.7%	N	Gross Margin ²² , Both IRRs
-20%	-3.5%	1.6%	<0%	N	GM, Both IRRs
SIFs					
+20%	19.2%	16.3%	16.6%	N	GM (marginal), Both IRRs
+10%	21.8%	18.1%	18.5%	N	Both IRRs
-10%	27.2%	21.8%	22.5%	Y	
-20%	30.0%	23.7%	24.6%	Y	
Construction costs					
+20%	16.3%	14.1%	14.1%	N	GM, Both IRRs
+10%	20.3%	16.9%	17.2%	N	Both IRRs
-10%	28.8%	23.1%	24.0%	Y	
-20%	33.6%	26.6%	27.7%	Y	
Land purchase cost					
+20%	18.7%	15.8%	15.8%	N	GM, Both IRRs
+10%	21.6%	17.8%	18.2%	N	Both IRRs
-10%	27.5%	22.1%	23.0%	Y	
-20%	30.8%	24.4%	25.6%	Y	
Land purchase timing					
Four equal instalments	23.9%	16.0%	16.2%	N	Both IRRs
Upfront lump sum	14.9%	7.9%	6.5%	N	GM, Both IRRs
Lump sum 5 yrs before start	-17.8%	7.1%	<0%	N	GM, Both IRRs
Section sales timing					
20% faster	24.6%	21.7%	22.7%	Y	
10% faster	24.4%	20.9%	21.8%	Y	
10% slower	24.3%	19.0%	19.3%	Y	Both IRRs marginal
20% slower	24.0%	17.8%	18.0%	N	Both IRRs
Development yield					
12 dwellings / ha	16.2%	15.5%	15.6%	N	GM, Both IRRs
18 dwellings / ha	25.5%	19.4%	19.8%	Y	Both IRRs marginal

²² GM means gross margin.

Variable & Scenario	Gross Margin	Project IRR	Equity IRR	Development feasible?	Reason / comment
Base model	24.5%	19.9%	20.6%	Y	Both IRRs marginal
Inflation					
2% on costs & revenue	31.6%	23.8%	25.1%	Y	
As above, but no revenue inflation until yr 4	24.4%	19.2%	19.8%	Y	Both IRRs marginal
3% costs, 2% revenues	23.9%	20.3%	21.0%	Y	
2% costs, 3% sales	43.2%	28.6%	30.6%	Y	
Interest rate					
12%	24.1%	19.9%	20.1%	Y	Both IRRs (marginal)
8%	24.8%	19.9%	20.9%	Y	Both IRRs (marginal)
Finance structure					
100% debt funding	20.2%	19.9%	30.1%	Y	GM & Project IRR (marginal)
100% equity funding	25.9%	19.9%	18.6%	N	Equity IRR

Sensitivity analysis: Based on Scenario 2 (land purchase by lump sum at start of development at \$140,000 / ha)

Variable & Scenario	Gross Margin	Project IRR	Equity IRR	Development feasible?	Reason / comment
Base model	42.6%	18.9%	20.1%	Y	Both IRRs marginal
Av. section price					
+20%	69.5%	27.8%	30.4%	Y	
+10%	56.3%	23.5%	25.3%	Y	
-10%	28.3%	14.0%	14.5%	N	Both IRRs
-20%	12.7%	8.6%	7.6%	N	GM, Both IRRs
SIFs					
+20%	35.8%	16.9%	17.8%	N	Both IRRs
+10%	39.2%	17.9%	19.0%	N	Both IRRs
-10%	46.3%	19.9%	21.2%	Y	
-20%	50.1%	20.9%	22.4%	Y	
Construction costs					
+20%	31.8%	15.6%	16.3%	N	Both IRRs
+10%	37.1%	17.2%	18.2%	N	Both IRRs
-10%	48.6%	20.6%	22.1%	Y	
-20%	55.1%	22.4%	24.1%	Y	
Land purchase cost					
+20%	38.7%	16.7%	17.5%	N	Both IRRs
+10%	40.7%	17.7%	18.8%	N	Both IRRs
-10%	44.6%	20.2%	21.6%	Y	
-20%	46.6%	21.7%	23.2%	Y	
Land purchase timing					
Yearly as required	45.4%	34.8%	37.0%	Y	
Four equal instalments	45.2%	30.6%	32.5%	Y	
Lump sum 5 yrs before start	27.9%	17.0%	12.2%	N	Both IRRs
Section sales timing					
20% faster	43.2%	21.3%	23.0%	Y	
10% faster	42.8%	20.2%	21.6%	Y	
10% slower	42.1%	17.7%	18.6%	N	Both IRRs
20% slower	41.3%	16.3%	17.1%	N	Both IRRs
Development yield					
12 dwellings / ha	34.4%	18.0%	19.1%	N	Both IRRs
18 dwellings / ha	42.6%	17.4%	18.3%	N	Both IRRs

Variable & Scenario	Gross Margin	Project IRR	Equity IRR	Development feasible?	Reason / comment
Base model	42.6%	18.9%	20.1%	Y	Both IRRs marginal
Inflation					
2% on costs & revenue	53.9%	22.1%	23.9%	Y	
As above, but no revenue inflation until yr 4	45.6%	19.5%	20.9%	Y	Both IRRs marginal
3% costs, 2% revenues	46.5%	20.7%	22.2%	Y	
2% costs, 3% sales	67.6%	25.0%	27.3%	Y	
Interest rate					
12%	41.7%	18.9%	19.6%	Y	Both IRRs marginal
8%	43.5%	18.9%	20.5%	Y	Both IRRs marginal
Finance structure					
100% debt funding	32.6%	18.9%	35.9%	Y	Equity IRR marginal
100% equity funding	46.4%	18.9%	18.1%	N	Equity IRR (Project IRR marginal)

CURRENT RENTS AND NECESSARY RENTS

Attachment D

The Table below shows the current rents in Papamoa based on information collected by the Department of Building and Housing from tenancy agreements. It should be noted that Papamoa is characterised mainly by good quality houses that were built in the 1990's and 2000's.

Current rents in Papamoa, Tauranga

Dwelling type	Bedrooms	Median	Upper quartile	Standard deviation
House	2	\$267	\$295	\$47
House	3	\$320	\$360	\$63
House	4	\$395	\$420	\$55

It is likely that new houses would achieve rents more in line with the upper quartile rather than the median.

The Table below shows the actual rents that are likely to be necessary for property investment in Wairakei to be viable based on the assumptions in Table 8, section 7.3.8 of this Report and the likely house prices for Wairakei as per Table 6, section 7.3.2 of this Report. It should be noted that these rents are in today's dollars and are assumed to increase at 2.8% per annum on a compounding basis.

It should also be noted that the rents identified below may be on the low side given the assumption that interest only mortgages instead of a standard table mortgage would be available over the lifetime of the investment (15 years).

Rents likely to be necessary for property investment to be viable in Wairakei

Section size	House floor area / type				
	120m ²	140m ²	160m ²	180m ²	200m ²
	2 bedrooms	2-3 bedrooms	3 bedrooms	3-4 bedrooms	4+ bedrooms
300m ²	\$385	\$405	\$430	n/a	n/a
400m ²	\$400	\$425	\$445	\$475	\$500
500m ²	\$435	\$460	\$480	\$510	\$530
600m ²	\$465	\$485	\$510	\$535	\$560
700m ²	\$485	\$510	\$530	\$560	\$585

As is evident, there is a large gap between what rents currently are and what they would need to be for property investment to be a viable proposition in Wairakei.

THOUGHTS ON THE IMPACT OF URBAN LIMITS ON THE COST OF DELIVERING NEW HOUSING

Attachment E

Introduction: Urban limits in Tauranga

Tauranga City Council like many other cities has identified certain areas where urban development will be allowed and other areas where it will not be permitted. The boundaries between these two areas are what are known as the metropolitan urban limits. Tauranga's urban limits identify land that can be developed for urban purposes now and land that is anticipated to be rezoned for urban development in the short and long-term (out to 2050). It is fair to say that some readily developable land close to the city has not currently been identified for urban development in the short term or the long term and that it would probably be reasonably difficult to have this land rezoned for urban development through a private plan change process. The reason it has not been identified for urban development is that sufficient other land has been identified to meet the anticipated growth of the city.

Arguments against urban limits

There is an argument that urban limits are the primary reason why new housing is so unaffordable or that these limits are at least a significant factor that contributes to the high cost of new housing. The argument goes that urban limits constrain the amount of available land for development and this in turn gives market power to the owners of this land who are able to extract high prices when selling to developers. In addition, developers who own land within the urban limits have increased market power because competition (or the threat of competition) is limited and because of this they are able to sell sections at prices significantly above what would exist in a more competitive market (i.e. they are able to make profits that are higher than would be sufficient for development to occur).

It is conceivable that the arguments above have at least some merit, especially in situations where the market demand for sections exceeds supply within the urban limits, i.e. in circumstances where urban limits are a binding constraint on development. This is certainly not the case in Tauranga where there is sufficient zoned and serviced land to meet many years of demand. In addition, Council plans to rezone significantly more land for development in the immediate future which includes land in Wairakei, Northwest Bethlehem and Pyes Pa West. Council also has a capital works programme that provides for the timely servicing of this land to allow development to proceed in the near term.

Infrastructure servicing: De facto urban limits

The purpose of this Attachment is not to argue that urban limits do not affect the price of land for development or the sales price of sections, nor is it to argue that it has only a relatively small impact on these things. The purpose of this Attachment is instead to point out that if urban limits were removed it is likely that the situation in regards to the amount of land available for development would probably not actually change very much due to infrastructure servicing constraints and therefore if urban limits are actually a problem the underlying cause of this problem is infrastructure servicing and this is where discussion and debate should be focused.

All urban development whether it be residential, commercial or industrial requires water, wastewater, stormwater and road services. To service large new developments these services come at considerable cost. In many instances these costs include:

- Significant costs to get water and wastewater pipes to the boundary of a growth area²³.

²³ For development bordering the existing urban fringe of a city there is often roads and pipes right up to this boundary. However these roads and pipes generally have not been designed to cater for significant

- Significant lead infrastructure that needs to be built at or near the start of a large development that will take many years to complete.
- Major costs to connect local roads to the State Highway network or major arterial roads.

These costs generally fall on councils to fund via loans, rates, development contributions and other funding sources. Councils, especially high growth Councils with significant debt like Tauranga City Council, only have so much capacity to incur these sorts of costs. Generally decisions have to be made to focus growth into a relatively small set of defined areas to ensure that Councils can maintain a sound financial position and that infrastructure is used efficiently. Because there is only a finite amount of growth, if significantly more land is serviced than there is demand to develop significant unused capacity will exist in infrastructure networks for a long period of time.

There may be some scope for developers to directly fund these infrastructure costs however due to the significant dollar amounts involved, the high level of risk and the long payback periods there are few, if any, developers who are in a financial position to contemplate this, let alone to be able to source finance to actually do it on a significant scale.

As such, our view is that whether urban limits are drawn on a map or not they will always exist (although maybe not quite to the same limiting extent²⁴) due to financial and other constraints associated with the servicing of greenfield land on the city fringe. If this view is accepted it brings into question the validity of the argument that urban limits have a significant impact on new housing costs (at least in circumstances where there is ample land within the urban limits to easily satisfy demand in the foreseeable future).

Land purchase: Not the only cost

It often seems to be assumed that the cost of land is the sole, or at least the major, determinant in the cost of delivering developed sections. In almost all instances this is not actually the case. The costs involved in delivering developed sections include civil works (earthworks, roads and other services), consultants, development contributions, other Council costs, marketing and sales costs, legal costs, interest costs and (to the purchaser) gst. For the most part it would be expected that land purchase costs would be a relatively small portion of total development costs. On this basis land purchase costs should not be the overriding factor in the cost of delivering sections to the market. This needs to be remembered when considering the impact of urban limits on new housing costs because urban limits have no direct impact on these other cost items.

NZ Transport Agency

The NZ Transport Agency has a significant influence on whether development proceeds in circumstances where this development either would have to directly connect to, or would have a significant impact, on the State Highway network. Given the nature of the State Highway network in Tauranga this would apply to substantial greenfield development in almost any location around the city. The influence of the NZ Transport Agency is likely to be a significant barrier to allowing a more liberal approach to urban limits due to the often prohibitive costs of mitigating the effects on the State Highway network that development has in terms of congestion, transport times, traffic accidents and the like.

Conclusion

Land costs can have a significant impact on the cost of delivering new houses and in many cases there is significant scope for land prices to come back due to the premium that is (or has

growth meaning that additional infrastructure capacity generally has to be built for substantial new developments that border the existing urban fringe.

²⁴ For example, some small scale developments directly on the urban limits boundary may be able to occur without the need for significant infrastructure investment. But on a large scale this is not possible.

been) paid above the underlying rural values. Our view is that removing or freeing up existing urban limits would have limited (if any) impact on new housing costs unless the issue of infrastructure servicing, primarily the funding of it, is also tackled at the same time. This is because infrastructure servicing constraints will act as de facto urban limits even if formally adopted urban limits are removed.

Disclaimer

It should be noted that financial constraints are one of a number of policy reasons that contributed to the urban limits that have been adopted in Tauranga. As such, even if the financial issues associated with infrastructure servicing were resolved or reduced Council does not necessarily support removing or freeing up urban limits.

Key Assumptions

1. Average Industrial Lot Size

Average Industrial Lot Size 3,000 square meters

2. Take up of Industrial Lots for sale

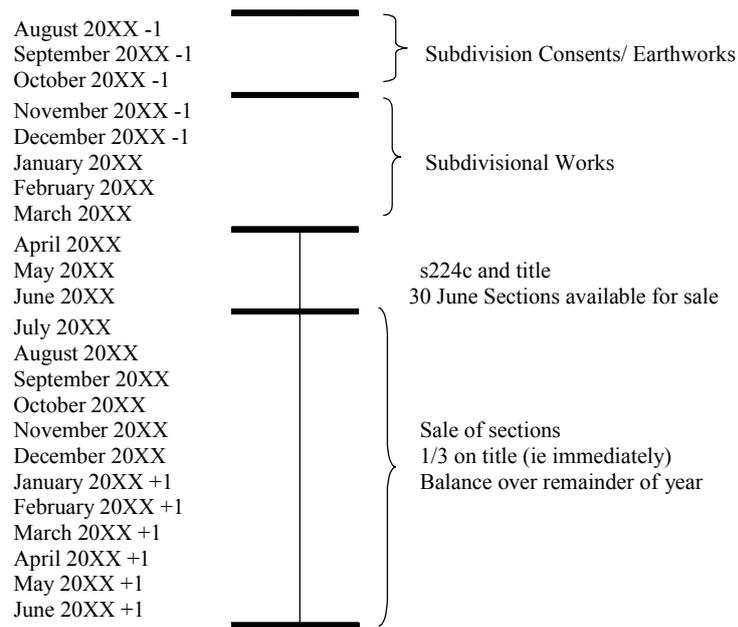
Rate of Development (Industrial)	Area (ha) Sold per year	Number of Lots (as per av. size)
Years 1 to 5	3.56	12
Years 6 to 10	5.44	18
Years 11 to 15	6.70	22

3. General Assumptions

Contingency Rates (Industrial) incl. P&G	15%
Design and Supervision	4%
GST	15%
Stage Development Plan required every	Separate development
Local Reserve Area Required per ha	0.0 ha
(Local Reserves not required for Industrial Subdivision)	

4. Timing

Timing of each lot of development and sale is based on the timeframe below



Base Cost Information

5. Revenue (including gst)

Average sale price \$190 per square metre

6. Direct Sales Costs (excluding gst)

Sales Legal Fees	\$750
Marketing	\$1,000
Commission On Sale - Industrial	2.50%

7. Consent Fees (excluding GST) (based on TCC 2010/11 Fees)

Generation of Development Master Plan	\$500,000
Generation of Stage Development Plan	\$50,000
Subdivision Consent Fees (Limited Notification)	\$2,861
Land Use Consent Fees (Limited Notification)	\$3,990
Development Plan Approval Fee (Base Charge)	\$1,467
Development Plan Approval Fee (Variable Charge on works)	0.62%
S223 Consent Fees	\$478
S224 Consent Fees	\$961
As-Built Plans and Survey Benchmark Records (Base)	\$142
As-Built Plans and Survey Benchmark Records (per lot)	\$44

8. Estate Direct Construction Costs (excluding gst)

Estate projects are ones that relate to the whole growth area (but constructed by the developer) rather than individual subdivisions.

No estate costs as all major infrastructure for industrial development is constructed by Council and included in Development Contribution charge.

9. Subdivision Construction Costs per square metre (excluding gst)

Earthworks	\$32.52
Roading	\$7.55
Water	\$4.21
Stormwater	\$1.45
Sewerage	\$1.81
Other	<u>\$0.97</u>
Total Direct Construction Costs per m²	<u>\$48.50</u>

10. Per Ha Industrial Development Contribution Costs (excluding gst)

Development Contribution	\$545,648
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This is broken down as follows:

Water	\$52,209
Wastewater	\$107,647
Stormwater	\$164,717
Transportation	\$221,074
Reserves	\$0
Community infrastructure	\$0

11. Other Costs (excluding gst)

Legal Subdivision Fee	\$275	Per lot
Total Direct Maintenance Costs per ha	\$100	Per ha per month
TCC Council Rates UAGC	\$620	Per lot
TCC Council Rates Charge per \$ of Value	\$0.001737	per \$1 of Capital Value
Wastewater UAC	\$300	Per lot
Regional Council Rates UAGC	\$52	Per lot
Regional Council Rates Charge per \$ of Value	\$0.000164	per \$1 of Capital Value
Developer Management and Project Management	3.0%	% of Sales Revenue
Indirect Costs (Including Security, legal costs, Valuations, Undeveloped land maintenance, Accounting Fees etc)	\$5,000	Per month