SmartGrowth Industrial Land Study

Further Investigations Report

October 2023





Phizacklea Consulting







This report has been prepared by Phizacklea Consulting with a SmartGrowth appointed project team. Those members and their input is gratefully acknowledged.
This report should be referred to as: SmartGrowth Industrial Land Study - Further Investigations. Report prepared for SmartGrowth partnership, October 2023 Cover image: Drawing of the future Rangiuru Business Park, copyright Quayside Holdings Limited.

Executive Summary

- Following the completion of the SmartGrowth Industrial Land Technical Study by Aurecon consultants in June 2023, further investigation work has been progressed through a project team of the SmartGrowth partnership. These further investigations have been undertaken as set out in the Supplementary Report prepared by Phizacklea Consulting, including progressing investigations of Ōmokoroa 1 and 2, Ōmanawa/Belk Road and Pukemapu short-listed areas to inform decisions on the SmartGrowth Strategy 2023.
- 2. From desktop analysis at a broad-scale Ōmokoroa I, Belk Road and Pukemapu are considered suitable for development for industrial land uses. While significant investment would be required in network infrastructure and services – water, wastewater, stormwater and transport, these three areas are considered able to be progressed to a more detailed structure planning phase in future.
- 3. The developable areas have been estimated as:
 - Ōmokoroa 1 = 70ha
 - Belk Rd = 386ha
 - Pukemapu = 115ha.
- 4. The Belk Road and Ōmokoroa areas do not have any obvious transport or access issues given existing and

- proposed transport investment through the Western Bay of Plenty Transport System Plan (TSP), including Stage 2 of the Takitimu North Link and State Highway 29 realignment and intersection upgrades. Pukemapu has some constraints as detailed later in this report.
- 5. The requirements of the National Policy Statement on Highly Productive Land (NPS-HPL) present a hurdle for Belk Road, in that this area is not exempt from the NPS-HPL and is not part of an existing strategy identified in the councils' long-term plans. A case will need to be made through the rezoning process for why areas of highly productive land are required for business (industrial) land use.
- 6. The Western Corridor (Belk Road) is also subject to current considerations through the Specified Development Project (SDP) process being undertaken by Kāinga Ora. Decisions will need to be made through the Future Development Strategy (FDS), in alignment with the SDP process, on whether Belk Road is identified for future industrial use or residential use, or a mix of both. Engagement with Kāinga Ora and the Ministry for Housing and Urban Development is ongoing in support of the current SDP process. The SDP process may well override any SmartGrowth endorsed and council initiated rezoning process under the RMA for this area.

- 7. A summary of the further investigations to the shortlisted areas are set out in **Appendix 1** to this report. Those investigations also confirm:
 - Ōmanawa is unlikely to be feasible as a future sub-regional greenfield industrial area. Access would be needed through the Tauriko Business Estate which would require a bridge over the Ōmanawa River and a causeway which is considered cost-prohibitive. The other option is via the Ōmanawa Road/SH29 intersection which is not supported by Waka Kotahi.
 - Te Puke 1 has significant stormwater and geotechnical issues and is not recommended for further investigation. Potential local future industrial areas will be examined as part of the Te Puke Spatial Plan being undertaken by Western Bay of Plenty District Council. That work is due to be completed in late 2024.
 - Ōmokoroa 3 and Apata sites are less desirable to the market than the nearby Ōmokoroa 1 and 2 sites, being further north and not directly on the Takitumu Northern Link interchange for access. An improved access off State Highway 2 would be required within a high crash area. Apata has high land costs and high land fragmentation and is highly productive land. The Port of Tauranga has

- confirmed it has no interest in Apata North as a potential future freight hub, with the establishment of the Ruakura freight hub and existing Metroport in South Auckland.
- No further investigations have been undertaken on the Domain Road, Tara Road and Otawa (Bell **Road)** sites within the Eastern Corridor. While these sites have excellent transport connections to the Tauranga Eastern Link/SH 2 they also have significant stormwater, geotechnical and flooding challenges. Bay of Plenty Regional Council has significant concerns with any urban development in these areas due to flooding and natural hazard risks. Some small parts near Domain and Tara Roads may be suitable for small-scale light industrial development, but not at a sub-regional scale. Private sector investigations are currently occurring by Bluehaven Holdings (through the Bell Road Limited Partnership) on the Otawa 1 site and they may seek to make a case for this area being included in the final adopted FDS.
- 8. An initial slope analysis of earthworks required for development of the three focus areas for industrial use, shows that Belk Road is the least costly to develop, followed by Ōmokoroa and then Pukemapu.

9. For the Eastern Corridor:

- a. Any investigation of further Rangiuru / Paengaroa sites should be incorporated into the Te Kāinga investigations being undertaken by Western Bay of Plenty District Council.
- b. A small area of land immediately adjoining the zoned Rangiuru Business Park could see an extension of the Business Park of around 45ha of nett developable area. This area should be considered in the medium to longer term for rezoning, subject to uptake within the current zoned Business Park.
- 10. For the Northern and Western Corridors the proposed rezoning of 10.3ha at Omokoroa Stage 3 (part of Plan Change 92) and 110ha at Tauriko (Tauiko Business Estate extension) will meet short to medium term needs in these corridors, but will not be sufficient for the longerterm.
- 11. It is recommended that the SmartGrowth Strategy submission process and decisions confirm, through the Future Development Strategy under the National Policy Statement for Urban Development, those location(s) best suited for the long term strategic location of business land for the sub-region. Further work will be required to determine the feasibility of developing these areas, and to progress zoning changes.



Contents

Executive Summary	3	4. Short listed areas supported	30
•		Pukemapu	30
Contents	6	Ōmokoroa	34
1. Introduction	7	Belk Road	38
Purpose	7	5. Short listed areas not supported	40
Scope	7	Te Puke	40
2. Background	8	Domain Road / Tara Road / Bell Road	43
•		Ōmokoroa 3 and Apata	45
Business capacity assessment	9	Ōmanawa	47
Technical study	9	6 Engagomont	49
Draft Future Development Strategy	10	6. Engagement	
Related Projects	18	Tangata whenua	49
Western Corridor SDP	18	Utility providers	49
Bell Road investigations	19	Development Sector Group	50
Te Puke	19	7. Conclusions	51
Te Kāinga	20		
, and the second		8. Recommendations	53
3. Technical assessments	21	References	54
Cultural considerations	21	References	5 4
Infrastructure and servicing	23	Appendices	55
Water	21	Appendix 1 – Summary table of potential business	
Wastewater	21	(industrial) land locations	
Earthworks	22	Appendix 2 – Slope maps for preferred potential business	
Transportation	23	land locations	
Electricity	24		
Telecommunications	25	Appendix 3 – Maps of marae, Māori land and cultural sites in	
Natural Hazard Risk	26	proximity to potential business land locations	

Highly productive land

27

1. Introduction

Purpose

The purpose of this report is to undertake further investigations of the suitability of the short-listed areas identified in the SmartGrowth Industrial Land Study technical report (Aurecon, 2023) to inform decisions on the SmartGrowth Strategy 2023 and future planning to meet the demand for new strategic greenfield business land for the western Bay of Plenty sub-region in the long-term.

In particular, these investigations focus on Ōmokoroa, Belk Road/Ōmanawa and Pukemapu short-listed areas in the northern and western growth corridors where the SmartGrowth Housing and Business Capacity Assessment has identified an insufficiency in business land for industrial uses, requiring additional capacity to be provided.

Scope

The SmartGrowth Industrial Land Study seeks to identify land that may be suitable for industrial activities to meet future demand in the sub-region over the next 30+ years.

The study objectives are:

 Identify areas suitable for industrial development for the sub-region, taking into account the role of neighbouring regions. This will include identifying

- land that would be suitable for new, or relocating existing, heavy industry.
- Ensure there is sufficient industrial land supply over the long-term
- Reconcile demand and supply over the short, medium and long-term
- Meet wider SmartGrowth / UFTI principles / outcomes and national policy
- e. Take into account strategic level influences on industrial land in the western Bay of Plenty
- f. Take into account commercial factors that affect development decisions
- g. Ensure adequate engagement with key stakeholders to help inform the work.

The further investigations report identifies those locations that are considered technically feasible to be developed for business land uses, subject to development feasibility/economic assessment and the normal engagement and Schedule 1 RMA processes for rezoning land.

It is important to note here that the need for further long-term strategic business land in the SmartGrowth Eastern growth corridor will be considered through other processes. This includes the proposed future development of an Eastern Town (Te Kāinga) near Paengaroa. Current analysis is that there is sufficient business land within the Eastern corridor to cater for demand over the next 30 years based on existing employment projections.

2. Background

The Aurecon report identified seven potential locations that may be suitable for future business land (areas greater than 50ha in size) for industrial land uses. These short-listed sites are shown in Figure 1 as 'emerging preferred sites for investigation'.

The short-listed sites were identified from assessment of a larger list of potential business land sites, with an initial list of over 100 sites and then an indicative list of 36 specific locations (identified as the 'indicative areas for investigation'). Sites were ruled out, or less preferred, against a multi-criteria assessment method which informed the short-listed sites.

The Supplementary report (Phizacklea Consulting, 2023) identified further investigations that were to occur and next steps. The further investigations were to consider yield, land costs, development costs, infrastructure servicing and capacity and market response of the three focus areas – Omokoroa, Belk Road/Ōmanawa and Pukemapu locations.

It is intended that any final preferred locations identified for potential future business land would be determined through the SmartGrowth Strategy Update process. The Draft SmartGrowth Strategy, incorporating the Draft Future Development Strategy (FDS), was made available for public submissions between 18 September and 20 October 2023.

The submissions process will allow for the views of interested and affected parties to be heard and any further information to be considered.

The accompanying narrative in the draft FDS notes that the emerging direction is for future greenfield business land within one or more of Ōmokoroa I, Belk Road and Pukemapu potential locations. This emerging direction is based on the further investigations undertaken by the SmartGrowth project team set out in this report. Feedback is expected on these preferred areas and the business land section of the draft FDS through the submissions and engagement activity on the Draft SmartGrowth Strategy 2023.



Figure 1: Potential business land locations identified from the SmartGrowth Industrial Land Technical Study (source: Aurecon, 2023; Figure 6 – Evolution of Investigation of Sites).

Draft SmartGrowth Strategy 2023

Identifying future business land needs for employment and economic growth well in advance of development is important to enable reliable forward planning for infrastructure development and delivery, and to ensure that there are the right mix of uses.

The Connected Centres programme has existing business land areas identified to support growth. This is balanced across the SmartGrowth corridors and is designed to provide employment opportunities close to where people live.

Growth in the sub-region is such that the housing and business development capacity assessment (HBA) has indicated that there is a shortfall in industrial land. In addition, the SmartGrowth partners have also been working collaboratively on several other projects that relate to industrial land, particularly work relating to the Mount Maunganui/Port industrial area. These projects collectively seek to respond to a range of significant issues, including natural hazard risk, traffic congestion, port growth, cultural and social impacts, air quality and health concerns. Several of these issues have been identified as putting pressure on existing land uses. This includes pressure on existing industrial land across Tauranga in particular from natural hazards, including flooding and inundation, which may result in the need for retreat or relocation of current activities overtime.

The potential for a reduction in existing land combined with strong demand for industrial land to support growth has meant that additional industrial land needs to be identified. Potential locations for future industrial land have been identified in the draft FDS narrative and in Map 18 (reproduced as Figure 5 below).

Business Employment Land

The existing strategic industrial land allocations in the subregion are as follows:

Industrial Area	Short Term (2024- 2027)	Medium Term (2027- 2034)	Long Term (2034- 2054)	Total Allocation (hectares)
	Eas	stern Corrido	r	
Wairakei	8	10	12	30
Te Tumu	0	0	60	60
Rangiuru	29	61	60	150
Business Park				
Te Puke	8	55	55	118
Western Corridor				
Tauriko	30	70	20	120
Business Estate				
(including				
expansion)				
Northern Corridor				
Te Puna	30	0	0	30
Ōmokoroa ¹¹	6	17	7	30

Katikati	13	13	13	39
Waihi Beach	0	0	25	25
TOTAL	124	226	252	602

In addition to the existing allocations in the Table above, the sub-regional demand for business land over the next 30 years (2024-2054) based on current employment densities and assuming business as usual is:

Business Land Demand (hectares)	Tauranga City	Western Bay of Plenty District	Western Bay of Plenty Sub-region
Retail and	130	30	160
Commercial			
Industrial	370	120	490
Total	500	150	650

A corridor approach to the provision of industrial land is intended to ensure there is sufficient business land in proximity to labour force, meet market and strategic requirements and contribute to sustainability by reducing vehicle travel and emissions. This approach aligns to the Connected Centre principles.

The need for industrial land in the medium to longer-term (2027–2052) is in the northern and western corridors. Larger, strategically located centres for industrial business development present better opportunities for investment in public transport and alternative transport mode choices for workers, as well as enabling circular economies to evolve.

The development of existing zoned land and redevelopment of sites will help meet the demand for business land needed for industrial land uses over the next 30 years across the sub-region, allowing for net developable area and the required competitive margins.

There is sufficient planned business land in the Western Bay of Plenty District to meet local demand. This includes additional land at Rangiuru, Waihī Beach, Te Puke, Te Puna and Katikati. If the envisaged greenfield developments do not manifest within a reasonable timeframe then sufficiency will be under pressure. For Tauranga City, significant new greenfield areas are required to meet the business land demand requirements for employment.

In addition to the above planned business land provision, a further 300 to 400 ha of greenfield land is required to support business (industrial) land uses within the sub-region over the next 30 years. Technical investigations have identified the following possible locations for future business land within the current SmartGrowth growth corridors (shown in Figure 4 below):

- Northern Corridor Ōmokoroa/Apata
- Eastern Corridor Domain Rd/Tara Road/Bell Road, Te Puke, Rangiuru
- Western Corridor Belk Road /Ōmanawa, Pukemapu

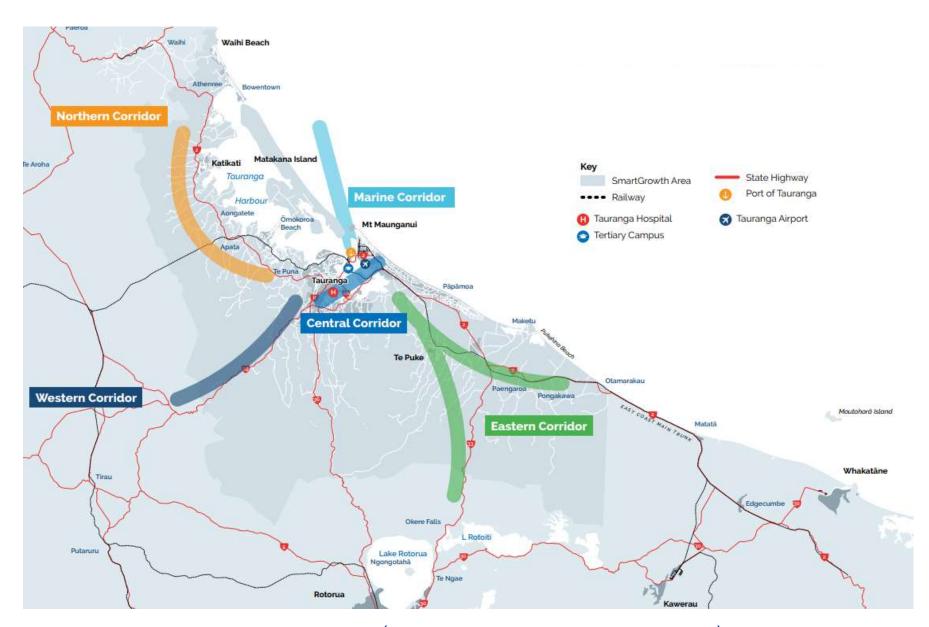


Figure 2: Regional context and SmartGrowth corridors (source: Figure 7 Draft SmartGrowth Strategy 2023).

Some of these areas are also being investigated for potential residential and other land uses, for example the Belk Road plateau area.

Through more detailed desktop analysis, Ōmokoroa, Belk Road and Pukemapu have emerged as the preferred potential locations to provide for business land demand needs in the northern and western growth corridors. Some of the other potential locations have been identified as having natural hazard, environmental or infrastructure servicing constraints.

Any future greenfield business employment land for industrial uses will require a plan change rezoning process, including consultation and engagement with the community. From past experience it can take 10-15 years before land is enabled and infrastructure ready for development, including subdivision and building consent stages.

Lead-in time for rezoning, structure planning

To support business development, the HBA identifies that a further 300 to 400ha of greenfield land is required for business land uses within the sub-region over the next 30 years. To unlock greenfield urban growth areas and support the redevelopment and intensification of existing urban areas, significant investment is required in infrastructure. Figure 3 illustrates the lead-in times required for greenfield

development before there are homes or businesses on the ground. This highlights the importance of planning early.

Location and site requirements for industrial uses

Any future potential long-term business land area(s) identified in the final SmartGrowth Strategy and FDS must contribute to providing for economic growth and employment while maintaining the values of the western Bay of Plenty sub-region.

The SmartGrowth business capacity assessment prepared for the Western Bay of Plenty District and Tauranga City (Market Economics, 2022) identifies seven criteria for the suitability of industrial land.

- Access to major road/transport routes; good transport access, especially road/motorway
- 2. Flat land, large land parcel, or contiguous site
- 3. Service infrastructure in place or proposed
- Area has potential for co-location or clustering with associated business activities or is contiguous with existing business land zoned for industrial activities, access to complementary/supporting business services
- 5. Proximity to labour
- 6. Ability to buffer adverse effects from residential and sensitive activities, distance from sensitive land uses
- 7. Low level of traffic congestion in vicinity.

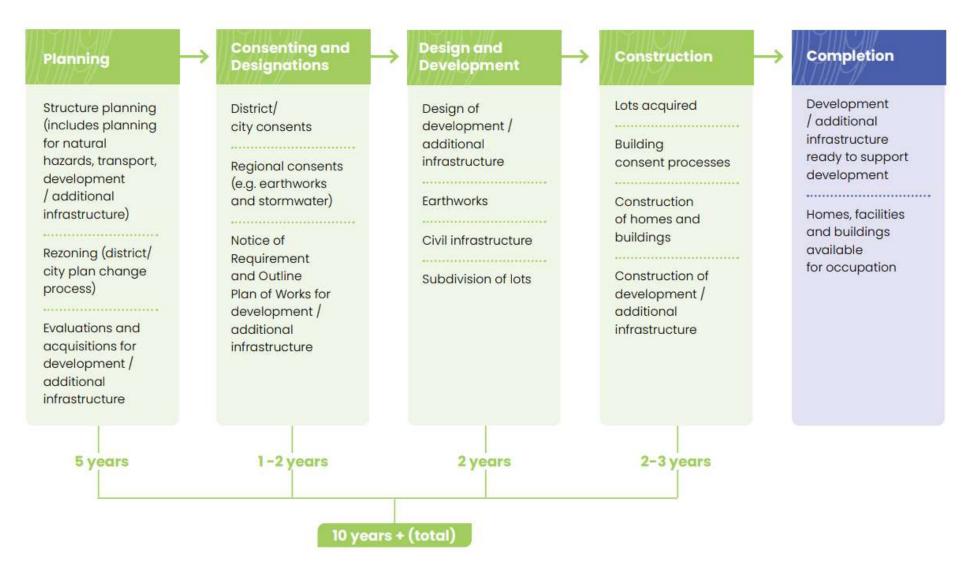


Figure 3: Lead in time to development (source: Draft SmartGrowth Strategy 2023 p.144)

It is important to provide suitable flat land that is easy and affordable to service, at desirable locations for the type of business activity, with major industrial land users able to easily access the regional transport network. Kemp (2020) identified the following specific factors in assessing industrial land needs in the Waikato District for industry types:

- General Industry Areas need to be well buffered from residential and environmental areas and other areas likely to be sensitive to electro-magnetic radiation, noise and vibration and require geologically stable land able to provide sound foundations.
- <u>Clean Production Areas</u> need to be kept free from inappropriate nearby land uses that could create dust and vibration, with food processing and manufacturing restricted to areas with sufficient water and appropriate wastewater disposal.

 Advanced Warehousing and Logistics Areas need to provide very large sites (up to 5 ha and greater) with stable foundations and no nearby activities (such as heavy gauged rail lines) that could transmit vibrations which could adversely impact automated packing operations.

Veros Property Services (2019) note in developing an initial business case for a business park in South Taranaki that the definition of "suitable" does not solely relate to commercial or financial success of the project but must also be appropriate from a community and environmental point of view. They identified three distinct characteristics:

- Where industrial related businesses want to be located
- Where it doesn't significantly impact the community or environment
- Where the development is commercially feasible.

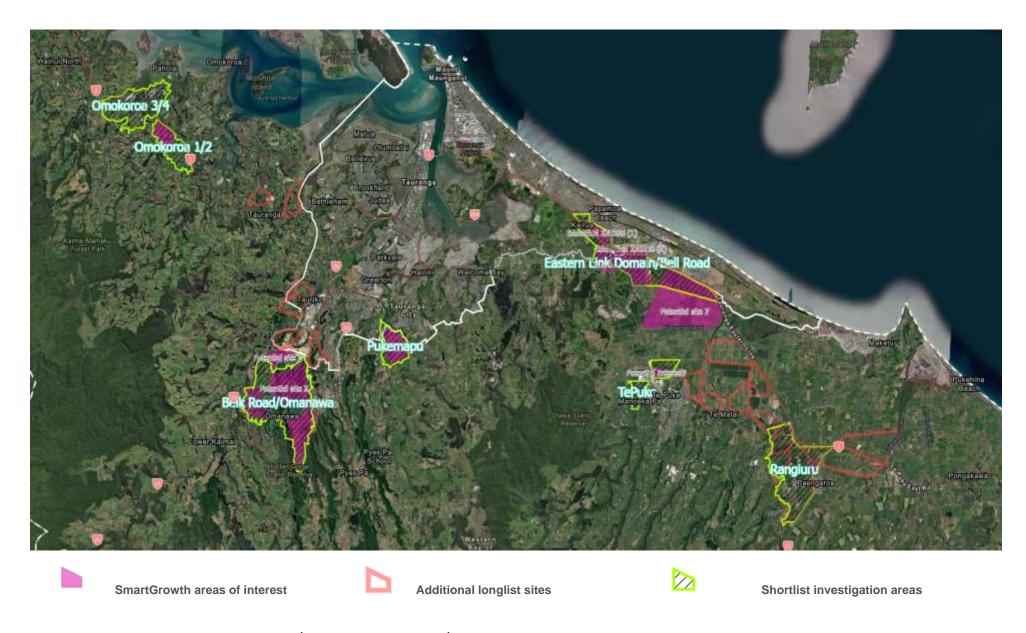
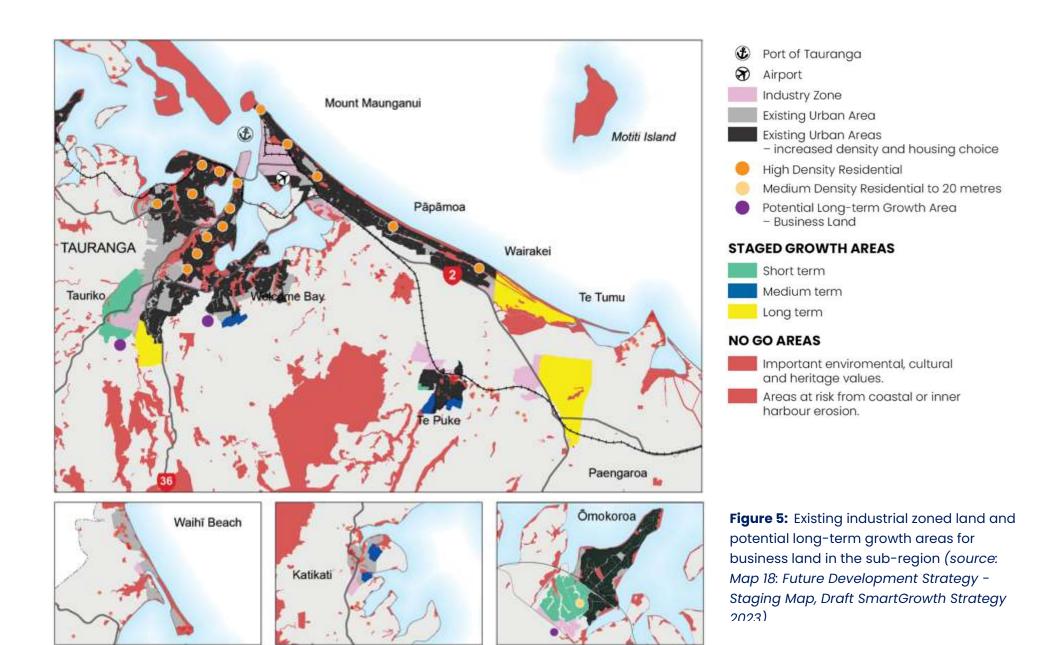


Figure 4: Evolution of investigation sites (source: Aurecon 2023)



Related Projects

Western Corridor Specified Development Project

The SmartGrowth partners identified the Western Corridor as key to meeting future growth demand and have been looking at how this area can be unlocked for development. Tauranga City Council formally requested that Kāinga Ora consider the Western Corridor for selection as a potential SDP under the Urban Development Act 2020¹.

The Urban Development Act 2020 empowers Kāinga Ora to initiate, facilitate, and undertake urban development that contributes to sustainable, inclusive, and thriving communities.

On 31 August 2023, Kāinga Ora publicly notified the proposed key features for the potential Tauranga Western Corridor specified development projects (SDPs) for public submissions. Submissions closed on 29 September 2023 after which Kāinga Ora will recommend to the Minister of Housing and Minister of Finance whether they establish an SDP. A report on the environmental constraints and opportunities was prepared as part of the recommendation port on public notification (Kāinga Ora, 2023).

Project objectives would set the SDP direction and what it would need to achieve. If an SDP is established, the project objectives would guide statutory decisions under the UDA

and influence decision making on the area's use and development under the Natural and Built Environment Act 2023 (NBEA).

The proposed objectives aim to reflect national, regional, and local strategies and objectives, such as the SmartGrowth Strategy, and address key delivery challenges. They've been informed by the purpose and principles of the UDA, assessment of constraints and opportunities, engagement with partners, landowners, and stakeholders, and look to support the timely and efficient delivery of more homes and jobs.

The relevant objective for business land is Objective 7, set out below.

Objective 7:

New commercial and industrial land uses are enabled in identified locations that support a range of local and sub-regional employment and economic growth opportunities, and support the employment needs of people living within the project area.

The SDP process would likely recommend two scenarios for urban development of the Belk Road part of the Western Corridor – one which provides for housing and supporting open space and facilities, and one which includes up to 200ha of business land for industrial uses.

¹ https://kaingaora.govt.nz/working-with-us/specified-development-project/

Bell Road developer investigations

Land at Bell Road, Papamoa has been identified as part of the Tara Road/Domain Road/Bell Road shortlisted potential business land areas.

The Bell Road Limited Partnership is investigating urban development of the Bell Road area, comprising some 337ha. During engagement they advised that technical assessments, including flood modelling and stormwater mitigation have been undertaken. A private plan change is expected to be lodged for rezoning of the area in the near future, which would include land for business (industrial) uses. The SmartGrowth project team has not seen the technical information that would support including the Bell Road area as a potential future business land area.

The **Domain Road, Tara Road and Bell Road** sites have excellent transport connections to the Tauranga Eastern Link/SH 2 and strategically are in close proximity to the available labour force. However, these sites also have significant stormwater, geotechnical and flooding challenges. The SmartGrowth Industrial Land Study Technical Report (Aurecon, 2023) found that "while the site holds development potential of 600ha+, this would carry significant investigation, design and development costs due to its geotechnical complexity".

The Bell Road site is in one single land ownership (Bell Road Limited Partnership) which would enable development to be expedited through any private plan change process.

Te Puke Spatial Plan

The Te Puke spatial plan looks at the growth and development for the coming 30 to 50 years. The Te Puke spatial plan will be progressed with a high level of community involvement and will integrate thinking that can bring about a vision for Te Puke that brings the community, mana whenua, landowners, stakeholders and partners together.

Te Puke is the largest town in the Western Bay of Plenty District. Plan Change 92 seeks to enable intensification adopting the Medium Density Residential Standards required by the Resource Management Amendment (Housing Supply and Other Matters) Act 2021. Significant investment in housing, urban development, climate resilient infrastructure and services will be needed to support future growth. The spatial plan may also lay foundational work for regional spatial strategies to be developed in the coming years under the Spatial Planning Act 2023, and part of new requirements under the Natural and Built Environments Act 2023.

Te Kāinga (Eastern Town)

A future Eastern Town is being investigated to enable significant population growth in the eastern area of the subregion as identified in the Urban Form and Transport Initiative (UFTI). Through SmartGrowth, the Eastern Town is identified as a Priority Development Area.

The concept of the future Eastern Town is based on establishing an affordable, sustainable and compact town centre, in a location resilient to climate change, leveraging existing roading infrastructure and in close proximity to the Rangiuru Business Park and being central to Rotorua, Whakatane and Tauranga. A business case is being developed to support further investigations. area



3. Technical Assessment

Cultural considerations

Maps were prepared in response to questions raised at the Combined Tangata Whenua Forum meeting on 26 May 2023 as to the proximity of marae, Māori land and cultural sites to the potential business land locations (short-listed sites). These maps showing the locations of the original long-list sites investigated by Aurecon in their report are provided in **Appendix 3**. Refinement of the extent of some of the potential business land locations was undertaken.

The proximity of Tawhitinui Marae to the Ōmokoroa 2 area is one of the reasons that this site is not preferred. Ōmokoroa 1 is further north and more directly adjacent to the proposed TNL Stage 2 interchange for access purposes.

Infrastructure and servicing

Water supply

In the Western Bay of Plenty District there have been a few small-scale upgrade type projects and installation of one new bore in the past five years.

The recent substantial TCC 'Wāiari Water Supply Scheme' located within Western Bay at 376 No.1 Road Te Puke provides a useful comparison of estimated water supply requirements for any new greenfield business land location.

The Wāiari Water Supply Scheme includes a treatment plant, large reservoirs and a water intake. The scheme was subject to a resource consent for an outline plan – RC11446.

The flow rate and population to be served by the Waiari water plant is **60 ML/day** at full capacity and will serve approximately **35,000 people.** The cost of construction was \$195M.

An initial comparison of the Waiari Plant to the Industrial Land study (by way of interpolation) yielded a figure of \$22,762/ha however, this was deemed to be too light to transpose into an Industrial zone. The expected (rough) order cost is more likely to be between \$45,000 - \$70,000/ha.

Wastewater

it is likely that at least one of the preferred areas (Ōmokoroa 1) would require on-site wastewater treatment. As such and similar to the above, a fairly recent WBOPDC on-site wastewater treatment project has been used as a comparison and interpolation tool. The costings calculated out as \$170,951/ha.

In addition, a recent private plan change proposal included costings for on-site WW treatment and reticulation for a 12.37 ha site. This costing calculated out to \$207,859/ha.

Using the above two figures, the average cost would be \$189,405/ha, bearing in mind both of these projects were to serve residential development with potentially higher flows

than for industrial. In addition, the costings were for a fully reticulated system with individual property connections.

Earthworks

Maps of land with less than or greater than 1 in 5 slope (11.3 degrees) for each of the three further investigation areas are provided in **Appendix 2**.

Belk Road plateau area has an existing landform of an average slop of 1 in 40, meaning minimal earthworks are required. Average slopes of 1 in 40 are considered to be a practical benchmark gradient to aim for in assessing other steeper sites in the study

For sites with an average existing slope of 1 in 10 (Ōmokoroa 1 and Pukemapu) the cut/fill volume to get to a 1 in 40 slope for building platform purposes equates to 9,375m³/ha. At a rate of \$20/m³ costs for earthworks this would equate to \$187,500/ha. On a square metre basis this is \$18.75/m².



Transportation

Transport connections are crucial for the viability of locations for industrial development. Heavy goods vehicles and access to key transport corridors such as state highways are important considerations when choosing suitable locations for future development.

The Waikato & Bay of Plenty Freight Action Plan 2022 identifies the locational advantages of the Waikato and Bay of Plenty regions:

- ► The Port of Tauranga the Port of Tauranga can accommodate larger container vessels than any other port in New Zealand
- ▶ Inland Ports Ruakura, the Bay of Plenty freight hub, and the Port of Auckland's Waikato freight hub.
- ► Proximity to export producers
- ► Existing expertise from the sector creating collaboration opportunities
- ► Proximity to Auckland.

The Freight Action Plan identifies that according to stakeholders there is no doubt industrial production and warehousing will continue to move toward the fringes of the region and increasingly out of the region, but there is a question of how far they will go before it is too expensive to transport goods back to Auckland. The Waikato and Bay of

Plenty regions have a large opportunity to encourage and plan for effective growth before it occurs.

UFTI's Connected Centres programme identifies Upper Belk Road area in its envisioned 30 year growth area. The areas of Ōmokoroa are identified for the eastern side of SH2, but not the land west of SH2 that this study has identified. The Pukemapu area also is not identified in the Connected Centres programme, however, it is located adjacent to the upper Pyes Pa 30 year growth area. Moving forward, in order to incorporate these identified areas into UFTI, and therefore into the Transport System Plan (TSP), sensitivity testing to check for gaps in assumptions will be required, based on the preferred locations. The TSP is refreshed every three years, to inform the councils' long term plans (LTP), the Regional Land Transport Plan (RLTP) and the National Land Transport Plan (NLTP).

SH29, Takitimu Dirve, Hewlett's Road, SH29A, Takitimu North Link, and the Tauranga Eastern Link are noted in the Tauranga TSP as the key strategic freight corridors of the city, connecting to Rotorua, Eastern Bay and upper North Island. These state highways and Transportation costs are one of the many infrastructure costs associated with potential development locations. The transport related matters for the geographical areas investigated are discussed further on in this report.

Electricity

Transpower and PowerCo are developing the Western Bay of Plenty Development Plan² for the future to deliver the essential upgrades on the electricity network that are needed to enable the region to continue to flourish, now and in the future (Figure 7).

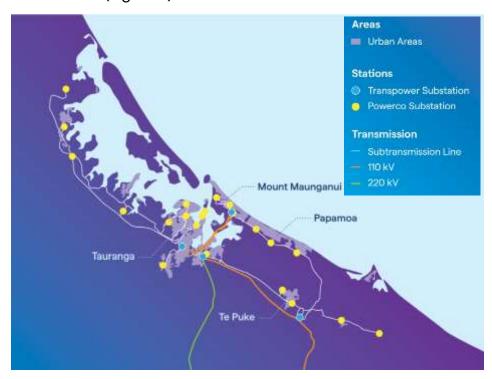


Figure 7: Current electricity network in the western Bay of Plenty sub-region (source: Transpower and PowerCo <u>Western Bay of Plenty Development Plan summary document:</u>, July 2023).

The need to invest in upgrades to the electricity network is critical to support future growth. The electrification of transport and process heat, and the replacement of domestic gas usage with electricity is expected to drive further demand growth.

Transpower and PowerCo have identified issues with the existing electricity network which highlight investment is needed to maintain a reliable electricity supply in the western Bay of Plenty sub-region.

The significant economic growth of the western Bay of Plenty sub-region has resulting in PowerCo identifying upgrades in their upstream infrastructure to deliver electricity to residential and business areas.

Transpower has also identified future capacity constraints at several points in their supply network. Both Transpower and PowerCo anticipate substantial investment to meet the growing electricity needs of the in the western Bay of Plenty sub-region.

² https://www.transpower.co.nz/projects/wbop

Telecommunications

Tuatahi First Fibre has advised that all of the potential business locations (subject to agreements with the concerned property developers) would be able to be serviced by Tuatahi First Fibre.

Tuatahi First Fibre noted it has been working with Quayside for a number of years and recently completed extensions to our network to supply connectivity to the Rangiuru Business Park development, including diversity (a diverse fibre circuit, adding resiliency to the network and reducing the chance of disruption to the connectivity from fibre network damage), whilst also factoring in the potential future residential growth with Te Kāinga / Eastern Township.

For the Tauriko Business Estate (TBE) Tuatahi First Fibre has been building its network throughout this development over time, and will continue as TBE spreads into the next stages, crossing and extending up Belk Road.

Tuatahi First Fibre is also involved with planning discussions with Element IMF as part of the Tauriko West development (alongside Kāinga Ora, Classics Group, Waka Kotahi and WSP) as we start to get designs underway for entering and supplying fibre to this residential development.

Tuatahi First Fibre has had recent discussions with Kāinga Ora and WSP, assisting them with their preliminary investigations around servicing the Western Corridor area as part of their SDP, which includes Belk Road being looked at for both residential and business uses.

Pukemapu

 Tuatahi Fibre network existing in Ohauiti, and committed expansion into Pukemapu Road Oropi due 2023/2034 which would provide capacity form this side to the proposed development if it eventuates from this side.

Belk Road

- Existing reticulation in TBE, with "capacity" for further growth in vicinity.
- New Central Office planned for Tauriko West which could support growth in the vicinity if needed.

Ōmokoroa

- Existing infrastructure in area from UFB2 and currently building network into adjacent developments underway in Prole Road area.
- Planned expansion into the new industrial area already committed by Tuatahi.
- Further infrastructure expansion earmarked for TNL as it is completed (stage 1 under action).

Natural Hazard Risk

The western Bay of Plenty includes areas susceptible to range of natural hazards including flooding, coastal erosion and inundation, tsunami, liquefaction, and landslides. A number of hazards can also be exacerbated by the effects of climate change, such as sea level rise and increased rainfall intensity. These hazards can be a major constraint when considering the location of new industrial areas.

The planning response to natural hazards and climate change for both new and existing urban areas needs to be dynamic and agile as new information comes to hand. The SmartGrowth partnership councils have been researching, mapping, planning for and informing the community about natural hazards for many years. A collaborative natural hazard programme involving detailed modelling of hazard scenarios has included reviewing the risk of all natural hazards and high groundwater in low-lying coastal communities. This work has included undertaking areabased natural hazard susceptibility mapping for the subregion, a city-wide risk assessment for Tauranga and detailed risk assessments for the planned urban growth areas of Ōmokoroa, Te Tumu and Tauriko West. The councils continue to collect new data and update existing natural hazard mapping on a rolling basis, to ensure it covers the whole sub-region, incorporates updates in scientific knowledge, guidelines, legislation, and responds to updated climate change projections. The Proposed National Policy

<u>Statement for Natural Hazard Decision-making 2023</u> is expected to be finalised in 2024 and will provide direction to decision makers on managing natural hazard risks.

The Bay of Plenty Regional Policy Statement (RPS) currently requires all new development (greenfield, intensification and at a development site level) to achieve a low level of risk, considering the effects of climate change. A low level of risk is required to be achieved for buildings, loss of life and lifeline outage times. This approach aims to build in long term resilience to natural hazard events for all new urban growth areas. The RPS also recognises that provision needs to be made for the effects of climate change in natural hazard risk assessment. It promotes that authoritative up-to-date projections of changes in sea level, rainfall, temperature, and storm frequency and severity will be used as updated scientific data becomes available.

Development of future industrial areas in locations susceptible to natural hazards will require upfront investment to ensure climate resilient development. The level of resilience investment may not be feasible in some locations where development is best avoided. This will be an important consideration to obtain project funding and insurance and also maintain sustainable operations over the long term.

More information can be found in the <u>Background Paper for</u> <u>Areas to be Protected and Developed Carefully</u> prepared to support the Draft SmartGrowth Strategy 2023.

Highly Versatile Land

The National Policy Statement on Highly Productive Land (NPS-HPL) directs urban development away from highly productive land by preventing inappropriate rezoning, subdivision, and use of highly productive land. The direction includes avoiding rezoning and subdivision for the creation of rural lifestyle blocks.

Bay of Plenty Regional Council has developed an online HPL Webviewer showing the areas of highly productive land, ahead of the development of a proposed change to the Regional Policy Statement³.

Under section 3.6 of the NPS-HPL rezoning of highly productive land is restricted to specific circumstances:

- (1) Tier 1 and 2 territorial authorities may allow urban rezoning of highly productive land only if:
 - (a) the urban rezoning is required to provide sufficient development capacity to meet demand for housing or business land to give effect to the National Policy Statement on Urban Development 2020; and
 - (a) there are no other reasonably practicable and feasible options for providing at least

sufficient development capacity within the same locality and market while achieving a well-functioning urban environment; and

(b) the environmental, social, cultural and economic benefits of rezoning outweigh the long-term environmental, social, cultural and economic costs associated with the loss of highly productive land for land-based primary production, taking into account both tangible and intangible values.

In effect a case needs to be made for those areas identified as potential sites for industrial land which are on highly productive land⁴. However, under section 3.4(2) of the NPS-HPL, any land that is 'identified for future urban development' at the commencement date, must not be mapped as highly productive land. This means that the existing SmartGrowth Strategy 2013 and settlement pattern have some weight for the short-listed industrial areas such as Lower Belk Road, but not Upper Belk Road/Ōmanawa and the Ōmokoroa/Apata sites. Section 3.4(2) in referring to land identified for industrial development applies "over the next 10 years" only.

Identified for future urban development means:

(a) identified in a published Future Development

<u>council/plans-and-policies/policies/regional-policy-statement/proposed-change-8-nps-hpl</u>

³ The NPS-HPL requires an RPS change to include maps identifying all highly productive land in the region. This must be publicly notified for submissions no later than 17 October 2025. For more information see https://www.boprc.govt.nz/your-

⁴ Highly productive land is defined in the NPS-HPL and refers to land that is predominantly LUC 1, 2, or 3 land.

Strategy as land suitable for commencing urban development over the next 10 years; or

- (b) identified:
 - (i) in a strategic planning document as an area suitable for commencing urban development over the next 10 years; and
 - (ii) at a level of detail that makes the boundaries of the area identifiable in practice.

Table 1 below assesses the potential business land locations where highly productive land could affect the developable areas of these locations. Most sites contain existing kiwifruit, avocado or other orchards which are a general indicator of highly productive land.

This is a high-level assessment only. The NPS-HPL requires a full assessment which involves an analysis of other reasonably practicable and feasible options within the same locality and market; that the benefits of rezoning would outweigh the costs associated with the loss of HPL (taking into account both tangible and intangible values). These aspects require a detailed analysis with supporting technical information. This would occur at the time of any proposed plan changes.

Regarding the preferred short-listed sites, there is no highly versatile land within Ōmokoroa I and Pukemapu sites. For Belk Road however, highly versatile land is present and may be an impediment to any potential development of the Belk Road area.

Table 1: High level assessment of the implications of the NPS-HPL for the potential future business land locations

Potential Future Business Land Location	Highly Versatile land (Yes / No)	Exempt or needs to meet NPS-HPL criteria	Comment
Ōmokoroa	Yes – but limited to Ōmokoroa 2 site only. Two small areas; one within the TNL Stage 2 designation and one north of the Plummers Point Road intersection west of State Highway 2.	For the Ōmokoroa 1 area the NPS-HPL is not applicable. Any urban development of the Ōmokoroa 2 site would need to avoid the two HPL areas or otherwise meet the NPS-HPL criteria.	The Ōmokoroa 3 and Apata sites short listed in the Aurecon report contain kiwifruit, avocado and lifestyle blocks within the Pahoia area.

	Ōmokoroa 1 , Ōmokoroa 3 and Apata sites are LUC 4 and 6 and therefore, limited consideration is required with respect to the NPS-HPL.		
Ōmanawa/Belk Road	Yes. Large parts are LUC 2 or 3.	Information to support Clause 3.6: 3.6(1)(a) - HBA indicates a shortfall of land for residential and business uses. 3.6(1)(b) - no other reasonably practicable and feasible options (within same locality and market) 3.6(1)(c) - partly covered in Western Corridor Strategic Study 2016 and in UFTI reports. ⁵	Consideration alongside further assessment and SDP proposal currently being undertaken by Kāinga Ora of Western corridor area. Private developer interest in the Ōmanawa area.
Pukemapu	No. Though several orchards present.	Not applicable. Urban development can proceed for Pukemapu without the need to consider the NPS-HPL	Adjacent to existing urban areas but with current rural zoned land buffer. Landscape and cultural impacts would also need to be considered.
Domain Road/Tara Road/Bell Road	Yes. The entire area is identified as LUC 2 and 3.	Will need to meet the NPS-HPL criteria.	Developer interest currently investigating 337ha area adjacent to Bell Road.
Te Puke	Yes. The entire area is identified as LUC 2	Will need to meet the NPS-HPL criteria.	
Rangiuru/ Paengaroa	Yes. The majority of the potential business land locations identified here is LUC 3 land.	Will need to meet the NPS-HPL criteria.	Further assessment will be undertaken, if required, through the business case currently being undertaken of the Eastern Centre (Te Kāinga).

⁵ UFTI Multi Criteria Assessment Analysis; Planning Assessment of the UFTI Programmes shortlist, May 2020

4. Short listed areas supported

The three emerging direction locations for potential future business land are presented in further detail in this section.

Pukemapu

The Pukemapu area could provide for around 105 to 115 ha of developable area. The land area closest to the existing Rowesdale and Ohauiti urban areas could yield around 60ha with easy slope, with another 45 ha potentially on steeper land further out.

Site description:

The Pukemapu site is located off Ōropi Road along the length of Pukemapu Road, and is predominantly within the Western Bay of Plenty District with a portion to the north within Tauranga City (Figure 8). The Waimapu Stream runs along the western extent of the Site and separates the Tauranga City portion of the Site from the remainder of the site, with a smaller unnamed tributary along the northern portion of the Site adjacent to Pukemapu Road. The site is predominately zoned Rural under the Western Bay of Plenty District Plan.

UFTI identifies a future southern connector route from Pyes Pa/Ōropi to Ohauiti that this site could potentially connect to in future. The closest community facilities are within Greerton or Pyes Pa as the site is located just on the edge of the city. The predominant land uses in this area are horticulture and

grazing, and the majority of the landholdings consist of lifestyle blocks, rather than larger rural/farm blocks. The number of owners within a smaller area may present a constraint for any future development.

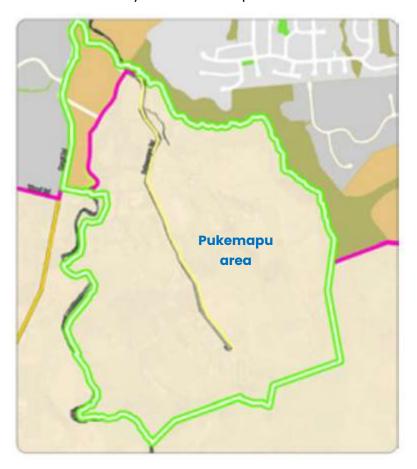


Figure 8: Pukemapu site location map (source: Aureon, 2023)

Site Specific Considerations

1. Transport

Existing constraints on the transport network are the Pukemapu Road bridge, which would need to be widened or replaced to provide access into a development area.

Figure 9 below identifies the access requirements and transportation infrastructure to service the Pukemapu potential business land area. Figure 9 also illustrates potential locations for new road access.

Development in Pukemapu would strengthen the value of an 'east west' road link, connecting Ōropi Road to Pyes Pa Road to Belk Road/SH29. Improvements to Ōropi Road, which provides access to SH29A would also be required in order to ensure safe access along stretches of the existing rural road quality of Pyes Pa Road. Road connection to Rowesdale Drive and Ohauiti Road would also be beneficial to maximise connections and catchment opportunities for the Pukemapu study area. Active mode infrastructure in all the forementioned road connections is considered crucial to also provide for alternative travel options.

Ōropi Road will likely require upgrades from the study area towards SH29A, to ensure Ōropi Road is fit for purpose from increased transport demands that new development will create.

2. Developability

The Aurecon report identified that the area could yield 140-180ha of developable business land. Further analysis has identified that the Pukemapu area could provide for around **105 to 115ha of developable area** (refer Figure 10 below) The land area closest to the existing Rowesdale and Ohauiti urban areas could yield around 60ha with easy slope, with another 45ha potentially on steeper land further out.

Figure 10 shows the developable area in orange out of the gross area of 232ha. The three possible road access options from Ōropi Road are shown by the indicative red lines, with the two yellow lines indicating where local road access across a minor waterway/gully would be required to ensure cohesive development of the site.

Earthworks costs for Pukemapu are estimated at around \$187,500/ha.

3. Highly versatile land

The Pukemapu area does not include any areas of HPL land (despite the presence of substantial orchards). The requirements of the NPS-HPL do not present an impediment to any potential development of the area.

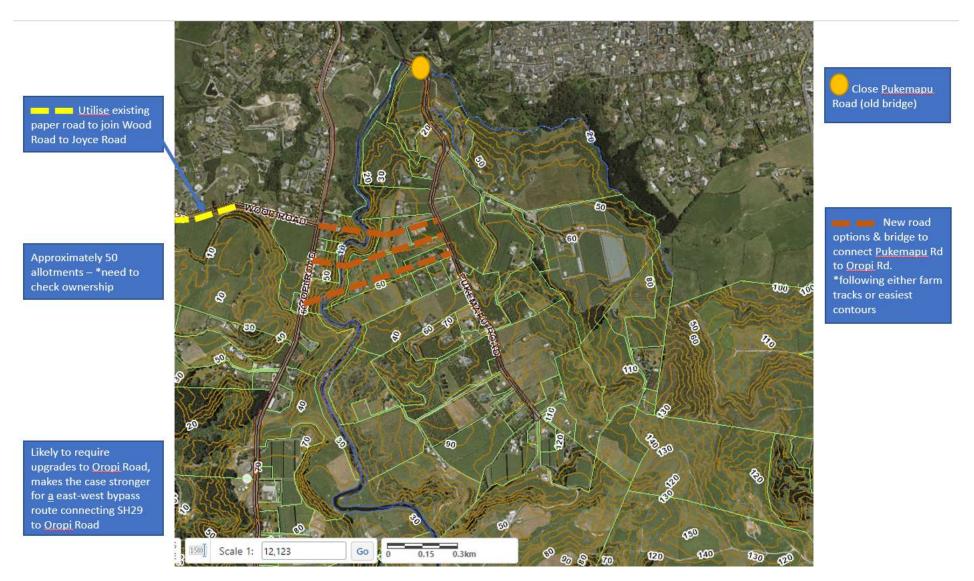


Figure 9: Access and transportation considerations for the Pukemapu potential business land location



Figure 10: Pukemapu developable area (shown in orange).

Ōmokoroa 1 and 2

The Ōmokoroa 1 and 2 areas were estimated by Aurecon to provide for a yield of around 150 ha. The further investigations undertaken have indicated the developable area within Ōmokoroa 1 is around 70ha (refer Figure 11).

Site description

The Ōmokoroa 1 and 2 areas are located on the western side of State Highway 2 in the Western Bay of Plenty District. The site is directly adjacent to the existing and planned Ōmokoroa urban areas. The existing zoned Ōmokoroa Industrial area is located to the north (on the northern side of SH2). Consequently, this location would be a natural extension, adjacent to a major freight corridor with a proposed new interchange planned, and a proposed park and ride facility. The predominant land uses in this area are horticulture and grazing, along with lifestyle blocks. While there are a number of parcels within the site, there are some larger blocks which could present a development opportunity.

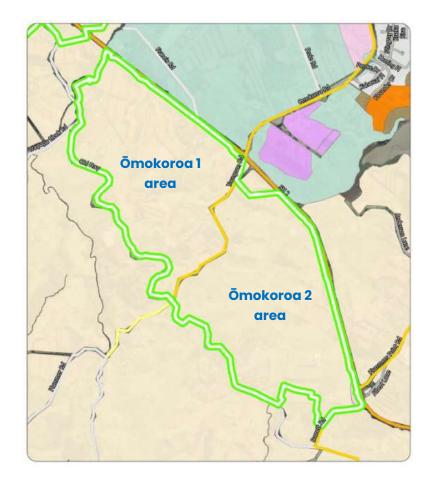


Figure 11: Ōmokoroa 1 and 2 areas site location map. The two areas are separated by the Youngson Road (source: Aurecon, 2023).

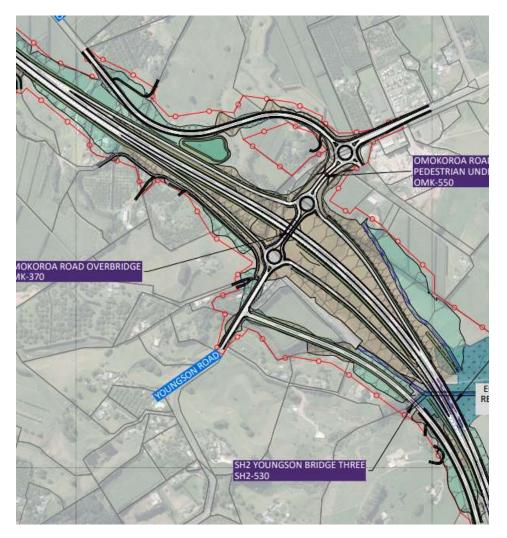


Figure 12: Draft proposed Ōmokoroa/SH 2 interchange alignment map (*source*: *Waka Kotahi*⁶)

Site Specific Considerations

The SmartGrowth project team considered both the Ōmokoroa 1 and Ōmokoroa 2 areas as part of the further investigations. The Ōmokoroa 1 area is considered more suitable for development, as the practical developable land in Ōmokoroa 2 is compromised by steep topography resulting in fragmentation. In addition, the Ōmokoroa 2 area is near to the Tawhitinui Marae along its south-western boundary.

Ōmokoroa 1 has a practical developable area of approximately 70ha which would complement WBOPDC's Plan Change 92 industrial area to the north between the State Highway and Francis Road.

1. Transport

Good connections to State Highway 2, and within close proximity to the rail line offer this location no known transport constraints.

The Takitiumu North Link Stage 2 draft preferred alignment was identified in July 2023. A confirmed alignment decision is expected to be made by the Waka Kotahi Board in December 2023⁷.

The Ōmokoroa/SH 2 interchange alignment (Figure 12) includes part of the Ōmokoroa potential business land

⁶ https://nzta.govt.nz/assets/projects/takitimu-north-link/docs/Takitimu-North-Link-Stage-Two-Overview-Plan-Sheet-1.pdf)

⁷ https://nzta.govt.nz/projects/sh2-waihi-to-tauranga-corridor/takitimu-north-link/

location. The alignment will reduce the potential developable area being looked at for the Ōmokoroa 1 and 2 sites. It is important to note the preferred interchange alignment shown in Figure 12 has much less encroachment into the Ōmokoroa 1 area than it has into the Ōmokoroa 2 area, again making the Ōmokoroa 1 area a more desirable option.

For the purposes of this study, it is presumed TNL Stage 2 is constructed and safe access is provided for vehicle movements to SH2, and that there are no capacity constraints on SH2 that would warrant upgrading any SH2 intersections.

If TNL Stage 2 does not proceed then investigations would need to be undertaken to ensure a safe access point can be provided to SH2. This may have impacts on economic feasibility of this location for further development.

2. Developability

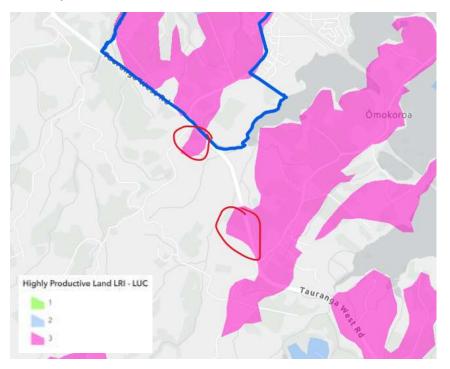
Figure 13 shows the developable area for Ōmokoroa 1 of approximately 70ha in orange out of the gross area of 195ha across both Ōmokoroa 1 and Ōmokoroa 2 areas.

3. Highly versatile land

There are two areas of LUC 3 land identified in the combined Ōmokoroa 1 and Ōmokoroa 2 area. However, both are within the Ōmokoroa 2 area; the first is south of Youngson Road and west of SH2 and the other further south closer to Whakamarama shops and also on western side of SH2.

The area south of Youngson Road is within the intended Takitimu North interchange.

The Ōmokoroa I area does not contain any highly versatile land, and the National Policy Statement for Highly Versatile Land does not present an impediment to any potential development of that area.



Conclusion

Due to the topography and characteristics of the Ōmokoroa 1 site this is favoured over the Ōmokoroa 2 site.

Tawhitinui Marae is also near the south-western boundary of the Ōmokoroa 2 area.

Potential business land development with the Ōmokoroa l site would be logically clustered adjoining the Takitimu North

link and proposed interchange, providing ready access to State Highway 2 to both the north and south, as well as enabling the use of multi-modal transport from the Ōmokoroa urban area and its ultimate 13,000 population.



Figure 13: Ōmokoroa 1 developable area (shown in orange).

Belk Road

With some 386ha of practicable developable land, access to State Highway 29 and being an extension to the existing Tauriko Business Estate, the Belk Road area is seen as highly attractive for urban development.

Site description

The Belk Road site is located on the western fringe of the Tauranga urban area, within the Western Bay of Plenty District and consists of two large plateau areas (Figure 14). The site represents medium to longer-term potential aligned with envisioned growth of the western corridor, close to the priority high-volume road-freight route between the western Bay of Plenty and Waikato-Auckland. It would be a natural extension of the existing industrial/business estate development front from the north, accessed via SH29, Taurikura Drive and Belk Road.

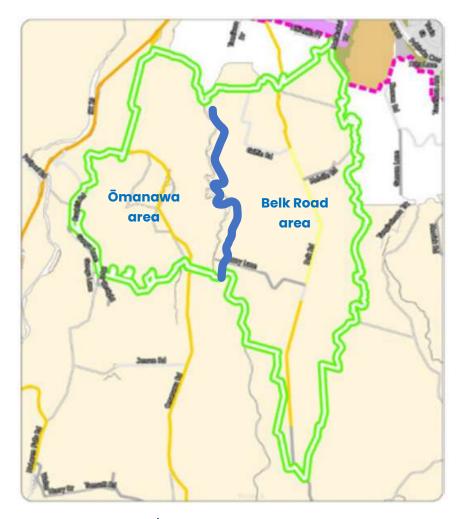


Figure 14: Belk Road/Ōmanawa Road site location map. The two areas are separated by the Ōmanawa Stream (shown by blue line) (source: Aurecon, 2023).

1. Transport

Access will be from Taurikura Drive and Kaweroa Drive to either SH29 (Redwood Lane) or Takitumu Drive via the Kaweroa extension (proposed east /west link). The former will be made available as part of the SH29 Enabling Works, and the latter is yet to be determined. Belk Road will need to be upgraded from its present form of a rural road to a collector urban road.

2. Developability

Figure 15 shows the developable area (in orange) within the Belk Road plateau comprising 386ha.

The plateau is comparatively flat with minimum earthworks required to meet the 1:40 gradient. The main concern will be building line setbacks from the edges of the plateau as the gullies are deep with steep escarpments. Although land

prices are likely to be higher than the other options, this is offset by the substantially cheaper earthworks.

In terms of water and wastewater, although the site would be considered an extension to the Tauriko Business Estate, the existing water supply and wastewater services do not have capacity to serve a new Industrial area. Further work is required to assess how water and wastewater would be provided.

3. Highly versatile land

The Belk Road plateau area is identified as containing almost entirely LUC class 3 land. This reflects the current land uses with the area substantially used for horticulture.



Figure 15: Belk Road developable area (shown in orange).

5. Short-listed areas not supported

Te Puke

Site description

The site is located immediately north of the existing Eastpack coolstore/packhouse facilities which are accessed from Washer Road (refer Figure 16). The railway bounds the western side and the eastern side extends across the farmland.

The site is low lying with hazards including flood and liquefaction.

Considerations

1. Access

Good proximity to Te Puke urban area with excellent roading access and servicing in general.

2. Technical constraints

The site is not supported due to the ground conditions and flood risk.

Liquefaction:

A recent geotechnical report on an adjacent site, Bunnings at 576 Jellicoe Street (refer map below) includes CPT testing down to 20m below ground level.

Liquefaction was cited in the report as a hazard with up to '......100mm of ground settlement during a ULS seismic event.

In the report, the 'design' ground water level is recommended at 3.0m below ground level.

The geotechnical report was for a lightweight steel portal shed with the foundation recommendation to be 7m deep timber pile.



Figure 16: Aerial image of the Te Puke 1 site shown by the orange shaded area.

To give some context, 576 Jellicoe Street (yellow boundary on map above) is elevated above the Washer Road study area (within the red dotted line) by about 2 to 4m. By interpolation, the ground water level on the Washer Road study area site is likely to be around 1m below ground level.

This would make liquefaction very likely with much larger settlement issues compared to the more elevated Bunnings site.

Essentially, developing industrial building platforms and hardstand areas within this study area would be risky and very expensive. Apart from the filling and associated issues (as below), substantial piling may also be required.

Flooding:

As identified by Aurecon in their report, to elevate the site above the flood level (including the required 300mm of freeboard), a massive amount of fill would need to be imported.

There are potential major effects being:

 'Pre-loading' type settlement would occur due to the weight of the filling. This can have 'weird' effects on neighbouring property as the sub-surface soils have to stretch laterally to accommodate the settlement.

- The ground settlement as result of filling can also artificially raise the ground water levels on the adjacent properties.
- Displacement of this important ponding/flood storage area with no mitigation possible. This could significantly affect both the upstream and downstream neighbouring properties in a flood event.
- Potential blocking of the flood flowpath from the upstream properties which are already highly developed (Washer Road existing industrial and the Eastpack site).

Conclusion

The Te Puke 1 area has significant stormwater and geotechnical issues and is not recommended for further investigation.

Potential local future industrial areas will be examined as part of the Te Puke Spatial Plan being undertaken by Western Bay of Plenty District Council. That work is due to be completed in late 2024.

Domain Road/Tara Road/Bell Road

Site description

The area is a large conglomeration of land areas currently zoned rural on either side of the Tauranga Eastern Link expressway south of the existing residential areas, with good access to Papamoa East at the Domain Road and Papamoa East interchanges (refer Figure 17 below).



Figure 17: Aerial image of the Domain Road/Tara Road/Bell Road combined area shown in orange with TEL shown by the black line through the area.

Considerations

1. Geotechnical Assessments

Figure 18 shows three properties either within or in adjacent to the Domain Road/Tara Road/Bell Road sites in which geotechnical information is publicly available.

Property 'A'

The entire study area (at least the part within the Western Bay of Plenty District) is floodable in the extreme eastern sector as per the Western Bay of Plenty District Plan Layer. As per the hazards layer, the floodable areas substantially extend into the balance areas.

The consent notice (for SB10461) references a 2007 Coffey Geotechnics report that includes boreholes down to 6m BGL and CPT testing down to 20m BGL. This geotechnical report was in support of a rural residential subdivision. The testing showed a high groundwater table (0.6 – 2m BGL) and cited liquefaction as a significant hazard with up to 230mm of settlement in a ULS event.

The foundation recommendation in the report was to excavate the peat soils (approx. 2.0 to 3.5m deep) and replace with engineered filling to a specified height above the flood hazard.

A later 2022 CMW Geosciences report (for RC13818) also undertook CPT testing, advised a similar foundation treatment to the Coffey report and included recommendations for pre-loading as well. This report was in support of a proposed dwelling and swimming pool.

Property 'B'

This property abuts the study area. It is entirely floodable under both the District Plan and Natural hazards layers.

A 2023 Stratum Geotechnical report (in support of a proposed cowshed) included bore hole (to 2.5m BGL) and CPT investigations to 15.0m BGL. The boreholes encountered groundwater at 0.4 to 0.5m BGL. Again, the report cited liquefaction as a significant hazard with up to 200mm of settlement in a ULS event.

Similar to property 'A' the foundation recommendation was a combination of peat soil removal, engineered replacement fill and pre-loading.

Property 'C'

This property was subject to a TCC resource consent application to WBOPDC (RC11537) for bulk earthworks within a floodable area. This was in support of the Papamoa Interchange project.

The resource consent application noted the Geotechnical assessment report considers the site is 'suitable for the construction of engineered designed fills' and 'Tests indicate groundwater is located between 0.2m and 2.7m below existing ground level and averaging 1.2 - 2.0m below the site'.



Figure 18: Aerial image of the Domain Road/Tara Road/Bell Road combined area showing the three properties where existing geotechnical information was considered.

In summary, development could be expensive in terms of foundation preparation and mitigation of flood displacement effects from filling - if done on a large scale in support of business land (industrial) development.

Overall, for the whole study area, more detailed and focused geotechnical analysis may reveal tracts of land within this area that may be geotechnically suitable however that is beyond the scope or capability of the further investigations and desk top analysis undertaken to date.

Ōmokoroa 3 and Apata

Site description

The Ōmokoroa 3 & Apata sites are located near Apata, and would focus around existing uses located at the Apata Rail siding. The Aurecon technical report notes the topography is challenging and would likely fragment the development potential. The site runs east to west with SH2 and the East Coast Main Trunk Line running through the site (Figure 19).

Considerations:

1. Access

An improved access off State Highway 2 would be required within this high crash area, and is not supported by Waka Kotahi.

The intersection of SH2/Pahoia/Esdaile Road would be key access point into the Ōmokoroa 3 site. However, the intersection is not well located or configured in terms of intersection form and visibility

2. Developability

The Aurecon report identifies a gross area of 508ha which could yield 240 to 280ha of business land. It is noted that this would be limited by topographical constraints.

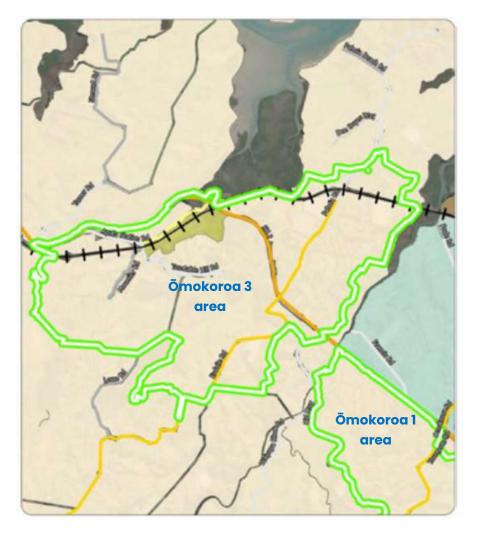


Figure 19: Ōmokoroa 3 and Apata site location map (source: Aurecon, 2023).

Conclusion

Ōmokoroa 3 and **Apata** sites are considered less desirable to the market than the nearby Ōmokoroa 1 and Ōmokoroa 2 sites, being further north and not directly on the proposed Takitumu Northern Link interchange for access.

The Aurecon report notes there is limited spare capacity in the transport network, requiring substantial improvements to enable development, or alternatively investigation of an intermodal freight facility to reduce demand on road traffic.

Apata has high land costs and high land fragmentation and is highly productive land.

The Port of Tauranga has confirmed it has no interest in Apata North as a potential future freight hub, with the establishment of the Ruakura freight hub and existing Metroport in South Auckland.

Ōmanawa Road

Location



Figure 20: Aerial image of the Ōmanawa area showing plateau and gully areas.

Considerations

1. Access

The Tauriko Long Term Business Case provides for a seagull intersection at SH29/Ōmanawa designed to cater for existing traffic only. Waka Kotahi have stated that they would not support businesses accessing Ōmanawa Road then onto SH29, unless the development pays for a fully integrated grade separated intersection with the SH. Even such an intersection is not favoured because of the proximity to the proposed SH29/Belk/Redwood intersection.

The other option is to access the industrial development from and through TBE4. This would require an extension of Taurikura Drive. Provision is being made as part of the TBE4 private plan change to extend Taurikura Drive into that development making it possible to extend into the Ōmanawa catchment if necessary.

A bridge would be required over the Ōmanawa River and a lengthy causeway over the floodable land, without adjoining sites to access (and help pay for it). This is considered to be an expensive option.

There is concern that with the long term proposed development of upper Belk Road, the capacity in the transport network will be insufficient to add the Ōmanawa catchment.

2. Earthworks

It is understood that the cost of earthworks for Ōmanawa would be similar to lower Belk. The earthworks costs for the TBE4 extension on lower Belk are around \$125m². Upper Belk Road would be about \$25m², so with land costs around \$100m², they end up about the same. There is also an advantage of upper Belk being able to be undertaken by different developers, whereas where there are significant earthworks it is much easier if there is single ownership, which would be the case with Ōmanawa.

3. Highly versatile land

The higher land to the south of the catchment adjoining Ōmanawa Road is LUC Class 2 which triggers the requirements of the NPS-HPL.

6. Engagement

Following the engagement activity undertaken as part of the Aurecon technical study, further engagement has occurred during the further investigations to inform this report as follows:

- a. The SmartGrowth Industrial Land Technical Study was reported to the Combined Tangata Whenua Forum (CTWF) at their 26 May 2023 hui. The CTWF sub-group met on 17 and 20 June 2023 with the SmartGrowth Project Manager (David Phizacklea) and Tu Pakiri Advisor (Elva Conroy). A summary assessment of the technical study was provided by Arthur Flintoff (CTWF Advisor) to the sub-group members. Maps showing the four corridor areas short-listed sites with marae, areas of Māori land and known cultural sites were prepared by WBOPDC staff and provided to the CTWF and sub-group members. A verbal update was provided to the CTWF hui held on 28 July 2023.
- b. The SmartGrowth Industrial Land Technical Study was reported to the Development Sector Group (DSG) at their 25 May meeting. The updated technical report was provided as a link to the DSG from the SmartGrowth website on 4 July 2023. The Supplementary report was provided to the DSG on 2 October 2023 following an update on the industrial work at the 28 September 2023 DSG meeting.

- c. A meeting was held with Aaron Collier (Planning Advisor) on behalf of the Urban Taskforce on 20 June 2023 who gave feedback on the Aurecon technical report.
- d. Feedback on the technical report was sought from Port of Tauranga with Dan Kneebone (General Manager Property & Infrastructure) and discussion held.
- e. Meetings were held with the Bell Road Limited
 Partnership Nathan York (Chief Executive, Bluehaven
 Group) and Dwayne Roper (Director, Zariba Holdings
 Ltd) on the SmartGrowth Industrial Land Study on 2
 August, 6 October and 13 October 2023. Written
 feedback was received from the Bell Road LP on 29
 August and responded to in writing on 25 September
 and 17 October 2023.
- f. A meeting was held with Tuatahi First Fibre 22 August 2023 with Tony Seddon (Asset Manager) and Daniel Rugaas (Business Development Manager).
- g. The Aurecon technical report has been shared with neighbouring councils, in particular the FutureProof partnerhsip, Matamata-Piako, Rotorua, Whakatane and Kawerau councils.

The feedback from engagement with the CTWF sub-group, DSG and Urban Taskforce supports the need for future

employment land and industrial uses, but that these should be in the form of a business park and light industrial type activities. The feedback confirmed the constraints and opportunities of the short-listed sites and that the three focus areas are the more logical for future industrial development.

Feedback on the potential future industrial sites was sought from the relevant utility providers for the western Bay of Plenty sub-region – Transpower, PowerCo, First Gas, Chorus and Tuatahi Fibre. This has identified where upgrades to the existing utilities infrastructure would be required. It also supports the three focus areas, noting power supply upgrades would be necessary for Ōmokoroa and Pukemapu sites and current sub-stations would be insufficient. Concerns were raised by electricity providers with access and ability to service some of the short-listed areas, particularly where these are not near existing utilities infrastructure.

Tuatahi First Fibre and Chorus have advised that they can cover most aspects without too much complication.

Subject to any necessary joint funding agreements to open up new areas not currently serviced; all potential business locations would be able to be serviced by Tuatahi First Fibre.

The establishment of fibre for the Rangiuru Business Park and the Tauriko Business Estate would be similar for any new business land areas. Additional engagement with tangata whenua through the relevant hapū will need to occur through future planning work if any potential future business land location is proposed to be taken forward.

No engagement has occurred with landowners or local communities on the short-listed or preferred focus areas. The further investigations were undertaken as a desktop study with information sharing and engagement through the draft SmartGrowth Strategy process. In part because the identification of specific area for potential future business uses may have raised concern or expectations with hapū, landowners and the community ahead of any decision being made through the SmartGrowth Strategy and Future Development Strategy process. Future planning processes will be required for any potential business growth area to be progressed in the long term, which present more appropriate and timely engagement opportunities based upon more robust information.

Some engagement is occurring through the SDP process for the Western Corridor and general community engagement on the draft SmartGrowth Strategy/FDS.

Discussions have occurred with Kāinga Ora on servicing the Western Corridor area, which includes Belk Road being looked at for both residential and business uses.

7. Conclusions

Further investigations of Ōmokoroa, Ōmanawa/Belk Road and Pukemapu short-listed areas identified through the SmartGrowth Industrial Land Study technical report (Aurecon 2023) have been undertaken.

The need for industrial land in the medium to longer-term is in the Northern and Western growth corridors, where the proposed rezoning of 10.3ha at Omokoroa Stage 3 (part of Plan Change 92) and 110ha at Tauriko (Tauriko Business Estate extension) will meet short to medium term needs in these corridors, but will not be sufficient for the longer-term. The Eastern growth corridor has sufficient business land to meet expected demand.

In examining the Ōmanawa Road and Belk Road locations, the Ōmanawa catchment is attractive in that it is all in one ownership and therefore easier to coordinate infrastructure requirements and earthworks. The counter argument is that this can also be a disadvantage in that it puts all control with a single developer. Upper Belk Road has been proposed for urban growth for some time. It is comparatively flat, making earthworks minimal compared to Ōmanawa. Although land prices are higher the overall costs are likely to be similar. Upper Belk does not have the restrictions and costs on access that Ōmanawa has. On balance upper Belk Road is more favourable. This does not mean that Ōmanawa is out of the frame, in that it could be reconsidered if a proposed

developer can show how development of that catchment is feasible within the wider Western corridor.

From a desk-top analysis at a broad-scale, **Ōmokoroa 1**, **Belk Road** and **Pukemapu** are potentially suitable for development for industrial land uses. While significant investment would be required in network infrastructure and services – water, wastewater, stormwater and transport, these are considered able to be progressed to a more detailed structure planning phase in future.

Analysis of earthworks required for development of the three focus areas for industrial use, shows that Belk Road is the least costly to develop, followed by Ōmokoroa and then Pukemapu.

The developable areas have been estimated as:

- Ōmokoroa 1 = 70ha
- Belk Rd = 386ha
- Pukemapu = 115ha.

The Belk Road and Ōmokoroa areas do not have any obvious transport issues given existing and proposed transport investment through the Western Bay of Plenty Transport System Plan (TSP), including Stage 2 of the Takitimu North Link and State Highway 29 realignment and intersection upgrades.

The requirements of the National Policy Statement on Highly Productive Land (NPS-HPL) do present a hurdle for **Belk Road**,

in that this area is not exempt from the NPS-HPL as it is not part of an existing strategy identified in the councils' long-term plans. A case will need to be made through the rezoning process for why areas of highly productive land are required for business (industrial) land use.

It will be important to have an adequate separation and buffer between any future residential and industrial land. In that regard the Belk Road plateau area would lend itself to industrial land adjoining the current Tauriko Business Estate Stage 4 extension.

The Western Corridor is also subject to current considerations through the Specified Development Projects (SDP) process being undertaken by Kāinga Ora⁸. Decisions will need to be made through the FDS, in alignment with the SDP process, on whether Belk Road is identified for future industrial use, residential use or a mix of both. Engagement with Kāinga Ora and the Ministry for Housing and Urban Development is ongoing in support of the current SDP process. The SDP process may well override any SmartGrowth endorsed and council initiated rezoning process under the RMA for this area.

Pukemapu needs further consideration. Its proximity to the existing Ohauiti and lower Oropi residential areas and its topgraphy may require cultural, amenity and landscape effects to be carefully considered. Alternatively it offers closer

employment opportunities to those living in the Southern Corridor and would have a positive effect on the wider transport network. As identified in the Aurecon report Pukemapu is not appropriate for heavy industry uses due to the proximity to the existing residential areas of Ohauiti and lower Oropi.

Ōmokoroa, Belk Road and Pukemapu are in proximity to existing and future labour force, meet market and strategic requirements and are able to contribute to sustainability by reducing vehicle travel and emissions.

⁸ https://kaingaora.govt.nz/working-with-us/specified-development-project/

8. Recommendations

It is recommended that:

- Ōmokoroa I, Belk Road and Pukemapu are considered as the future locations for strategic longterm business land meeting the demand within the northern and western corridor of the sub-region for industrial land uses.
 - While significant investment would be required in network infrastructure and services water, wastewater, stormwater and transport, these three areas are considered able to be progressed to a more detailed structure planning phase in future.
- Structure planning is undertaken to identify the specific areas to be zoned through future plan change processes, and consideration given through future annual and long term plans of Western Bay of Plenty District Council and Tauranga City Council as to funding and timing of delivery.
- 3. As part of any structure planning, **reverse sensitivity effects** should be considered in the location of future business land adjoing or in close proximity to residential and other sensitive land uses. A minimum set-back distance of 300m from residential areas or other sensitive land uses is recommended for light

- industrial land uses and 500m for heavy industrial land use.
- 4. **Belk Road** be progressed as an immediate priority, under the Urban Developments Act 2020 and/or the Resource Management Act 1991, subject to consensus on the land areas required for residential and business land uses.
- Pukemapu should be considered further in terms of whether this area would be best suited to business or residential land uses in the long-term and the timing of when it might be needed.
- 6. The land immediately adjoining the zoned Rangiuru Business Park (comprising around 45ha) should be considered for rezoning in the medium-term, subject to demand and uptake within the current zoned business park.
- 7. Development of future industrial areas should avoid locations susceptible to natural hazard risk, or otherwise require upfront investment to ensure climate resilient development. The level of resilience investment may not be feasible in some locations identified in the Aurecon report where urban development is best avoided.

References

Aurecon, 2023: SmartGrowth Industrial Land Study Technical Report, 30 June 2023 https://www.smartgrowthbop.org.nz/articles/smartgrowth-industrial-land-study

Kāinga Ora, 2023: Recommendation on public notification of the proposed key features under the Urban Development Act 2020 - Tauranga Western Corridor Urban Development Project, 23 August 2023

https://specified-development-projects-kaingaora.hub.arcgis.com/pages/western-corridor

Kemp, 2020: Suitability of Identified Industrial Land for Different Types of Industrial and Service Uses. Prepared for Waikato District Council, January 2020

https://www.waikatodistrict.govt.nz/docs/default-source/your-council/public-consultations/waikato-2070/working-paper-4-industrial-land-evaluation-suitability-of-industrial-land-for-different-types-of-industrial-and-service-uses-north-huntly-ohinewa.pdf?sfvrsn=c9508fc9_2

Market Economics, 2022: Tauranga City and Western Bay of Plenty Business Capacity Assessment. Prepared for SmartGrowth 16 December 2022

https://www.smartgrowthbop.org.nz/documents

Ministry for the Environment, 2022: National Policy Statement on Highly Versatile Land, 20 September 2022 https://environment.govt.nz/publications/national-policy-statement-for-highly-productive-land/

Phizacklea Consulting, 2023: Industrial Land Study Supplementary Report to SmartGrowth Senior Managers Group, May 2023 https://www.smartgrowthbop.org.nz/documents

SmartGrowth Strategy 2023-2073 – Draft for Consultation, September 2023. https://www.smartgrowthbop.org.nz/smartgrowth-strategy-2023

Veros Property Services 2019: South Taranaki Industrial Park - Initial Business Case and Feasibility Report. Prepared for South Taranaki District Council.

https://www.southtaranaki.com/our-council/key-projects/south-taranaki-industrialbusiness-park

Appendices

Appendix 1 – Summary table of potential business (industrial) land locations

Appendix 2 – Slope maps for preferred potential business land locations

Appendix 3 – Maps of marae, Māori land and cultural sites in proximity to potential business land locations

Appendix 1: Further investigations by corridor and short-listed area

Table from Supplementary Report (Phizacklea Consulting, May 2023) with additional right-hand column setting out the further investigations to date.

Corridor / Site	Key Opportunities & Constraints identified by Aurecon technical study	Summary Aurecon recommendation	Proposed SmartGrowth response action	Further SmartGrowth investigations
Central Corridor	The combined Domain Road 1 and 2, Tara Road 1 and 2, and Otawa 1 Site fits strategically on priority freight routes, and the UFTI identified Te Puke growth area. There are some landholdings in single or company ownership, leading overall to bigger parcels of developable land when held together. While the site holds development potential of 600ha+, this would carry significant investigation, design and development costs due to its geotechnical complexity. In particular, the portion of the site east of Parton Road on Bell Road	Focus on industrial development on land within TCC boundaries at the western extent of the site, to service centrally located demand and noting the HBA defined future deficit for Tauranga City. The most obvious development focus would be on the land parcels adjacent to Tauranga Eastern Link (SH2) and Papamoa (Domain Road) interchange, providing easy access and	There are significant flooding and stormwater issues to address with the Tara Road/Domain Road/Otawa sites which will be exacerbated by climate change. Bluehaven Holdings Ltd are investigating potential urban development, including industrial land near Bell Road (Otawa 1 site). SmartGrowth to consider the outcomes of Bluehaven Holdings Ltd investigations when available.	Significant flooding, geotechnical and stormwater issues confirmed. Some potential small-scale opportunities on land parcels adjacent to Tauranga Eastern Link (SH2) and Papamoa (Domain Road) interchange. Parts may be suitable for small-scale light industrial development with natural hazard and stormwater mitigation, but not at a sub-regional scale. Available geotechnical reports have been reviewed. Bay of Plenty Regional Council has significant concerns with any urban development in these areas due to flooding and natural hazard risks.

	would carry significant costs for fill due to flood risk. While the Site is also intersected by the North Island Main Trunk Line railway, the land scale and quality characteristics will limit intermodal potential in this location.	connectivity to priority freight route and PT, and better quality land in terms of flooding and geotechnical characteristics.		
Eastern Corridor	The Rangiuru Site is strategically connected to freight routes and can be considered an extension to the existing growth area of Rangiuru Business Park, identified within the UFTI. It is close to the Comvita manufacturing plant and is contiguous with the Lemon Grove industrial area. The Te Puke site forms an extension of the recently consented Washer Road Industrial area, and is across	Focus development on the Rangiuru site, west of the Paengaroa township, where the raised terrace is outside of the active floodplain and is likely to be suitable for all industrial building types. With direct access to ECMT ~ 1.6km on both sides of the line, potential for intermodal facility	Te Kāinga (Eastern Town) is proposed for Rangiuru 4 and 8 sites, and consideration of further industrial land in this vicinity should be undertaken in conjunction with WBOPDC planning for Te Kāinga. There are possible industrial land development options which should be considered as part of wider spatial planning for the Te Puke township to meet local	Further investigations have been limited to engagement with utility providers, the Development Sector Group and the Bell Road Limited Partnership - who seek the opportunity to rezone through private plan change land adjacent to Bell Road. The Domain Road, Tara Road and Bell Road sites have excellent transport connections to the Tauranga Eastern Link/SH 2 and strategically are in close proximity to the available labour force. However, these sites also have significant stormwater, geotechnical
	the State Highway from the Te Puke West Industrial area. Due to its geotechnical complexity, development of the site would carry significant investigation, design and development	development could be explored with KiwiRail.	needs. There is a small area of land immediately adjoining the zoned Rangiuru Business Park that could see an	and flooding challenges. Parts of the Domain Road and Tara Road location may be suitable for small-scale light industrial development, but not at a sub-

cost. A geotechnical solution to allow future construction is complex, and closely tied to the required stormwater management and flood mitigation measures.

extension of the business park of around 60ha.

regional scale. Bay of Plenty Regional Council has significant concerns with any urban development in these areas due to flooding and natural hazard risks. Private sector investigations are currently occurring by Bluehaven Holdings on the Otawa 1 (Bell Road) site, including technical assessments and flood modelling. The Bell Road site is in one single landownership (Bell Road Limited Partnership) which would enable development to be expedited through a private plan change process.

The Te Puke I area has significant stormwater and geotechnical issues and is not recommended for further investigation. Potential local future industrial areas will be examined as part of the Te Puke Spatial Plan being undertaken by Western Bay of Plenty District Council. That work is due to be completed in late 2024.

There is a small area of land immediately adjoining the zoned **Rangiuru Business Park** that could see an **extension** of the business park of around 45ha.

Northern Corridor

With urban intensification in the corridor, and the wider Ōmokoroa urbanisation project, the designated linked interchange and large population base for employment, industrial development is desirable. The existing zoned Ōmokoroa Industrial area is located to the north of the Omokoroa 1 & 2 Site. While it is the natural focus for development, the topography of Ōmokoroa 1 & 2 Site is steep and the site would require significant earthworks. It is also constrained by wastewater service capacity and will need on site solutions. Ōmokoroa 3 and Apata sites present longer term strategic potential, centred around the existing uses located at the Apata Rail siding, however the topography is challenging and would likely fragment the development potential.

Focus on Ōmokoroa 1 & 2, development centred around the proposed Ōmokoroa intersection upgrade in 2025, as a natural extension of the existing zoned Ōmokoroa Industrial area, adjacent to a major freight corridor and a proposed park and ride facility.

Ōmokoroa 1 & 2 provide better choice – due to less valuable land and immediately adjacent to SH 2 and could be serviced by the future Northern Link (Stage 2) interchange at Ōmokoroa.

Wastewater is a significant constraint given the limited capacity of the Ōmokoroa pipeline. Further investigation is required here as to whether further capacity might be available given the current restrictive cap, or whether an on-site wastewater treatment plant could be feasible for a smaller-scale type business park.

Ōmokoroa 1 and Ōmokoroa 2 could provide for around 103ha of developable area centred around the proposed Takitimu Northern Link/Ōmokoroa intersection.

- Ōmokoroa 1 = 70ha
- Ōmokoroa 2 = 33ha

There is no available capacity in the existing Ōmokoroa pipeline to Chapel Street for wastewater. An on-site plant serving the Ōmokoroa industrial area would be required.

Wastewater costs would be around \$170,000/ha to transpose a Maketu style system.

A water supply system is likely to be around \$45,000 - \$70,00/ha.

Earthworks costs for Ōmokoroa are estimated at around \$62,500/ha.

Two small areas of Highly Productive Land (LUC class 3) are confined to the smaller Ōmokoroa 2 area, with no HPL in the Ōmokoroa 1 area.

Two waterway/gully systems exist within the sites which has reduced the overall expected development yield.

Western Corridor

The Belk Road/Ōmanawa site represents large scale development potential aligned with envisioned growth of the western corridor, close to the priority high-volume roadfreight route between the western bay and Waikato-Auckland. It is a natural extension of the existing Tauriko industrial/business estate development front from the north, accessed via SH29, Ōmanawa Road and Belk Road. The extension of the Belk Road area is recognised in the Tauriko enabling works and the long-term transport business case which both envisage development of the Belk Road area.

Recent strategic servicing studies demonstrate that the more viable development area is the eastern portion around Belk Road, which was also identified within UFTI. While the Ōmanawa Road area does directly connect to SH29, further upgrades would be

Focus on the Belk
Road area which has
higher land quality,
accessibility and
capability than the
areas around
Ōmanawa Road, with
areas of elevated
terrace representing
a high degree of
development
readiness, and lesser
constraints in terms
of enabling
infrastructure.

Belk Road/Ōmanawa

Preference for further investigation should focus on the Belk Road plateau area over Ōmanawa due better transport access and ability to service from the Tauriko Business Estate.

There is developer interest in Ōmanawa however which means both sites should be included through the further investigations of the wider area.

Consider size and location of potential industrial area in Belk as well as other potential long-term land uses eg residential, schools, commercial centre etc.

Ensure Kāinga Ora Specified Development Project (SDP) team aware of Belk as short-listed industrial land area.

Belk Road

The lower and upper Belk Road plateau areas could provide for around 386ha of developable area and logically extend south of the existing Tauriko Business Estate proposed Stage 4 extension.

Wastewater costs would depend on current future proofing through the TBE Stage 4 extension and pipeline capacity, Wastewater storage would be likely ned as a further cost to be considered for the area. Wastewater would be stored on-site during the day and injected into the main wastewater pipelines overnight.

Water supply is likely to be around \$45,000 - \$70,00/ha.

Development costs for earthworks for <u>lower</u> Belk Road are conservatively estimated at around \$61,000/ha (to be confirmed).

Earthworks costs for <u>upper</u> Belk Road by comparison are negligible, with an average slope of 1 in 40 in this plateau area.

The identified High Productive Land area (LUC class 3) in Belk Road area

required to the SH intersection and/or a new bridge connection from TBE Stage 4 to Ōmanawa Road.

Pukemapu provides potential for infill development of small scale, local industry. While it offers good serviceability, the high number of owners within a smaller area may present a constraint for any future development.

The SDP area includes Belk Road.

<u>Pukemapu</u>

Pukemapu to be investigated further given proximity and serviceability. Need to consider Ohauiti South private plan change, resolution of access off end of Rowesdale for housing development of properties currently accessed via Pukemapu Road. Potential for new Ohauiti to Oropi Road transport connection

Develop broad options for area in wider context, including whether residential or industrial land use would be better if Pukemapu urbanised. matches the potential plateau developable areas.

<u>Ōmanawa</u>

Ōmanawa is not considered feasible as a future sub-regional greenfield industrial area due to access and infrastructure costs. The developable area within the lower Ōmanawa area is small and transport connections require a bridge over the Ōmanawa River, which is cost prohibitive.

Waka Kotahi advises that if the upper area were also to be developed, a new interchange to SH29 from Omanawa Road would not be supported. This would require all traffic servicing this area to access SH29 via the planned Redwood Lane interchange and through the Tauriko Business Estate Stage 4 area. This would have significant cost implications and result in traffic congestion.

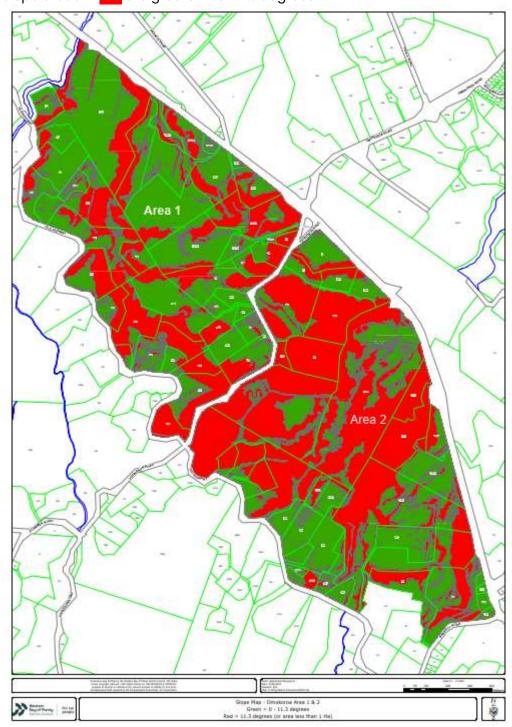
<u>Pukemapu</u>

The Pukemapu area could provide for around 105 to 115ha of developable area. Closest to existing

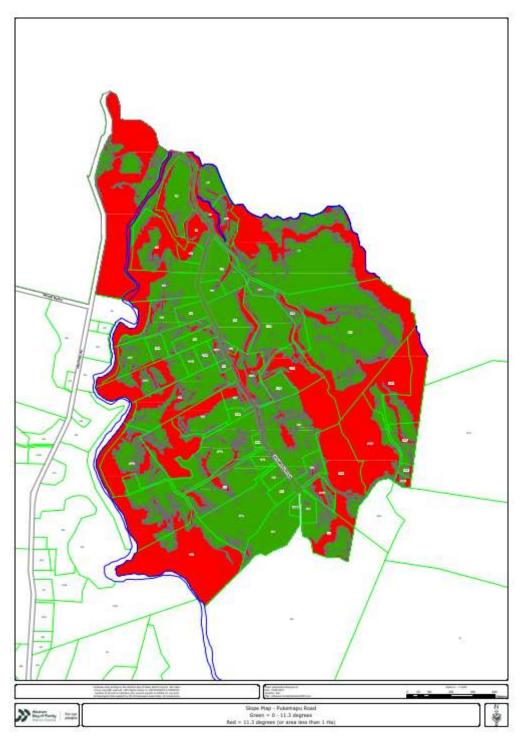
urban area would yield around 60ha with easy slope, with another 45ha potentially on steeper land further out.
No Highly Productive Land exists in the Pukemapu area. Earthworks costs for Pukemapu are estimated at around \$62,500/ha.

Appendix 2: Slope maps for preferred potential business land locations

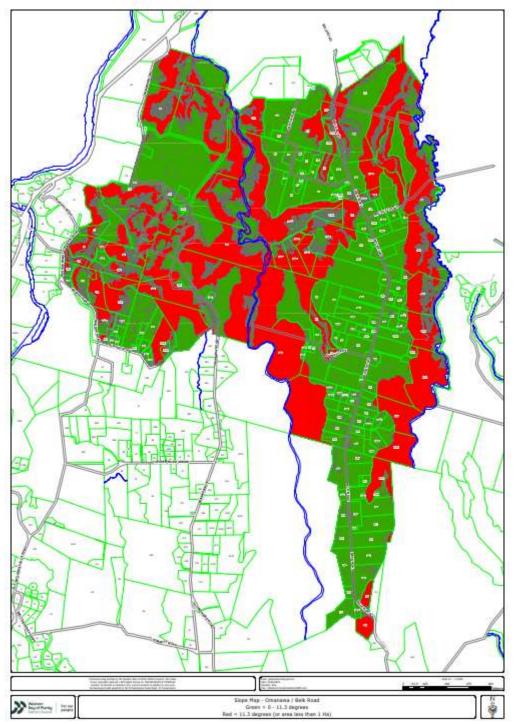
Slope areas in green are less than 1:5 (11.3 degrees) Slope areas in red are greater than 11.3 degrees



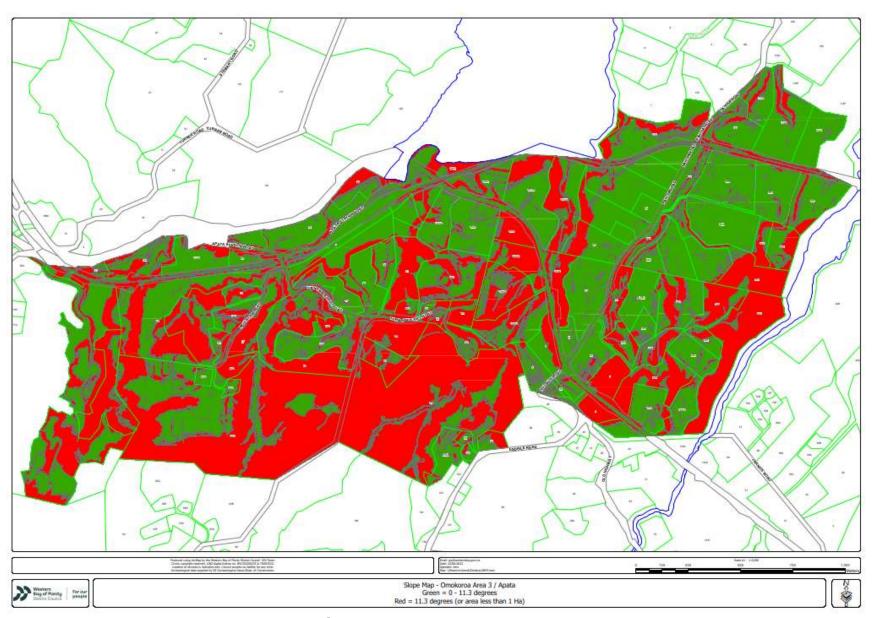
Appendix 3A: Slope Map - Ōmokoroa Area 1 & 2



Appendix 3B: Slope Map - Pukemapu



Appendix 3C: Slope Map – Ōmanawa / Belk Road



Appendix 3D: Slope Map – Ōmokoroa 3/Apata

