

Industrial Land Study

Technical Report

Tauranga City Council -
SmartGrowth

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Document prepared by:

Aurecon New Zealand Limited
 Ground Level 247 Cameron Road
 Tauranga 3110
 PO Box 2292
 Tauranga 3140
 New Zealand

T +64 7 578 6183
F +64 7 578 6143
E tauranga@aurecongroup.com
W aurecongroup.com

Executive Summary

This Industrial Land Study examines the extent of the industrial land availability in the Western Bay of Plenty sub-region. Several issues have been identified as contributing to increased pressure on existing land uses, including the susceptibility of existing industrial land across the Western Bay to natural hazards which may result in the need for retreat or relocation of current activities over time.

The contextual evidence presented in the recently completed Housing and Business Development Capacity Assessment (HBA, Market Economics, December 2022) demonstrates that there is insufficient industrial land capacity to cater for expected long-term future growth.

Any reduction in currently available land area, combined with the strong demand to accommodate growth, raises questions regarding reliance of existing industrial land to meet current demand. The increasing cost of land and enabling infrastructure, as well as regulatory and community objections to industrial land use, add to the constraints in meeting growth demand through new development areas.

The objective of the Industrial Land Study is to identify industrial land supply that satisfies a long-term industrial development view while also achieving and implementing the strategic SmartGrowth objectives for the sub-region.

A Multi-Criteria Framework tool has been developed to identify and further assess emerging preferred development sites. Technical considerations have been given to strategic market fit, Te ao Māori, and other social, cultural, environmental, and regulatory factors. This includes assessing geotechnical and geological risks, natural hazards, the quality of soil and groundwater, the suitability of stormwater, drainage, and hydrology, the availability of basic infrastructure servicing, as well as transport accessibility and proximity to employment.

Through a process of refinement involving targeted stakeholder engagement, the emerging preferred sites for investigation were agreed and taken through more detailed assessment with a summary evaluation provided by technical Subject Matter Experts. Four focus areas are identified by this study:

- Northern Corridor: centred around the proposed Ōmokoroa intersection upgrade
- Western Corridor: Belk Road area which presents higher land quality, accessibility and capability
- Central Corridor: the western extent of the combined Domain Road/Tara Road Site
- Eastern Corridor: Rangiuru site, west of the Paengaroa township

Further detailed investigations are recommended for the emerging preferred sites within these focus areas in order to explore development options and prioritise actions for key sites. This will inform the forecasting of associated timeframes for additional technical investigation, planning and environment considerations, as well as enabling infrastructure servicing and funding, to ensure industrial land supply can meet expected long-term demand.

The corridor approach to development will allow balanced consideration of self sufficiency as urban population grows and people seek employment opportunities closer to home, additionally contributing to sustainability by reducing vehicle travel and emissions. This approach aligns to the UFTI Connected Centre principles. Large, strategically located centres for industrial business development will present better ability to invest in public transport and alternative transport mode choices for workers, as well as presenting opportunity for circular economies to evolve.

Other recommendations are presented in relation to stakeholder engagement, to ensure adoption of best practice, by considering the level of interest each stakeholder group and the degree to which they will be impacted by, have influence over, or become advocates for the project; and sustainable development principles and values to inform the Spatial Planning process and shape future industrial land development.

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1 Purpose and Objectives

The SmartGrowth Industrial Land Study (“this **study**”) examines further the extent of the industrial land availability, with the purpose of identifying suitable areas of land within the Western Bay of Plenty sub-region (“the **sub-region**”) for industrial development over the next 30 years. The study aims to ensure that there is sufficient supply to meet growing demands; proactively facilitating and supporting sustainable growth of the industrial sector within the sub-region.

The outputs of the study will be utilised to support future decision-making regarding industrial land development, feeding into the SmartGrowth Strategy 2023 / Future Development Strategy. In developing the scope of this study, the following objectives were identified:

- Identify suitable areas for industrial development within the sub-region, considering potential parcels of land that could be utilised for new industries, or relocation of existing heavy industries.
- To consider as part of the study various factors including, but not limited to, geotechnical issues, servicing constraints, active transport corridors, planning requirements, reverse sensitivity, proximity to employment, and broader cultural matters. To make recommendations based on these factors to ensure there is sufficient industrial land supply to reconcile demand and supply over the medium and long-term.
- The study shall align with broader strategic principles, outcomes and national policies, considering inter-regional influences on industrial land and commercial factors affecting development decisions e.g., development costs, resource availability, locational drivers.
- Facilitate meaningful engagement with key stakeholders to gather inputs and insights that will help inform and direct the study, cognisant of inter-related projects, future spatial planning and development proposals.

This report documents Aurecon’s multi-disciplinary assessment of factors likely to affect the development of land for industrial purposes within the sub-region. The report presents advice and commentary on areas of land identified in collaboration with the SmartGrowth team for potential future industrial development.

1.1 Approach

To achieve the desired objectives, a five-stage approach was developed by Aurecon in collaboration with the SmartGrowth team. This approach utilises a bespoke Multi-Criteria Analysis (MCA) tool to identify the key governing land development factors, weighted against the outcomes of the recent SmartGrowth Housing and Business Development Capacity Assessment (HBA). A summary of each stage and desired outputs informing decision making is presented as **Figure 1**.

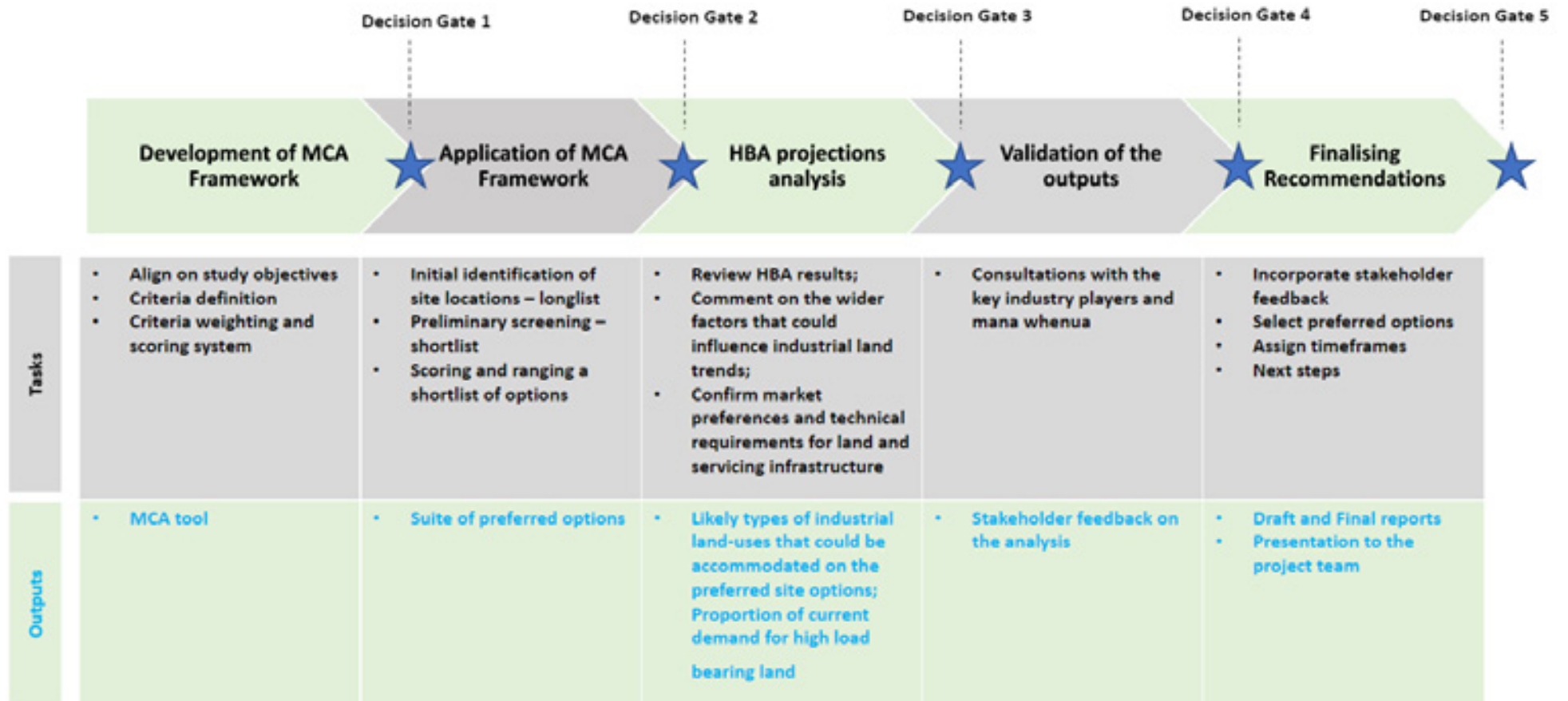


Figure 1 – Industrial Land Study Approach

1.2 Explanatory statement

1.2.1 Project specific limitations

- This Industrial Land Study was undertaken utilising a range of technical information, sourced from a range of geospatial data platforms, available publicly or sourced via the SmartGrowth Partnership representatives. There was limited direct external engagement.
- The timing and budget for the SmartGrowth Industrial Land Study being a technical study, did not allow for engagement on specific sites or properties. Tangata whenua engagement is expected to continue through the SmartGrowth Strategy Update, including engagement with the relevant hapū if specific sites are being investigated.

- Statements regarding the potential suitability of land for industrial purposes have been made without comparison to alternative land uses for subject properties. That process is expected as part of a wider workstream relating to spatial planning outcomes across the sub-region.
- Based on advice received by the SmartGrowth team no additional sensitivity testing has been undertaken on weighted parameters applied for scoring through the MCA process.

1.2.2 Limits on investigation and information

- Only a finite amount of information has been collected to meet the specific technical requirements of the Industrial Land Study brief and by using suitable investigation techniques. This report does not purport to completely describe all of the region's characteristics and properties.
- While every effort was made to integrate all relevant information and stakeholder feedback to inform the identification and assessment of potential industrial land development Sites, this technical assessment was not exhaustive and further investigation and assessment is required.
- In some instances, technical data and supporting map layers for the sub-region varied in range, scale and compatibility; requiring some manual effort and interpretation to apply consistent decision making for land across the entire sub-region.
- We note that some information anticipated to be available for use as part of this study could not be obtained (including recent landslide susceptibility assessments commissioned by Tauranga City Council and Bay of Plenty Regional Council) requiring differing approach to interpretation of hazard (use of gradient/steepness factors derived from contour information). This is able to be updated as information becomes available.
- Interpretation is based on available information and the application of professional judgement. Assessment findings and recommendations have been inferred using experience and judgement and it must be appreciated that actual conditions could vary.
- This report does not provide a complete assessment of the social, environmental, geotechnical and hydrological status of specific land parcels within the sub-region, and it is limited to the scope defined herein. Should further information become available regarding the conditions of a particular property or land parcel, Aurecon reserves the right to review the report in the context of the additional information.
- This report has been prepared for SmartGrowth and is based on information provided. The contents of the report are for the sole use of the Client and no responsibility or liability will be accepted to any third party. Data or opinions contained within the report may not be used in other contexts or for any other purposes without our prior review and agreement.

2 Context

The sub-region study area is delineated by the incorporated district boundaries of Tauranga City Council (“**TCC**”) and Western Bay of Plenty District Council (“**WBOPDC**”) (Refer to **Figure 2**). Outside of existing residential and commercial land use, the study area comprises mostly of agricultural and horticultural land. Pockets of concentrated heavy industry are located around the port and current industrial zoned land. Greenfield sites are scarce, the consequence of widespread transition to intensive production land use during the mid-20th century.

The sustained rapid growth in Tauranga City and the sub-region has led to increased community demands for infrastructure improvements and new developments. The SmartGrowth Partners are currently developing a refreshed SmartGrowth Strategy 2023 which will replace the 2013 version and will incorporate the requirements for a Future Development Strategy under the National Policy Statement on Urban Development (“**NPS-UD**”). A key component of this work is understanding the industrial land needs over the next 30 years.

The partners have been collaborating on various projects that relate to industrial land. This includes the recently completed Housing and Business Development Capacity Assessment (“**HBA**”) (Market Economics, December 2022), as required by the NPS-UD, and the Mount Industrial Land Study. These studies respond to a range of significant issues that contribute to increased pressure on existing land use. For example, susceptibility of existing industrial areas across Tauranga to natural hazards such as flooding and coastal inundation may necessitate the eventual retreat or relocation of current activities. The potential reduction in useable land, combined with the strong demand for new industrial land to accommodate growth, raises questions regarding the sustainability and suitability of current industrial zoned areas to meet the ongoing needs of the sub-region.

Other projects and studies are currently progressing relating to the provision of industrial land within greenfield urban areas in the wider Bay of Plenty area, such as the forthcoming plan change at Tauriko Business Estate; and notified Plan Change 92 (Omokoroa).

Based on available evidence, despite the establishment of recent and planned new industrial areas, the HBA confirms that the current situation is unsustainable and there is insufficient industrial land capacity to cater for expected long-term future growth. These issues highlight the a need for a long-term sub-regional perspective regarding industrial development.

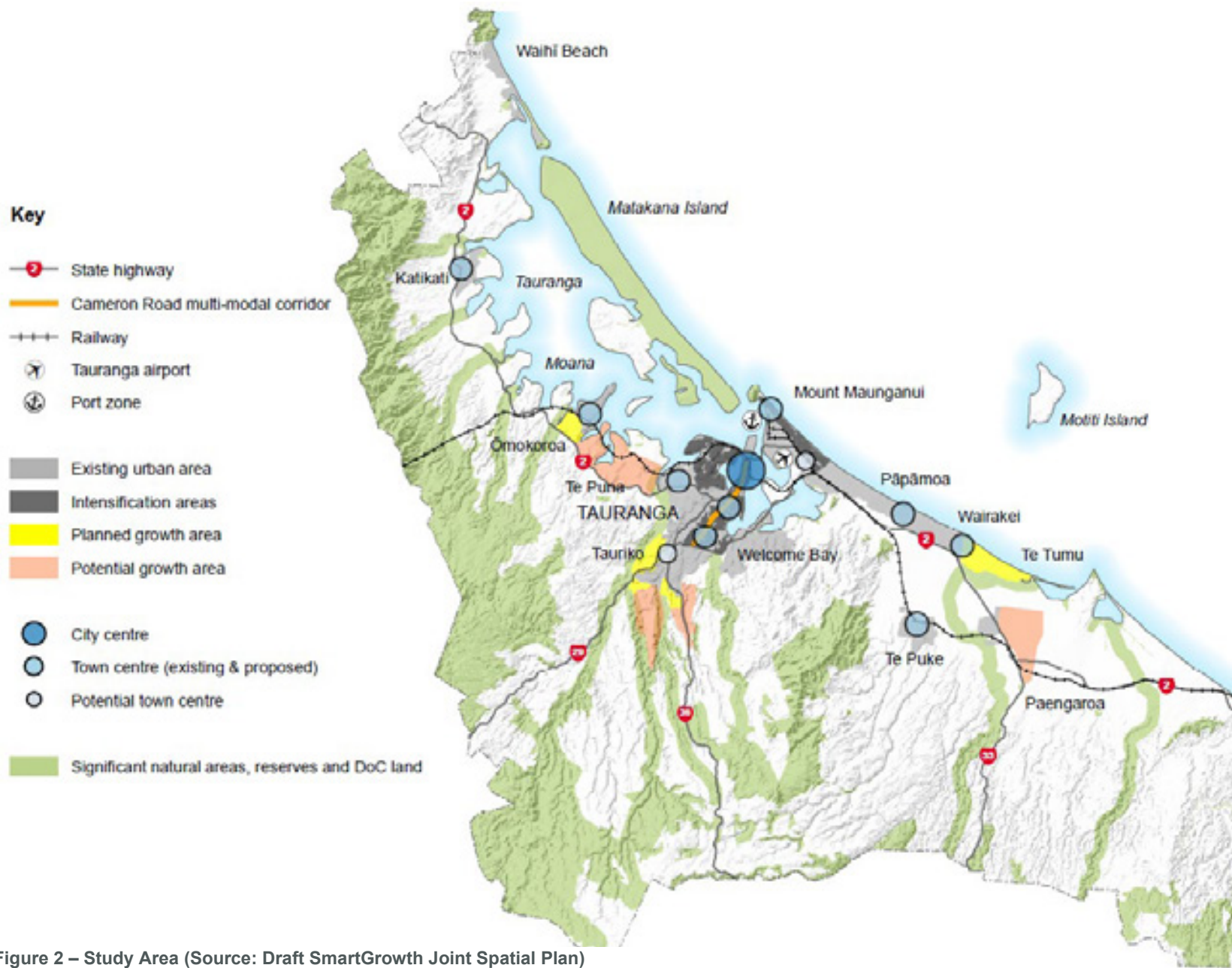


Figure 2 – Study Area (Source: Draft SmartGrowth Joint Spatial Plan)

2.1 Strategic Alignment

2.1.1 Overview

The intent of this study is to identify potential sites for industrial land development, subsequently achieving and implementing the objectives of the strategic plans (refer below) that SmartGrowth has committed to for the future development of the sub-region. These strategic plans were established to meet community demands to improve existing infrastructure and provide for new developments, while being conscious of balancing sustainability and regulatory requirements, as part of future infrastructure plans for the city. Combined, the SmartGrowth Joint Spatial Plan 2021, SmartGrowth Future Development Strategy 2018, SmartGrowth Development Trends, and the SmartGrowth Integrated Planning and Settlement Pattern as well as the Urban Form and Transport Initiative (“UFTI”), (as referenced in Appendix B) provide the strategic direction for growth and development in the sub-region.

UFTI is a collaboration project led by SmartGrowth which sets the strategic direction for the sub-region and includes a delivery plan to cater to forecast growth over the next 30 to 70 years and beyond. It provided the significant strategic foundation for this study and helped shape the Multi-Criteria Assessment framework developed as part of this study for industrial site identification and assessment. The UFTI objectives and Connected Centres principles in particular were integrated into the technical criteria for this Industrial Land Study. Identified sites were also assessed for overlap with, or extension of, identified UFTI and Joint Spatial Plan ‘planned’ and ‘envisioned’ growth areas given these sites have been comprehensively assessed and therefore already align to SmartGrowth and government strategic objectives.

The sub-region Transport System Operating Framework (“TSOF”) is also recognised as a key strategic plan to guide the UFTI over the next 30 years. It assesses various routes for modes of transport at particular times of day to manage congestion, safety and competing demands for road space. It was therefore integrated into our transport criteria to assess proximity of sites to primary and secondary freight routes, with consideration for current and future Level of Service.

2.1.2 Drivers

The UFTI implementation principles for the connected centres programme were identified as key project drivers through the strategic context research and are integral to the investigation of the industrial land study. The principles were woven into the assessment criteria, and are outlined below:

- The sub-region’s urban form presents good quality, compact mixed-use urban development with density and large destinations focused on PT nodes and along corridors.
- Shared and active modes (including micro-mobility) are the most popular choices for local trips, enhancing travel choice and mode share throughout the sub-region.
- Communities are distinctive places focused around public open spaces, major amenities (such as civic facilities or cultural assets), and frequent transit where people have easy access to daily destinations to live, work, play and learn while travelling along streets that are great urban spaces.
- Neighbourhoods are structured so higher-density, mixed-use, walkable, human-scale development focuses around frequent transit, while built form and open spaces express our distinct culture and let people socialise and enjoy our natural assets.
- Infrastructure and urban form improve all people’s access to opportunities necessary to satisfy essential needs and advance wellbeing.

- New developments and urban regeneration projects provide for a mix of housing types and tenure, places for people to play, and include social and affordable housing options.
- People can choose to live independently in their communities and are enabled to age-in-place.
- A sub-regional network of strategic transport corridors integrates the purpose and context of each corridor by balancing place and link functions and user priorities.
- The harbour and catchment are healthy and thriving, linked with a blue-green network of natural features and recreational activities in a way which expresses landscape character and enhances natural health.
- Tangata Whenua cultural narratives and profile are a vibrant and valued part of living in the Western Bay of Plenty, articulating a deeper sense of place and enhancing the mauri of Tauranga Moana.
- Protect wāhi toitū¹ from development in perpetuity, whilst in wāhi toiora² change or development occurs with the greatest care.
- Optimise the use of existing infrastructure before committing to construct new infrastructure.
- The region's infrastructure and urban form support a sustainable knowledge-intensive economy driven by innovative people and businesses applying technology, research and development, leveraging the strengths of our natural horticultural and marine-based food basket, with the strength of the port and splendour of Tauranga Moana at the forefront.
- Greenhouse Gas emissions from transport achieve net zero by 2050 through a combination of urban form, street design, technology changes and public transport services that allow people to drive less within the sub-region, while strategic transport corridors are made reliable and efficient for freight and inter-regional travel.
- As conditions change performance measures are monitored so that implementation of the strategy adjusts through a regular review and update process. Opportunities are not closed off unnecessarily, including the potential option to use rail for PT purposes and land requirements for corridors.

2.1.3 Opportunities and Constraints

The HBA completed by SmartGrowth plays a crucial role in identifying the industrial and business land requirements for Tauranga City and the Western Bay of Plenty District, providing valuable information for this study (refer Section 4.1). Tauranga City Council is progressing a separate study for the Mount Industrial Area, which covers the Port of Tauranga and surrounding commercial and industrial zoned land. The TCC project seeks to respond to a range of significant issues, including natural hazard risk, traffic congestion, port growth, cultural and social impacts such as air quality and consequential health concerns. The location of existing industrial land, and its requirements for heavy industrial use activities in particular, pose challenges for future growth and development in the sub-region.

Stakeholder engagement, which informed the HBA, and previous industrial land-related studies, has identified several issues contributing to increased pressure on existing land uses. This includes vulnerability of existing industrial land across the sub-region from natural hazards, including flooding and inundation, as well as impact on neighbouring sensitive land uses, which may necessitate retreat or relocation of current activities over time. This potential for a reduction in existing land

¹ places to remain undisturbed

² places to take care of and protect

combined with the strong demand for new industrial land to satisfy growth raises questions regarding the sustainability and suitability of whether existing industrial land will continue to meet current demand. Furthermore, rising land and infrastructure costs, along with regulatory and community objections to industrial land use, impose additional constraints on meeting growth demands through new development areas.

The key themes from the opportunities and constraints review were explored and validated as part of this study through interviews with key stakeholders. These are summarised in Table 1.

Table 1 – Industrial Land Key Development Themes

Constraints	Opportunities
<p>Growth implications</p> <p>Development of land which reduces availability has implications such as an increase in land prices and constraints around the pressure to meet growth demand.</p> <p>Supporting infrastructure</p> <p>Traffic congestion and infrastructure constraints need to be looked at carefully for ongoing expansion and growth.</p> <p>The lack of transport infrastructure limits city growth. Infrastructure delivery is always “just in time”, but often “too late”.</p> <p>The improvement of freight connections is critical to meet demand for logistics and distribution and to cater towards the golden triangle of Auckland, Hamilton and Tauranga.</p> <p>Resilience of areas - disruption from climate change</p> <p>Disruptions from climate change should be considered when assessing future industrial and business land. Stakeholders considered that there is a chance that existing industrial areas may need to be relocated, which comes with its challenges.</p>	<p>Rural economy</p> <p>Remains key, post-production facilities need to be automated to increase productivity.</p> <p>Population dynamics</p> <p>Population dynamics and growth come hand in hand to create new opportunities and ensure regional self-sufficiency.</p> <p>Housing development, housing prices and the relative attractiveness</p> <p>The role of sufficient and appropriate housing is crucial, in balance with business land.</p> <p>Technology</p> <p>The role of technology will impact the business-to-land relationships and labour content of local activities.</p> <p>Sense of urgency for long-term capacity</p> <p>Sense of urgency to provide capacity over the long-term, balanced with a need to understand capacity, availability and priority developments for short- to medium-term supply, as well as good planning for long-term pipeline of land.</p>

2.2 Regulatory Environment

The study area is located entirely within the Bay of Plenty Region and under the jurisdiction of the Bay of Plenty Regional Council (“**BOPRC**”), including both of the TCC and WBOPDC territorial areas. The sub-region is rich in cultural and historical associations resulting in a highly varied and complex regulatory environment, consisting of a wide range of legislative requirements and statutory documents as presented in **Table 2**.

Table 2 – Regulatory Environment

Guiding statutory documents applying to the SmartGrowth Industrial Land Study area
Resource Management Act 1991
Heritage New Zealand Pouhere Taonga Act 2014
National Policy Statement for Freshwater Management 2020
National Environmental Standards for Freshwater 2020
National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health 2011
National Policy Statement for Highly Productive Land 2022
National Policy Statement on Urban Development 2020
Bay of Plenty Regional Plans and Regional Policy Statement
Tauranga City Plan
Western Bay of Plenty District Plan
Iwi/Hapū Resource Management Plans and Treaty Settlement Acts

The statutory documents detailed within Table 2 have varying impacts on the suitability of land for future industrial use, in particular the National Policy Statement for Freshwater Management 2020 (“**NPS-FM**”) and National Policy Statement for Highly Productive Land 2022 (“**NPS-HPL**”). Both pieces of legislation provide direction to protect and improve freshwater and productive land across New Zealand and seek to avoid the inappropriate use of identified land. The study of land for industrial purposes will need to take into consideration the NPS-FM and NPS-HPL and ensure that they are aligned with the objectives and policies. Gazettal of the Draft National Policy Statement for Indigenous Biodiversity (“**NPS-IB**”) (which seeks to streamline the approach to protect, maintain, and restore indigenous biodiversity) is anticipated in 2023. Consequently, the impact of the NPS-IB is speculative until such a time when the legislation is finalised and as such has not been considered in the study.

BOPRC has notified Plan Change 6 (“**PC6**”) in response to the NPS-UD, which requires BOPRC to amend the Regional Policy Statement (“**RPS**”) to be more responsive to urban development. To this end, PC6 proposes to remove the existing urban limits across the sub-region and make associated amendments to the

RPS to give effect to the NPS-UD. Criteria are introduced that will apply to any new requests for unplanned urban growth, which may enable more land to be zoned for industrial / urban activities if these criteria are met. It should be noted that hearings of submissions on PC6 are expected by mid to late-2023.

The Bay of Plenty region has a rich and significant history of Māori occupation and contains a significant number of iwi, hapū, and affiliate groups with recorded Statutory Acknowledgments (via Treaty Settlements) and Areas of Interest. Regard must be made to the provisions of the applicable iwi and hapū Environmental Management Plans within this study if there are any areas of crossover that require engagement with the relevant groups.

2.2.1 Iwi and Hapū Management Plans

There are approximately 17 iwi and hapū Environmental Management Plans which are of interest to the land covered by this study. The Resource Management Act 1991 (“**RMA**”) specifies that Councils must take into account any relevant planning document recognised by an iwi authority. These documents set out expectations for consultation and engagement on matters which are important to each group.

As part of the UFTI study, Tūānuku Limited and Conroy and Donald Consultants Limited undertook a desktop analysis of the Tangata Whenua perspectives on growth management within the sub-region³. The desktop study involved the review of specific matters and documents of relevance to UFTI, namely:

- Iwi planning documents (i.e. iwi and hapū management plans).
- Treaty settlements and associated co-governance documents.
- Other documents (e.g. Te Ara Mua, He Mauri Ohooho: Māori Economic Development Strategy).

Given the complexity of the number of iwi and hapū management plans available, the report broadly summarised the overall themes which were drawn from the review of the plans and other related information, as summarised in **Figure 3**. It is not our intention to conclude that these are the only themes relevant to this study but they are themes requiring further consideration, particularly with respect to the environmental and cultural considerations of land development.

Key to this project and the ultimate development of additional industrial land will be with respect to the management of discharges (both land and air) which is a critical element to the functional operation of industrial land. As part of the constraint of each study area, the management of sensitive receiving environments will be a significant factor to the success of a given development site.

Relationships with each of the iwi and hapū groups with respect to development in their rohe will also play a key part of the success of a given development site. Meaningful and early engagement is important to all parties and will require consideration at the very early stages of any further work resulting from this study.

³ [200522_UFTI-Tangata-Whenua-Perspectives-on-Growth-Management_revised.pdf](#)

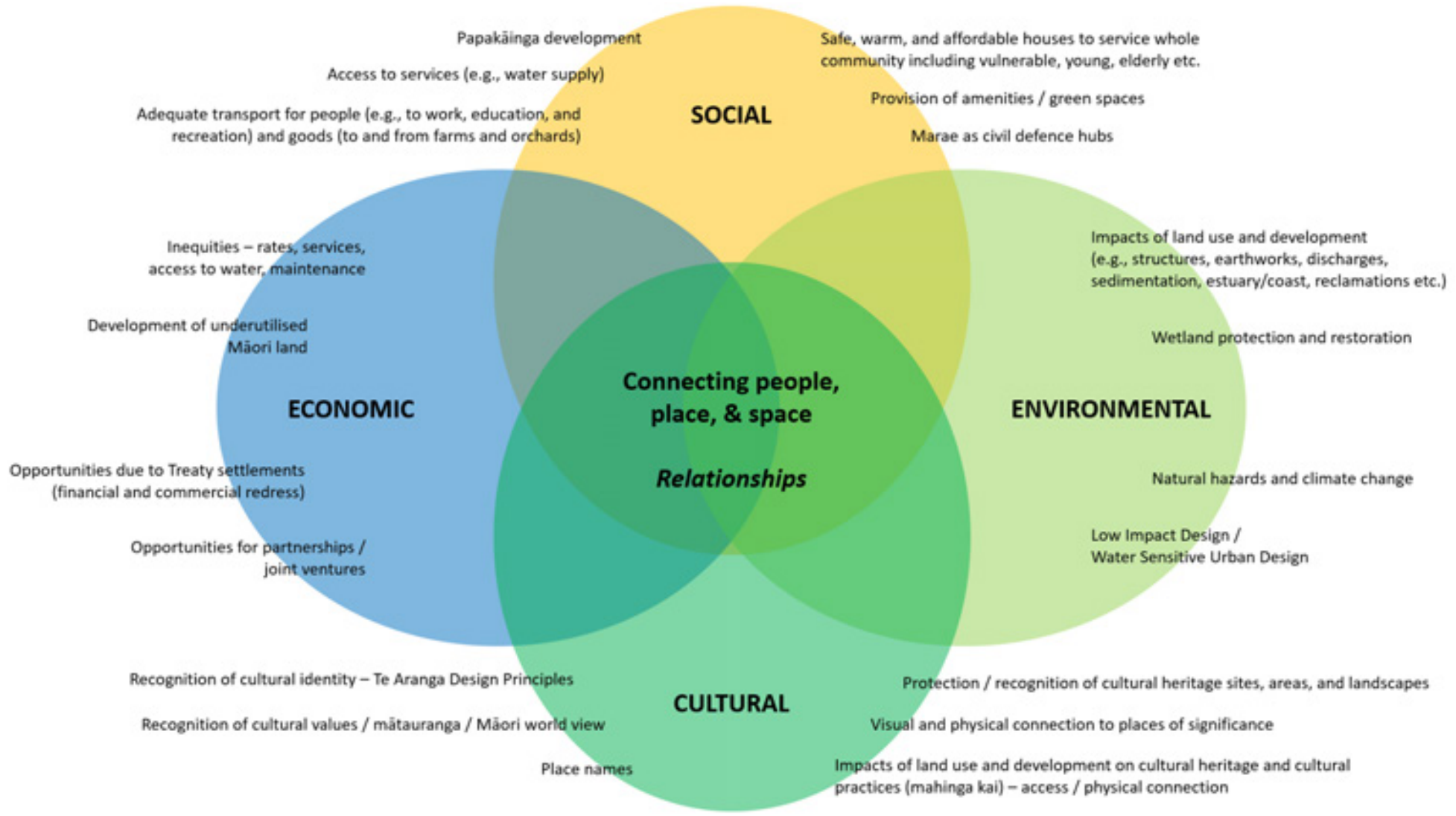


Figure 3 – Summary of Key Themes (Source: Adapted from Tūānuku Limited and Conroy and Donald Consultants Limited Desktop Study for UFTI 2019)

2.2.2 Industrial Land Type Definitions

Industrial Land Type Categories have been developed (Refer Table 3) and applied to the areas assessed as part of this study in order to assess feasibility of industrial development with regard to the land characteristics. The definitions are derived from a combination of National Planning Standards, and current City and District Plan definitions to provide a full description of potential activities in each industry typology. Land use, building type and likely geotechnical design requirements for supporting such development are presented below.

Table 3 – Industrial Land Type Categories

Industrial Type	Description	Building Requirements	Typical Examples
Heavy	<p>Industrial land use activities that generate potentially significant adverse effects. Includes associated activities that are compatible with the potentially significant adverse effects generated from industrial activities.</p> <p>Provides for industrial activities that may produce objectionable odour, dust and noise emissions. A low level of air quality amenity applies.</p> <p>Contains sites large enough to accommodate large-scale industrial activities.</p> <p>Activities sensitive to air discharges and activities sensitive to noise are not appropriate in the zone and buildings are expected to have a mainly functional standard of amenity.</p> <p>Typically located close to key freight routes.</p>	<p>Development of heavy industry is likely to account for significant building, pavement and foundation loads and in many instances will require design of containment systems to store hazard goods and prevent breaches resulting in adverse discharges to the receiving environment.</p> <p>Heavy industry development will require geotechnical analyses and structure design tolerances for IL3+ type structures with reference to NZS1170:2002 Structural Design Actions. Heavy industry development requires increased resilience to seismic hazard.</p> <p>Heavy industry development will be constrained by soft or liquefiable soils, and the proximity of sloping ground. Where these hazards cannot be avoided, significant engineering solutions will be required. Due to high building loads piled foundation solutions are almost certain.</p>	<p>Dairy plants, primary industry, mills, factories, hazardous goods stores, bulk fuel, and chemical stores etc</p>
Medium	<p>Areas used predominantly for a range of industrial activities, including manufacturing, production, logistics, storage, transport and distribution activities. Activities are compatible with the adverse effects generated from these areas.</p> <p>Due to the industrial nature of the zone, activities sensitive to air discharges are generally not provided for.</p> <p>Often a mix of larger and smaller sites to accommodate a range of typically indoor-based industrial activities. Basic standard of amenity.</p>	<p>Medium industrial development is likely to comprise construction of warehouse and lightweight steel portal frame structures with low building loads. It is not expected that hazardous goods will be stored in bulk volume, however small fuel and chemical stores may be included.</p> <p>Medium industrial development will typically require design for typical IL2-type structures in accordance with NZS1170:2002. Storage and logistics centres may have large or irregular liveloading requiring heavy pavement design. Typically shallow foundations (rafts, groundbeams, pads, strips) to be employed but soft ground or seismic issues may constrain, or require more expensive design solutions.</p>	<p>Logistics, packhouses, non-hazardous goods stores</p>

Industrial Type	Description	Building Requirements	Typical Examples
<p>Light</p>	<p>Areas used predominantly for a range of industrial activities, and associated activities, with minor adverse effects (such as noise, odour, dust, fumes and smoke) that are acceptable to residential activities which are sensitive to these effects.</p> <p>Industrial activities do not generate objectionable odour, dust or noise.</p> <p>Typically smaller sites which resemble a business park with a mix of industrial and commercial units. Higher standard of amenity and may be situated in close proximity to centres.</p>	<p>Lightweight buildings with typical design loads similar to that of NZS3604-type structures (i.e. residential land use, but typically employed for small commercial and industrial builds). No significant live loading or pavement requirements. Will require the least amount of ground engineering design and mitigation solution, and less constrained by geotechnical risks.</p>	<p>Small industrial and commercial units, wholesale retail, servicing centres</p>



Industrial Land Capability Framework

A framework to identify and assess land suitable for industrial development in the sub-region

3 Industrial Land Capability Assessment

This section summarises the assessment framework to support the identification of potentially suitable industrial sites for further investigation. The assessment comprised the:

- Development of a framework to identify land suitable for industrial development. The intent of the MCA tool is that it is repeatable, and the process can be replicated independently.
- Application of the MCA to the geospatial tool to filter out of scope properties and reveal potential areas more favourable for development.
- Application of this framework to rank and score potential development areas as being suitable for industrial development, herein recognised as emerging preferred sites.
- More detailed assessment of emerging preferred sites including consideration of time and cost for development readiness.

3.1 Multi-Criteria Framework

The MCA framework was developed in collaboration with SmartGrowth with inputs from Aurecon's technical experts. The MCA was guided by relevant strategic documents, industrial land studies, and key government policies to ensure the output builds upon previous work. An initial desktop review and subsequent conversations with SmartGrowth allowed Aurecon to suggest weightings for each criterion, to understand the importance of evaluation criteria against each other to determine their priority and influence. These weightings were later presented to and agreed by the SmartGrowth team.

3.1.1 Assessment Parameters

The MCA criteria together with their relevance to the study and approach to assessment are provided in **Table 4**. Please also refer to Appendix A for the full framework and scoring methodology. No sensitivity testing has been undertaken using variable weightings, so they are presented indicative only. On review of the desktop study and in agreement with the SmartGrowth team, several parameters were removed from the MCA framework. These are discussed in Section 3.1.2.

Table 4 – MCA Framework

Criteria	Relevance to the study and how it will be assessed	Parameter assessment method / Source / Assumptions	Weighting
Strategic Fit:	<p>Land parcels with a greater level of strategic fit will have greater alignment with documented SmartGrowth and wider government strategic objectives for the development of the sub-region.</p> <p>More favourable land will acknowledge and have greater integration with tangata whenua perspectives, UFTI objectives and Connected Centres principles against technical criteria.</p> <p>Land that overlaps with or seeks to extend currently identified planned or potential growth areas will have greater strategic fit. Refer to Section 2.1 Strategic Alignment for further details.</p>	<ul style="list-style-type: none"> ■ A qualitative assessment of strategic fit is developed on the basis of alignment with outcomes and recommendations of current studies, technical reports and policy statements made available for review. ■ Please Refer to Appendix B for a full list of supplied documentation reviewed to understand strategic fit. <p>Assumptions:</p> <ul style="list-style-type: none"> ■ Sites within UFTI and the SmartGrowth draft joint spatial plan 2021 have undergone thorough investigation into the extension of existing urban form and are already justified/supported. 	5
Environmental Considerations / Consenting Requirements	<p>Environmental considerations and constraints were assessed to identify opportunities and conversely, out of scope areas such as sites identified with cultural significance, or sites with significant areas of wetland or ecological significance. We reviewed property ownership records with respect to the number of owners and size of allotments within the study which inherently informed development complexity. Cultural and heritage considerations were mapped from Council mapping services to be included within the study.</p> <p>Properties with one or two owners, or those in company ownership, or individuals who owned multiple properties within a study area were ranked higher than others with multiple owners (i.e. 10 + per record of title).</p>	<ul style="list-style-type: none"> ■ City Plan, District Plan and Regional planning map review ■ Grip property ownership review ■ National Environmental Standards, or National Policy Statements which would likely apply to the site <p>Assumptions:</p> <ul style="list-style-type: none"> ■ Assumptions were made around lower lying land likely being wet based on topographical layers and aerial maps, or able to be defined as wetlands where not specifically identified as a SNA or similar. ■ Culture and heritage considerations were derived from Council mapping systems only. 	20

Criteria	Relevance to the study and how it will be assessed	Parameter assessment method / Source / Assumptions	Weighting
<p>Land Capability: (Geotechnical and Geological Risks, Other Natural Hazards)</p>	<p>The sub-region is susceptible to a range of potential ground engineering hazards which could constrain development of new industrial land, and is prone to regional scale natural hazard events. These hazards can either constrain the yield of developable land or increase the cost of earthworks and landform construction. More favourable land will have a flatter topography with fewer hazards or require a reduced amount of work to mitigate their impact.</p> <p>The review considered a combination of maps and reports of geology, topography, aerial photography and natural hazards.</p>	<ul style="list-style-type: none"> ■ Evaluate suitability of a given land parcel by assessing the relative percentage of land that may be susceptible to: <ul style="list-style-type: none"> – Slope stability/landslides – Liquefaction and lateral spread (particularly around floodplains and harbour margins): – Soils (soft organic soils) – Flooding – Coastal inundation and erosion – Tsunami ■ Hazard mapping derived from a range of technical reports and map layers held by WBOPDC, TCC and BOPRC. <p>Assumptions:</p> <ul style="list-style-type: none"> ■ Scoring based on qualitative assessment of occurrence and consequence to life, buildings and lifeline infrastructure. ■ Recent landslide susceptibility studies completed for TCC and BOPRC were not made available for review. As a surrogate, the presence of steep slopes was qualitatively evaluated from topographic information. ■ There are no current studies available to map soft ground hazard in the sub-region. As such the presence of soft ground has been determined by review of geomorphic and geological maps showing recent Holocene-aged soil units. 	<p>10</p>

Criteria	Relevance to the study and how it will be assessed	Parameter assessment method / Source / Assumptions	Weighting
<p>Land Quality: (Soil and Groundwater Contamination)</p>	<p>Pre-existing land contamination issues would typically not prevent new development proceeding; however, carry additional risks through generation of waste, loss of biodiversity, reduced sustainability and impacts to water quality if not adequately managed.</p> <p>Suitable greenfield sites are few and far between, and existing industrial zoned land may have more significant issues associated with soil and groundwater contamination requiring specific management or remediation to support new development but should reduce level of planning risk.</p> <p>It is of benefit and more sustainable to develop or renew brownfield land rather than develop greenfield or valuable production land.</p>	<ul style="list-style-type: none"> ■ Review areas of known or potential land contamination. ■ Information comprises the BOPRC Hazardous Activity and Industry List (HAIL) but is supported by qualitative review of other data sources, primarily, current and historic aerial photography. <p>Assumptions:</p> <ul style="list-style-type: none"> ■ Proximity of potentially contaminated land to significant waterways, wetlands, ecological habitats and areas of cultural importance will represent a greater level of planning, cultural and construction risks. These elements are measured through consideration of environmental and planning regulations. 	<p>3</p>
<p>Land Suitability: (Stormwater/ Drainage Conditions, Hydrology)</p>	<p>Development in existing floodplains should be highly discouraged. While it is possible to fill above the design floodplain, there is always the possibility of a bigger than design flood. This is especially true taking into consideration the rapid climate change underway, with increases in rainfall intensities and storm frequencies. Filling in the floodplain also displaces water potentially impacting both upstream and downstream properties.</p> <p>Industrial development increases the imperviousness of land surface, decreasing infiltration and increasing the peak flow rates and quantity (volume) of runoff. This can lead to both erosion and increased flooding downstream. This can be mitigated by attenuation of peak runoff from the development (e.g., by ponds). However, this is only effective where the downstream flooding is primarily an issue of conveyance. Where downstream flooding is also influenced by the volume of runoff from upstream (e.g. in the Kaituna floodplain) mitigating just the peak runoff is not sufficient as the total volume of runoff from the developed site is also increased and this is far more difficult to mitigate.</p> <p>Development of sites was assessed for potential to impede existing overland flow paths as this can impact on upstream properties.</p>	<ul style="list-style-type: none"> ■ Examining the topography and floodplain mapping downstream from likely development site. The following information was reviewed from Tauranga City and Western Bay of Plenty District and Bay of Plenty Regional Councils geospatial platform: <ul style="list-style-type: none"> – Flood hazard mapping – Hydrology and drainage constraints flood modelling and flood mapping – Topographic mapping – Stormwater catchment management plans <p>Assumptions:</p> <ul style="list-style-type: none"> ■ Where downstream flooding is constrained within a defined river or gully system, attenuation by ponds etc is likely to be sufficient mitigation. However, where the site discharges to a floodplain or ponding area (e.g. caused by a road or rail embankment) then mitigation of volume effects may also be required and this is often far harder to achieve. 	<p>8</p>

Criteria	Relevance to the study and how it will be assessed	Parameter assessment method / Source / Assumptions	Weighting
<p>Basic Infrastructure Servicing: (Water supply and Wastewater, Waste Management, Power, ICT)</p>	<p>Understanding of the water, wastewater, waste management infrastructure to cater for current and expected future demand. Most of the development land will allow partial development based on existing infrastructure availability but will require more significant infrastructure to cater for widespread industrial development required.</p> <p>The MCA utilises available GIS information from WBOPDC, TCC and utility providers to determine the proximity and possible capacity of known existing infrastructure.</p> <p>An assessment of the currently available facilities including proximity and possible capacity to understand constraints / ease of connectivity.</p> <ul style="list-style-type: none"> ■ Proximity and capacity of water supply and wastewater infrastructure (GIS, Tauranga and Western Bay of Plenty long-term plans) ■ Proximity to waste management facilities ■ Utility Companies (Northpower, Powerco, Tuatahi Fibre and Chorus) 	<ul style="list-style-type: none"> ■ Each site was assessed by analysing the existing basic infrastructure available in the vicinity of the proposed site. Any bulk service that is located more than 500m from the site or has no capacity to service the site is considered to require significant infrastructure upgrades for development readiness. ■ Capacity assessments are undertaken utilising the TCC IDC wastewater industrial peak discharge rates and potable water working pressure requirements. ■ Topographical information obtained from OpenTopography and local MapiServices were used to determine the elevation of the proposed site in relation to the existing basic infrastructure in the vicinity of the sites. <p>Assumptions:</p> <ul style="list-style-type: none"> ■ Proximity and the capacity of the existing bulk servicing supply has a direct link to the cost required for infrastructure upgrades to allow development readiness. ■ Waste facilities are assumed to be a strategic network that is critical to the functioning and growth of our city and, for all sites, are expected to accommodate the generated waste from future growth areas. ■ More detailed assessments will be required to confirm the capacity of the existing infrastructure (pumpstations, treatment works or water supply pressure) and if the proposed sites can be accommodated. This assessment is limited to the proximity and possible service connections based on high level capacity checks to provide bulk supply. ■ Wireless communication infrastructure is widely available for all proposed areas, this assessment is only focused on fibre connectivity. ■ Site specific power supply assessments by the supplier are required to determine what infrastructure will be needed to ensure development readiness. ■ The internal infrastructure within the sites excluded from this assessment. 	<p style="text-align: center;">6</p>

Criteria	Relevance to the study and how it will be assessed	Parameter assessment method / Source / Assumptions	Weighting
Accessibility and Proximity to the transport corridors	<p>The UFTI Connected Centres programme recognises that projected growth in freight and industrial centres will result in an increased demand for access. It is important that any additional journeys generated are optimised to ensure the best use of the transport system is being achieved.</p> <p>Current and future level of service were assessed with reference to the TSOE.</p>	<ul style="list-style-type: none"> ■ Proximity to identified priority routes for freight - both rail and road (Source: UFTI's Strategic Journeys Technical Report) ■ Accessibility to/from employment base (GIS) ■ Public transport/active modes access ■ Performance (efficiency or effectiveness) of the supporting freight network (including current or committed network upgrades) <p>Assumptions:</p> <ul style="list-style-type: none"> ■ There will be mid to long-term investment in Rail: direct rail connections will get trucks off roads, increase safety, reduce emissions and cut the cost of doing business for producers, farmers, exporters and operators. ■ That the network would be updated to provide Public Transport ("PT") connections between employment base and residential bases. This is an assumption, and a key priority from UFTI which has stated the public transport network will be expanded further i.e. frequency, routes, etc. 	15

3.1.2 Parameters removed from the MCA framework

The following parameters were not included as part of the MCA framework, and the reasoning for this is provided in more detail below.

Te Ao Māori

The core principles of Te Ao Māori are to:

- Ensure we acknowledge relationships with their ancestral lands, waters, sites, wāhi tapu and other taonga
- Understand development aspirations and opportunities for Māori land, as well as impacts on sites of cultural significance, heritage, landscape values, culturally sensitive ecology
- Recognise tangata whenua values, interests and aspirations

Tangata whenua perspectives are better considered holistically rather than as an individual parameter within the MCA framework. Guided by local values (existing/known as identified in the 2021 Draft Joint Spatial Plan) this was not assessed as a separate criterion, and instead was considered through the wider environmental consideration and appreciation of consenting requirements criteria (i.e. to identify or exclude or avoid sites of cultural significance, cultural heritage,

landscape values, sensitive ecology.) The timing and budget of this study does not allow for engagement on specific sites. Tangata whenua engagement will continue through the SmartGrowth Strategy Update, including engagement with the relevant hapū if specific sites are being investigated.

Market Fit

The market fit parameter seeks to:

- Qualitatively assess development readiness costs and timeframes for emerging preferred sites, as determined through other technical criteria.
- Shortlist site assessment against industrial land type demand analysis to ensure sufficient supply to meet demand.
- Review areas of land against regional demand drivers identified in Capacity Assessment.

To avoid excessive weighting of parameters geared towards sector demand, Market Fit was integrated with other criteria, primarily the Strategic Fit.

Natural Hazards (Volcanoes)

The Bay of Plenty Region is an area surrounded by natural hazards that influence the suitability of the land to be developed. Natural hazards are typically assessed for larger developments at the point of plan change, following the methodology set out within Appendix L of the Bay of Plenty Regional Policy Statement. This methodology guides the assessment of a range of natural hazards which include earthquakes, landslip, flooding and tsunamis. The methodology also addresses volcanic hazard, noting a number of volcanoes being present within the Bay of Plenty as part of the Taupo Volcanic Zone. On the basis that volcanic hazard associated with ashfall is broadly similar across the sub-region regardless of location, it was removed as a weighted criterion from the MCA.

3.2 Analysis

3.2.1 Geospatial Tool

An interactive geospatial desktop tool was built to support the analysis and present its findings. The geospatial platform shows areas of interest and helps communicate this information with the SmartGrowth team and external stakeholders. The geospatial modelling approach to identify appropriate land parcels utilising an FME (“Feature Manipulation Engine”) workbench can be seen in Figure 4. The spatial information created by this project was provided to the SmartGrowth team at the conclusion of the study. All the layers that were applied to the model are referenced in Appendix C: Geospatial Datasets. Further discussion regarding the screening and identification of emerging development sites is provided in Sections 3.2.2 and 3.2.3.

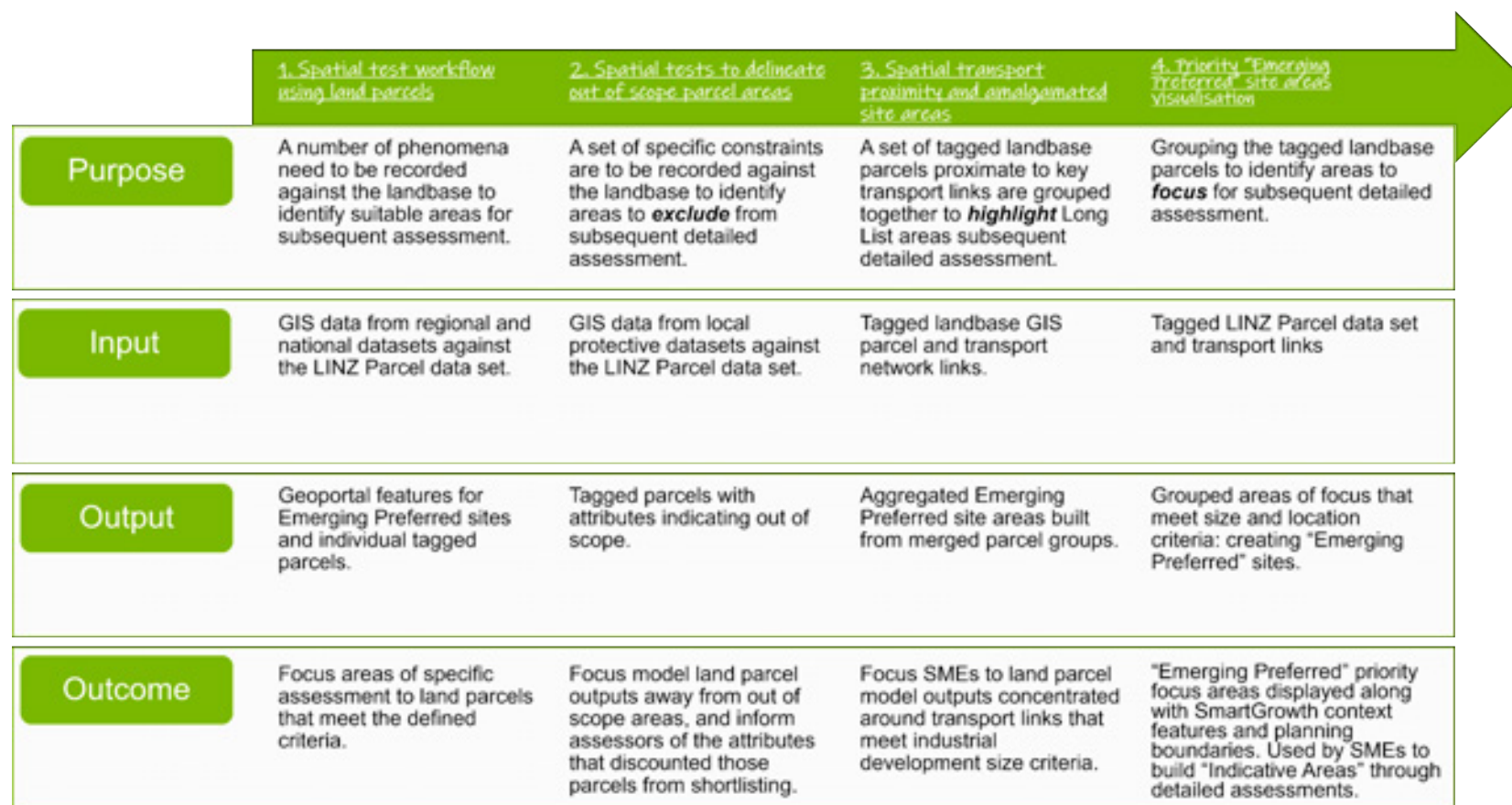


Figure 4 – Geospatial Model Approach

3.2.2 Preliminary screening

Preliminary regional-level screening leveraged existing studies to identify several potential locations for industrial use and used the GIS mapping to identify further potential areas. The layers in Table 5 were applied to the model to identify sites that were not appropriate for inclusion in the study. This removed the “out of scope” sites from further investigation.

Table 5 – Geospatial Model Out of Scope Layers

Out of Scope Layers
Multiple zones (Residential, commercial, existing industrial areas etc).
Parcels identified as a protected environment/ecological area or under a level of protection
Parcels impacted by coastal inundation
Elevation areas above 250m

A heatmap was created (Figure 5) to provide a broad overview of potential development areas within the sub-region. The base model for this was created using LINZ parcels, which were then weighted based on the number of spatially related phenomena associated with each parcel area, aligned to the strategic drivers outlined in Section 2.1 and the criteria outlined in Section 3.1 . The weighted values derived by the MCA were used to generate the visual outputs for the heatmap.

The colour scheme used in the heatmap ranges from nine to zero. Parcels with higher values (i.e., darker colours on the map) represent areas more favourable to industrial development based on the results of the spatial analysis. Conversely, parcels with lower values (i.e., lighter colours on the map) represent areas less favourable to industrial land development.

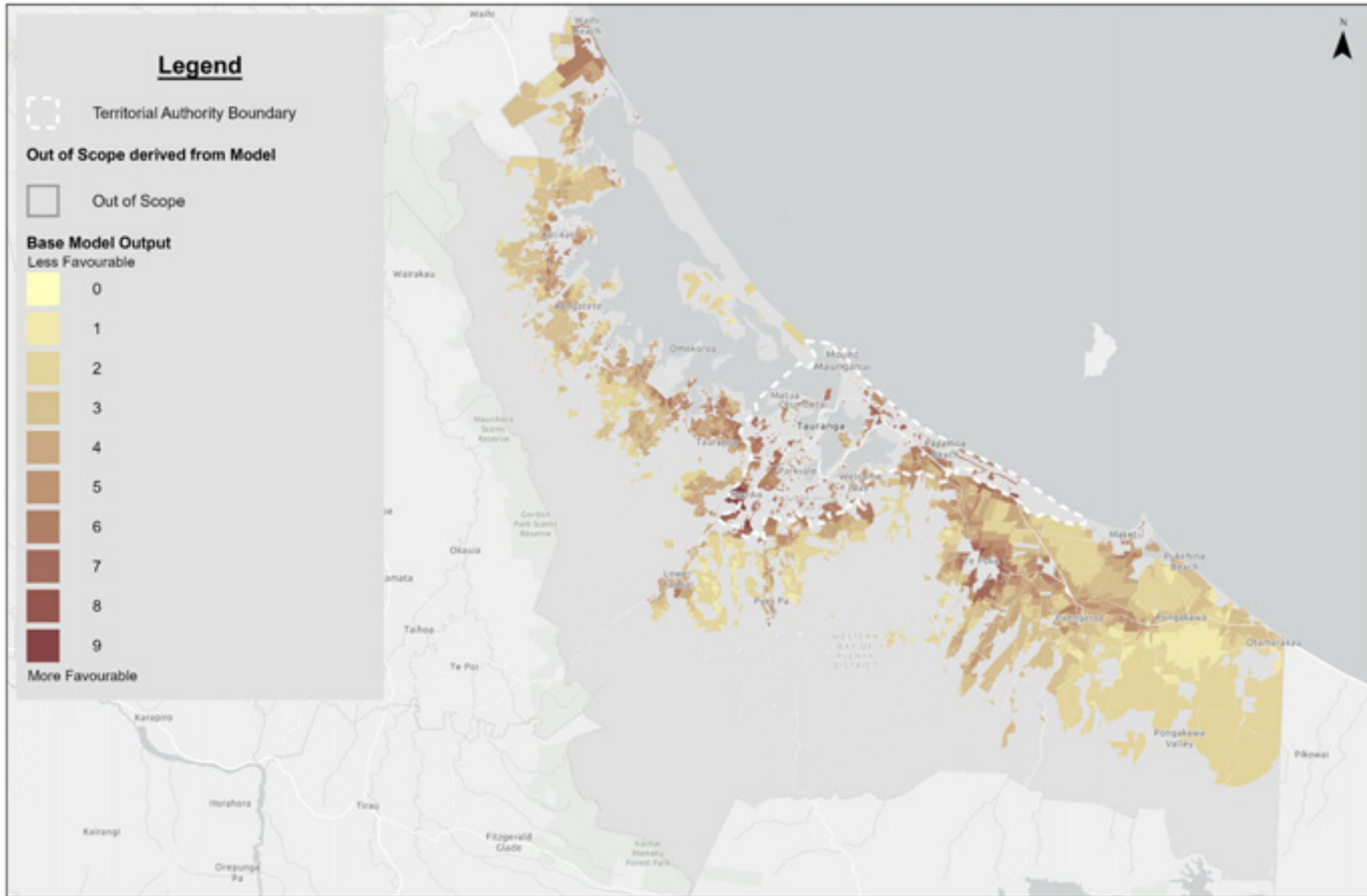


Figure 5 – Geospatial Heatmap Showing Favourability of Land for Industrial Use

3.2.3 Identification of Emerging Preferred Sites

Based on the findings of the preliminary screening, results of the MCA and further engagement with the SmartGrowth team, four key strategic corridors were identified for further evaluation. These corridors are described as follows:

1. Northern Corridor: Te Puna and Ōmokoroa
2. Western Corridor: Tauriko (Belk Road), Ōmanawa, and Pukemapu
3. Central Corridor: Welcome Bay, Tara Road, and Domain Road
4. Eastern Corridor: Te Puke, Rangiuru, and Paengaroa

Sites within these corridors were refined into emerging development sites, i.e. parcels of greater than 50ha, to enable further qualitative evaluation by Aurecon's subject matter experts utilising the philosophy set out as part of the MCA framework. These sites, as shown in **Figure 6** were drawn from interest areas guided by:

- SmartGrowth areas of interest; and,
- Results of the MCA and geospatial modelling.

The sites are described in Section 3.2.4. For each site, a score of low, medium or high was given against each criterion by the relevant SME. The agreed weightings were then applied to the existing raw score derived from the MCA, a process which saw some sites move up or down in rank of development favourability. The development sites along with their corresponding raw and weighted scores are provided in **Table 6**. These outputs by the SME's were reviewed by the SmartGrowth team and adjusted as required based on their extensive knowledge of the sites, particularly around community sensitivities.

Two project workshops were undertaken as part of the SmartGrowth and external stakeholder engagement process.

- **Workshop 1:** with SmartGrowth team to run through the framework for assessment of indicative areas and discuss the suitability of each of the potential emerging sites.
- **Workshop 2:** External stakeholder workshop to discuss and take feedback on the results of the MCA. As part of this process the following key stakeholders were invited:
 - SmartGrowth
 - Sub-group of the Combined Tangata Whenua Forum (“CTWF”)
 - Quayside
 - Element IMF
 - KiwiRail
 - Priority One
 - Port of Tauranga
 - Kiwifruit Association
 - Tauranga Crossing
 - Fosters
 - Te Puke Economic Development
 - Property Development Forum
 - Property Institute
 - Preston Rowe Paterson

Appendix D provides summaries of the Combined Tangata Whenua Forum sub-group and stakeholder workshop, including presentations and capture of conversations.



Figure 6 – Evolution of Investigation of Sites

Table 6 – Indicative Areas Raw and Weighted Scores

Northern Corridor:

Indicative Area	Raw Score	Weighted Score
Te Puna_1	60	7.75
Te Puna_2	48	4.95
Te Puna_3	49	5.725
Te Puna_4	55	6.7375
Ōmokoroa_1	55	6.9
Ōmokoroa_2	53	5.95
Ōmokoroa_3	48	5.75
Ōmokoroa 4 / Apata	46	5.98

Western Corridor:

Indicative Area	Raw Score	Weighted Score
Tauriko_1*	60	7.05
Pyes Pa West_1	52	6.6375
Belk Road_1	49	6.05
Ōmanawa_1	51	6.35
Pukemapu_1	51	6.0375

*Tauriko Business Estate, currently under development for industrial purposes, scored for comparison purposes

The **Raw Score** applies a rating of 1 = low, 2 = medium or 3 = high against each criterion. The **Weighted Score** applies the agreed weightings referenced in in **Table 4** to the raw score to determine a weighted score.

Refer to the Corridor Mapset in **Appendix E** for site locations.

Sites in **bold** were selected as emerging preferred sites and, where possible, agglomerated for further investigation (refer Section 3.2.4 Emerging Preferred Sites for Investigation).

Central:

Indicative Area	Raw Score	Weighted Score
Tara Road_1	54	6.4625
Tara Road_2	55	6.8875
Domain Road_1	56	7
Domain Road_2	57	6.7375
Otawa_2	54	7.4125
Welcome Bay Road_1	53	5.65

Eastern Corridor:

Indicative Area	Raw Score	Weighted Score
Te Puke_1	54	6.6625
Otawa_6	51	6.7
Rangiuru_1	53	6.7375
Rangiuru_2	54	6.3375
Rangiuru_3	57	6.875
Rangiuru_5	44	5.25
Rangiuru_6	43	4.825
Rangiuru_7	49	5.7625
Rangiuru_9	51	6.7
Rangiuru_11	52	6.6375
Rangiuru_12	47	5.775
Rangiuru_13	52	6.0875
Paengaroa_1	59	7.1375

3.2.4 Evaluation of Emerging Preferred Sites

The emerging preferred sites for investigation were agreed with the SmartGrowth project team. These emerging preferred sites for investigation took into account the qualitative considerations outlined in Section 3.1. Supporting map sets for all emerging preferred sites for investigation are provided in **Appendix E**. For these sites, a more detailed assessment is applied in the following sections, including consideration of:

- Site opportunities and constraints
- Costs associated with development (i.e., management or remedial work)
- Appropriate land type uses
- Potential site yield⁵
- Timeframes associated with development
(short: 1 – 10 years, medium: 10 – 20 years, long: 20 – 30 years)

Northern Corridor

■ Ōmokoroa 1 and 2

Ōmokoroa 1 and 2 are the primary focus, noting the TNL interchange and Proposed Plan Change 92 (PP92) to implement the medium density standard requirements as a result of the National Policy Statement Urban Development requirements. PP92 proposes to include some land for industrial development abutting the interchange to enable greater employment opportunities within the peninsula.

■ Ōmokoroa 3 and Apata

This site was formed by joining Ōmokoroa 3 and an additional investigation area to the west, included for its intermodal potential as an expansion of the existing Apata siding, with access to the State Highway via Apata Station Road.

■ Te Puna

A number of sites in Te Puna were identified through the long-list site selection process. However, while they were attractive from a technical land development perspective; the Te Puna sites were not considered for further shortlisting. The Te Puna sites that were identified through the longlist site selection process were not considered suitable from a social and community impacts perspective and in some cases were alongside culturally significant land. Through UFTI, Te Puna is signaled as a long-term growth area (30+ years) spatial planning work will need to be undertaken to inform future growth planning in Te Puna in the long-term.

Western Corridor

■ Ōmanawa 1 and Belk Road 1

Belk Road and Ōmanawa sites were considered likely logical areas to extend south from Tauriko Business Estate, with notable constraints regarding the future infrastructure to be explored.

■ Pukemapu 1

⁵ Per the SmartGrowth Development Trends report, typical assumption is to allow 20% for roads and local reserves, unless otherwise stated. It may be higher in some cases due to topography/geotechnical, wetlands etc. but these lands have typically been considered and excluded or avoided through this site technical assessment to calculate est. yield.

Pukemapu was selected to be assessed due to its location and serviceability for three waters and transport.

Central Corridor

- Domain Rd 1 and 2, Tara Rd 1 and 2, and Ottawa 1

This combined area along the Eastern Link and taking in Domain Road, Tara Road, and Bell Road, was selected with the intent to identify and recommend the more suitable areas within this larger combined area for industrial land development. It is located centrally and has attractive transport and other connectivity benefits; however some significant land quality and capability constraints are evident, including proximity to coast with potential flooding and coastal inundation risks.

Eastern Corridor

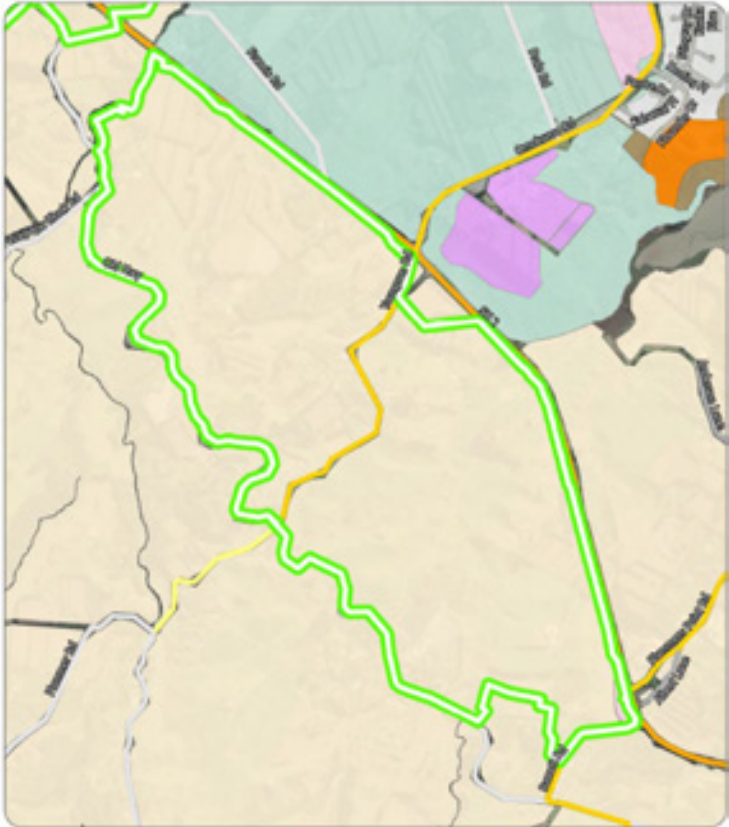
- Rangiuru (comprising Paengaroa 1, Rangiuru 3 and part of Rangiuru 13)

Some Rangiuru sites were excluded from further consideration due to proximity to marae and the location of the Rangiuru Business Park and other planning investigations underway in the Eastern Corridor.

- Te Puke 1

The selected Te Puke site extends from the adjacent existing industrial zone and Washer Road Industrial Park areas. Further opportunities for considering future urban development, including industrial land needs in Te Puke is to occur through the Te Puke Spatial Plan.

Northern Corridor - Ōmokoroa 1 and 2

Description:	<p>The Ōmokoroa 1 and 2 sites (“the Site”) are located on the western side of SH2, and within the WBOPDC boundary. The Site is elongated and runs along the boundary of SH2. The Site is in close proximity to Ōmokoroa (directly adjacent). There are a number of community facilities within the area, such as the Ōmokoroa Settlers Hall, sports fields and local schools. The existing zoned Ōmokoroa Industrial area is located to the north of the Site. Consequently, this Site 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.</p>	
Potential Yield:	<p>Gross area: 195ha Yield: approx. 150ha</p>	
Appropriate Industrial Land Use Types:	<p>Light and Medium industrial land uses, potentially transitioning to Heavy industry where land capability permits, and environmental and social impacts can be mitigated.</p>	
Potential Development Timeframe (Medium term: 2024-2031, Long term: 2031-2051)	<p>Medium term potential:</p> <p>5 – 7 years for consenting, following which a completed design landform could be constructed via conventional cut and fill processes.</p> <p>It is likely that works would be completed in development stages along with enabling infrastructure (including the Ōmokoroa intersection upgrade in 2025), and some building development could proceed at the end of each stage.</p>	
Major cost items	<p>Treatment of wastewater may require either localised treatment facility or significant upgrades to the existing trunk rising main towards Tauranga.</p> <p>Possible water storage will be required to sufficiently supply the proposed site.</p>	

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
<p>Planning and Environmental Considerations</p>	<p>The Site is currently zoned as Rural, with the SH2 designation abutting the boundary. Youngson Road essentially splits the Site in two. The Sites did not form part of the UFTI study.</p> <p>WBOPDC has notified Plan Change 92 (“PC92”) in response to the NPS-UD, which requires WBOPDC to enable intensification by incorporating the Medium Density Residential Standards (“MDRS”) into every relevant residential zone, including Ōmokoroa.</p> <p>Ōmokoroa is predicting a future population of 13,000 in the next 30 years. The MDRS are supported by the wider Ōmokoroa urbanisation project which, in addition to providing for residential expansion also encompasses necessary supporting zoning and related activities. This includes the establishment of the Ōmokoroa Industrial Zone, new primary and secondary schools, and a new large active reserve – all which offer potential opportunities for a well-functioning urban environment that enables people and communities to provide for their social, economic, and cultural wellbeing owing to the designated linked interchange and large population base for employment.</p> <p>The Site has a Land Use Capability rating⁶ of 6 with small portions of 3. Therefore, limited consideration will be required with respect to the NPS-HPL.</p> <p>There are no identified permanent streams or rivers within the boundary of the Site, however, ephemeral streams exist within the Site and the Waipapa River does run along the western boundary of the Site. Given the rolling topography of the Site and existing ephemeral streams, there is potential for other pockets of freshwater or wetland areas given the lower-lying nature of the Site. Accordingly, the NPS-FM and NES-FM will need to be considered, particularly with respect to the overarching objective of the NPS-FM which is to ensure that natural and physical resources are managed which prioritises, first, the health and well-being of water bodies and freshwater ecosystems; second, the health and needs of people (such as drinking water); and third, the ability of people and communities to provide for their social, economic and cultural well-being, now and in the future. The policies of the NPS-FM direct that freshwater is managed in a way to protect, maintain and enhance the natural and physical resource. The NES-FM sets out provisions which apply to activities in and around fresh water, including wetland areas. Any potential for wetland areas within the Site will need to be considered as part of the design as the Site progresses.</p>	<p>The Site will need to be rezoned via a plan change process for any development to occur on-site.</p>

⁶ LUC ratings are derived from the New Zealand Land Resource Inventory (NZLRI) comprised using stereo aerial photography, published and unpublished reference material, and extensive field work (source: Manaaki Whenua Landcare Research).

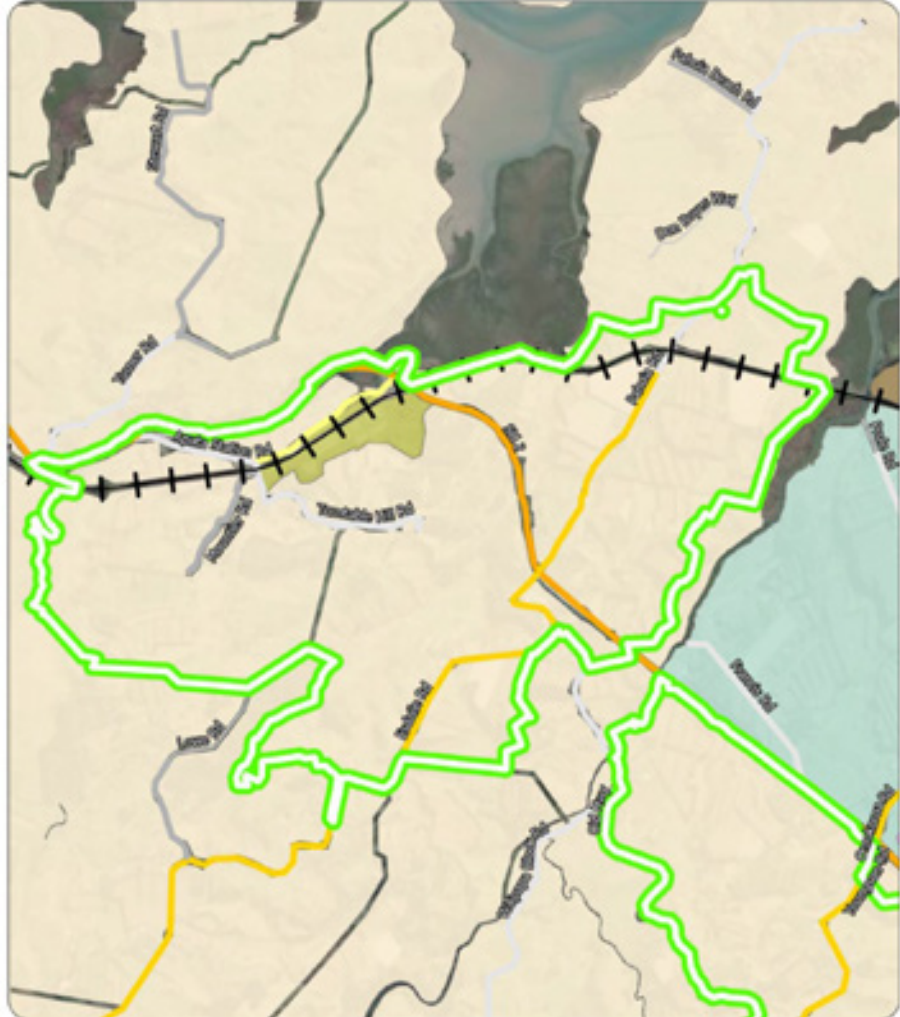
Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
	<p>The NES-Contaminated Land (“NES-CL”) will also apply given the pastoral/horticultural uses of the majority of the Site at the time of redevelopment, given the definition of land which forms a HAIL site, as set out in the Land Quality assessment above. The change in use of a defined site under the NES-CL will trigger the need to step through the legislation during a consenting process.</p> <p>With respect to cultural and heritage matters, approximately 17 archaeological sites are identified within the Site, clustered within the eastern half of the Site as set out within the relevant planning maps (refer to the geospatial tool).</p>	
<p>Land Capability: Geotechnical/ Geological Risks & Natural Hazards</p>	<p>The landform within the Site is typically undulating, comprising low hills formed from underlying alluvium and ignimbrite, all of which is capped by recent mantling layers of ash and tephra derived from the Taupo Volcanic Zone.</p> <p>There are no obvious floodplains, and slopes are formed by erosion from the ephemeral streams. Liquefaction and consolidation of soft soils is not expected to be a hazard.</p> <p>As many slopes are present, it is expected that this landform would have to be heavily modified by cut and fill earthworks to create level building platforms.</p> <p>Near surface ash layers are able to bear shallow foundations and can be re-used for engineered fill if required. Achieving an appropriate cut/fill balance to optimise re-use of these materials would be completed as part of any landform design.</p> <p>Noting the lack of soft ground, limited susceptibility to seismic hazard, and presence of ash soils, heavy industrial development is feasible from a geotechnical perspective.</p>	<p>There is a relatively high degree of development readiness, but extensive cut and fill earthworks will be required to construct a design landform. There may be a need to establish some exclusion zones behind remaining slopes but there are no significantly steep and high slopes constraining development.</p> <p>The placement of exclusion zones will be governed by landform design.</p>
<p>Land Quality: Soil and groundwater contamination</p>	<p>The current land use within the Site is a mixture of pasture and horticulture. Orchards are recognised by the MfE as potential contamination sources; however the level of contamination is not likely to preclude industrial land development, and remediation to make the land suitable is not likely to be required. Small hotspots arising from building and waste dumping may require remediation or management. A sustainable solution would be to encapsulate impacted material onsite.</p> <p>For pastoral areas soil quality can be variable dependent on the level of fertiliser usage, which occasionally elevates the level of heavy metals (such as cadmium) above accepted background. Urban and civil design should be optimised to retain as much topsoil on-site as possible.</p> <p>Groundwater contamination is not likely to represent a significant risk.</p>	<p>The Site is ready for development subject to completing investigations and obtaining appropriate consents. Small hotspots requiring remediation can be managed and encapsulated onsite.</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
<p>Land Suitability: Flooding and Drainage</p>	<p>The Site discharges to several different streams. The streams are generally in well-defined gullies, with any downstream existing rural properties generally on higher ground. Any flood impacts from development are likely to be contained within the gullies and are unlikely to affect existing properties (although this would need to be confirmed). One problematic area is where the stream runs parallel to SH2 in the northern part of the Site. The low section of highway here looks to be flood prone which development upstream could exacerbate without careful mitigation.</p>	<p>Developable areas require typical attenuation and water quality treatment measures. Upsized culverts may be required under SH2. At the northern end of the site a stream runs parallel with SH2. Any increased flow into the streams will require careful management, potentially by creating a more defined flowpath adjacent to SH2 and / or raising the low section of the Highway.</p>
<p>Basic Infrastructure Servicing:</p>	<p>The Site has good availability for potable water connection to the wider network. Capacity might require upgrades in the form of more storage but will require more detailed assessment to confirm. Current supply for this area is from the Plummer Road reservoir.</p> <p>The current land topography is typically undulated with low hills and depending on the future landform may require a series of wastewater pumpstations and rising mains to connect to a transfer main. The closest transfer main (Ōmokoroa to Tauranga) is a 300mm diameter main located near the Ōmokoroa Road intersection with SH2. This main has limited capacity and most likely will not be suitable to accommodate additional wastewater from the proposed site.</p> <p>Power, Fibre and Gas capacity are unknown. Site-specific assessment will be required by Utility providers. The nearest point of connection will be northern side of SH2 towards Ōmokoroa.</p>	<p>Further detailed assessments are required to understand the infrastructure upgrades required. Water supply may require more storage. The wastewater trunk main towards Tauranga may not be able to accommodate the additional flow from the proposed development. It is likely that localised package treatment facility will be required, or the transfer main from Ōmokoroa to Tauranga would require an upgrade. This will be a significant cost. A possible alternative method of storage and pumping to utilise any existing capacity in the transfer main from Ōmokoroa to Tauranga could be investigated further.</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
<p>Accessibility and Proximity</p>	<p>The Site is adjacent to the SH2 and Ōmokoroa intersection which will provide easy access to a secondary freight route.</p> <p>Future upgrades at the SH2 Ōmokoroa intersection includes a dual lane roundabout in 2025, with a grade-separated intersection planned for 2035 (this is not currently funded).</p> <p>There is an opportunity to develop the industrial area with active modes and PT infrastructure which in turn could have good uptake by users</p> <p>There are good walking and cycling opportunities for the workforce residing in Ōmokoroa and Te Puna. Future active mode facilities are expected to improve along Ōmokoroa Road to connect into the Ōmokoroa to Tauranga cycleway and new development areas. These facilities could be easily extended into industrial area.</p> <p>A limited PT network is established on Ōmokoroa Road which connects Ōmokoroa to Katikati and Tauranga. Further development in Ōmokoroa and new employment areas could drive additional services. Connections to this could be made with new routes or route extensions.</p> <p>.</p>	<p>SH2 Ōmokoroa intersection would require an additional leg to be added to access the development area.</p> <p>The topography of the site is generally rolling and could provide good internal roading connections.</p> <p>The road network in the vicinity has spare capacity, but may require additional network improvements at key connections as a result of the development (i.e. bring forward grade separation or investigate staged capacity improvements for the SH2 Ōmokoroa Intersection).</p>

Northern Corridor - Ōmokoroa 3 and Apata

Description:	<p>The Ōmokoroa 3 & Apata sites (“the Site”) are located near Apata, within the WBOPDC boundary. The development catalyst would be centred around the existing uses located at the Apata Rail siding, however 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. The closest community facilities are within Ōmokoroa, such as the Ōmokoroa Settlers Hall, sports fields and local schools.</p>	
Potential Yield:	<p>Gross area: 508ha Yield: 240 - 280ha (limited by topographical constraints)</p>	
Appropriate Industrial Land Use Types:	<p>Light and Medium Industrial uses, potentially transitioning to Heavy industry to the south where land capability and distance from sensitive receptors permits. This site is considered appropriate for Heavy industry, subject to appropriate buffer zones based on surrounding land uses, and existing major infrastructure such as the railway line and the state highway. This will be subject to further studies and investigation as to specific suitability.</p>	
Potential Development Timeframe (Medium term: 2024-2031, Long term: 2031-2051)	<p>Long term potential: 5 – 7 years for consenting, following which a completed design landform could be constructed via conventional cut and fill processes. It is likely that works would be completed in development stages along with enabling infrastructure (noting the requirement for investigation, planning and funding below), and some building development could proceed at the end of each stage.</p>	

<p>Major cost items</p>	<p>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.</p> <p>Treatment of wastewater may require either localised treatment facility or significant upgrades to the existing trunk rising main towards Tauranga.</p> <p>Possible water storage and trunk mains will be required to sufficiently supply the proposed site.</p>	
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Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
<p>Planning and Environmental Considerations</p>	<p>The Site is predominately zoned as Rural, with a portion of the Site zoned as Horticultural Post Harvest. The north-eastern portion of the Site has an S8 (Tauranga Harbour Landscape Management Area) overlay, with a small portion of an identified ecological area extending into</p>	<p>The Site will need to be rezoned via a plan change process for any development to occur onsite.</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
	<p>the site from where the Waipapa River (outside of the study area) enters the Tauranga Harbour, and an area of flood hazard overlay which extends from SH2 towards the harbour margin.</p> <p>The predominant land uses in this area are horticulture and grazing, along with small areas of lifestyle blocks clustered around the rural roads. While there are a number of parcels within the Site, there are some larger blocks which could present a development opportunity. This Site did not form part of the UFTI study.</p> <p>WBOPDC has notified Plan Change 92 (“PC92”) in response to the NPS-UD, which requires WBOPDC to enable intensification by incorporating the Medium Density Residential Standards (“MDRS”) into every relevant residential zone, including Ōmokoroa.</p> <p>Ōmokoroa is predicting a future population of 13,000 in the next 30 years. The MDRS are supported by the wider Ōmokoroa urbanisation project which, in addition to providing for residential expansion also encompasses necessary supporting zoning and related activities. This includes the establishment of the Ōmokoroa Industrial Zone (Plan Change 81), new primary and secondary schools, and a new large active reserve – all which offer potential opportunities for a well-functioning urban environment that enables people and communities to provide for their social, economic, and cultural wellbeing owing to the designated linked interchange and large population base for employment.</p> <p>The Site has a Land Use Capability rating of 4 and 6, and therefore, limited consideration will be required with respect to the NPS-HPL.</p> <p>There are no identified streams or wetlands within the study area however, due to the topography of the study area, there is potential for other pockets of freshwater or wetland areas to be present. Accordingly, the NPS-FM and NES-FM will need to be considered, particularly with respect to the overarching objective of the NPS-FM which is to ensure that natural and physical resources are managed which prioritises, first, the health and well-being of water bodies and freshwater ecosystems; second, the health and needs of people (such as drinking water); and third, the ability of people and communities to provide for their social, economic and cultural well-being, now and in the future. The policies of the NPS-FM direct that freshwater is managed in a way to protect, maintain and enhance the natural and physical resource. The NES-FM sets out provisions which apply to activities in and around fresh water, including wetland areas. Any potential for wetland areas within the Site will need to be considered as part of the design as the Site progresses.</p> <p>The NES-CL will also apply given the pastoral uses of the majority of the Site at the time of redevelopment, given the definition of land which forms a HAIL site, as set out in the Land</p>	

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
	<p>Quality assessment above. The change in use of a defined site under the NES-CL will trigger the need to step through the legislation during a consenting process.</p> <p>With respect to cultural and heritage matters, approximately 16 archaeological sites are identified within the Site, as set out within the relevant planning maps (refer to the geospatial tool).</p>	
<p>Land Capability: Geotechnical/ Geological Risks & Natural Hazards</p>	<p>The landform within the Site is typically undulating, comprising low hills formed from underlying alluvium and ignimbrite, all of which is capped by recent mantling layers of ash and tephra derived from the Taupo Volcanic Zone.</p> <p>Liquefaction and consolidation of soft soils is expected to be a hazard within less than 10% of total land area, specifically in areas of lower elevation around existing streams. It is unlikely these areas would be utilised for development.</p> <p>Many slopes are present, and it is expected that this landform would have to be heavily modified by cut and fill earthworks to create level building platforms suitable for heavy industrial development.</p> <p>Near surface ash layers are able to bear shallow foundations, and can be re-used for engineered fill if required. Achieving an appropriate cut/fill balance to optimise re-use of these materials would be completed as part of any landform design.</p>	<p>There is a relatively high degree of development readiness, but extensive cut and fill earthworks will be required to construct a design landform. There may be a need to establish some exclusion zones behind remaining slopes but there are no significantly steep and high slopes constraining development. The placement of exclusion zones will be governed by landform design.</p>
<p>Land Quality: Soil and groundwater contamination</p>	<p>The land use within the Site is a mixture of pasture and horticultural land use. Orchards are recognised by the MfE as potential contamination sources; however the level of contamination is not likely to preclude industrial land development, and remediation to make the land suitable is not likely to be required. Small hotspots arising from building and waste dumping may be required. A sustainable solution would be to encapsulate impacted material onsite.</p> <p>For pastoral areas soil quality can be variable dependent on the level of fertiliser usage, which occasionally elevates the level of heavy metals (such as cadmium) above accepted background. Urban and civil design should be optimised to retain as much topsoil onsite as possible.</p> <p>The ECMT railway line passes through the study area, adjacent to the northern boundary. While railway land typically represents a source of contamination, it is unlikely that significant redevelopment will occur within the designation.</p> <p>Groundwater contamination is not likely to represent a significant risk.</p>	<p>The Site is ready for development subject to completing investigations and obtaining appropriate consents and is not likely to require specific controls to manage or remediate site soils.</p>
<p>Land Suitability:</p>	<p>The eastern half of the Site discharges to two different streams one each side of Pahoia Road. Both streams are in well-defined gullies, with any downstream existing rural properties</p>	<p>In the east developable areas require typical attenuation and water quality treatment</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
Flooding and Drainage	<p>generally on higher ground. Any flood impacts from development are likely to be contained within the gullies and are unlikely to affect existing properties (although this would need to be confirmed). The stream west of Pahoia Road includes a ponding area upstream (south) of SH2 and adding increased volumes of stormwater here could be problematic although this could be potentially mitigated by upsizing the culvert under SH2. Similar issues may be faced at stream crossings of the railway.</p> <p>The western half of the site discharges to a stream that runs between SH2 and Apata Station Road. The floodplain associated with this stream and its tributaries has the potential to impact SH2 and also the Apata kiwifruit buildings. Careful modelling and mitigation measures will be required to ensure flooding in this area is not exacerbated by upstream development .</p>	<p>measures. Upsized culverts may be required under SH2 and the railway, which would be confirmed at a more detailed stage.</p> <p>In the west developable areas require typical water quality treatment. Medium to significant attenuation may be required to avoid increasing flooding issues downstream.</p>
Basic Infrastructure Servicing:	<p>There is limited availability for potable water connection to the wider network. Current supply for the Site is from the Plummer Road reservoir with an existing 200mm diameter main available within the vicinity of the Site. Capacity will require upgrades in the form of more storage but a more detailed assessment is required to confirm. The significant height differences within this site may require localised storage and/or booster pumps.</p> <p>The Site topography is typically undulated with low hills and depending on the future landform will require a series of wastewater pumpstations and rising mains to service the Site. The closest transfer main (Ōmokoroa to Tauranga) is a 300mm diameter main located near the Ōmokoroa Road intersection with SH2 which is about 3km away. This main is unlikely to provide suitable capacity to accommodate the additional flow. The Site is located near a water course and care should be taken to determine the best wastewater treatment methodology to prevent overflow.</p> <p>Power, Fibre and Gas capacity are unknown. Site-specific assessment required by Utility providers. Nearest point of connection will be northern side of SH2 towards Ōmokoroa about 3km away.</p>	<p>Further detail assessments are required to understand the extent of the infrastructure required to allow development readiness. It is expected that significant upgrades to the existing water supply would be required.</p> <p>It is likely a localised wastewater package plant treatment facility or an upgrade of the existing Ōmokoroa to Tauranga transfer main will be required, at a significant cost. A possible alternative method of storage and pumping to utilise any existing capacity in the transfer main from Ōmokoroa to Tauranga could be investigated further., however the connection point is approximately 3km away.</p>
Accessibility and Proximity	<p>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. The intersection will be difficult to improve within the vertical and horizontal constraints. The SH2/Pahoia/Esdaile intersection is also directly adjacent to a primary school which would also be a significant constraint for intersection improvements.</p> <p>The Apata site will be accessed via Apata Station Road which has two intersections with SH2 - west and east. Both are substandard in terms of intersection form and visibility and will be very</p>	<p>The topography of the sites are generally rolling and could provide good internal roading connections.</p> <p>The existing road network in the vicinity has very limited spare capacity and will require substantial improvement to the current intersection forms, and additional network improvements at key connections as a result of any development.</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
	<p>constrained to provide the appropriate standard of intersection to accommodate any additional development.</p> <p>The completion of the Takitimu northern link should help reduce travel time to PoT.</p> <p>The residential communities of Ōmokoroa approx. 4km/5mins, Katikati 15km/20mins, Tauranga 25km/25mins by private vehicle. There are no active mode connections close by or in development. There is a connected but very limited PT network (one service Katikati to Tauranga via Ōmokoroa). Additional connections could be made with route stop close to State Highway, however given the geometric constraints providing a suitable facility may be difficult.</p> <p>The ECMT railway line passes through the study area, adjacent to the northern boundary, presenting potential for an intermodal freight facility.</p>	<p>There is potential for intermodal freight facility which would reduce the demand on the limited road network. The existing siding for Apata Packhouse could be extended, however may have topographical constraints for any significant extension in terms of horizontal curves and alignment.</p>

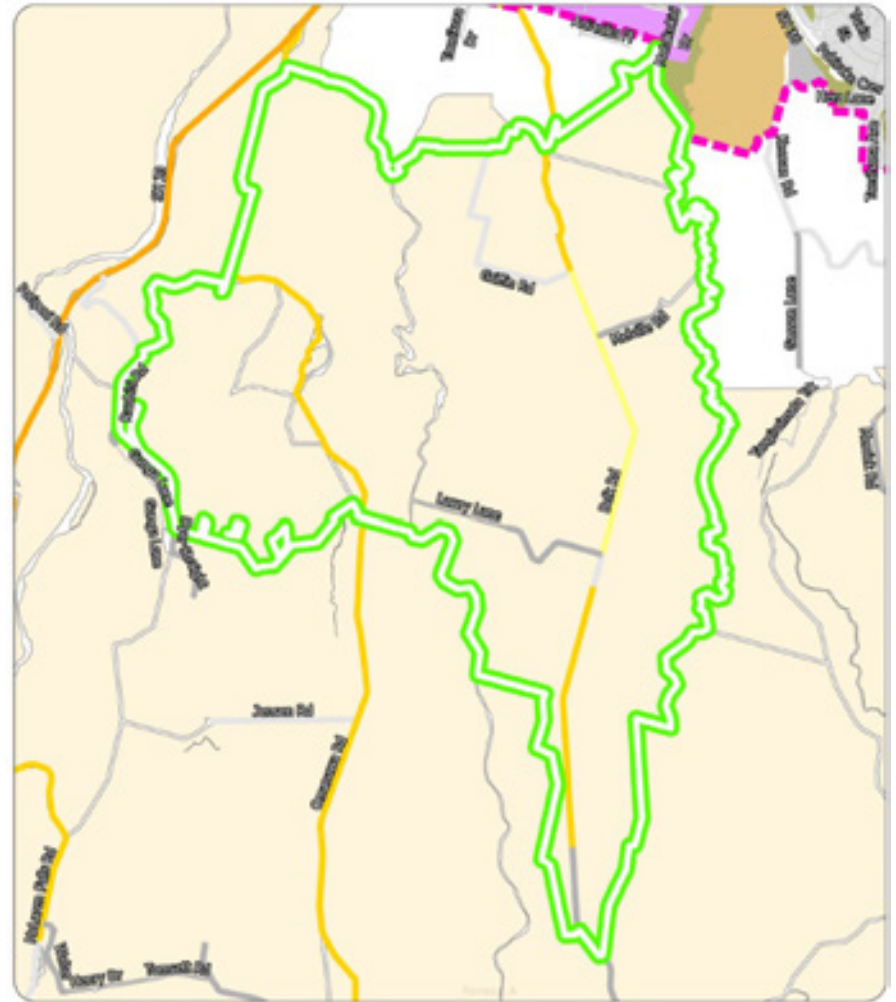
Western Corridor – Ōmanawa 1 and Belk Road 1

Description:	<p>The Belk Road/Ōmanawa site (“the Site”) is located towards the western edge of Tauranga City, within the WBOPDC, and in close proximity to the existing Tauriko Business Estate, The Crossing and Tauriko Primary School. Community facilities such as the Ōmanawa Hall are located along Ōmanawa Road. This Site represents short- to medium-term potential aligned with envisioned growth of the western corridor, close to the priority high-volume road-freight route between the western bay and Waikato-Auckland. It is a natural extension of the existing industrial/business estate development front from the north, accessed via SH29, Ōmanawa Road and Belk Road.</p>	
Potential Yield:	<p>Gross area: 1164ha</p> <p>Yield: 600-700ha</p> <p>(Excluding gullies and other attributes that are recommended for excision, and assuming 80% nett developable yield from the remaining gross site area)</p>	
Appropriate Industrial Land Use Types:	<p>More likely suited to Light or Medium Industrial land uses. Heavy Industry may be appropriate for the lower part of the site towards the existing Tauriko Business Estate boundary, with buffer areas of Light or Medium industry towards the south of the site. This will be subject to further studies and investigation as to specific suitability.</p>	
Potential Development Timeframe (Medium term: 2024-2031, Long term: 2031-2051)	<p>Medium – Long term potential:</p> <p>5 – 7 years for consenting following which a completed design landform could be constructed via conventional cut and fill processes within successive earthworks seasons; works would be completed in development stages, and some building development could proceed at the end of each stage, subject to planning, funding and delivery of enabling infrastructure.</p>	

Major cost items

Significant upgrades to water supply and sewer services are required.

Depending on traffic modelling outputs from a more detailed assessment, there could be significant cost in providing an alternative intersection for SH29 Omanawa Road.



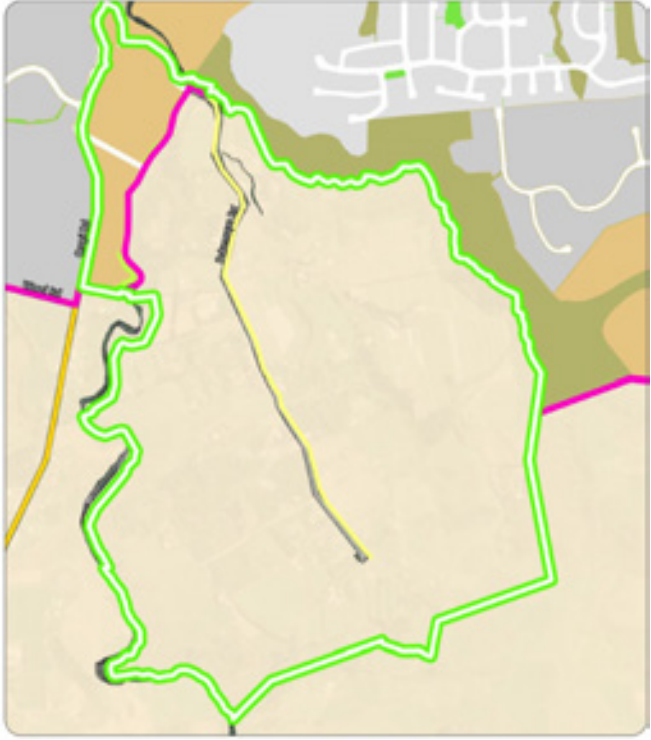
Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
<p>Planning and Environmental Considerations</p>	<p>The predominant land uses in this area are horticultural activities, or grazing. The Ōmanawa and Belk Road areas were identified in UFTI as envisioned growth areas, connecting with the neighbouring suburbs of Tauriko and Pyes Pa.</p> <p>The Site is largely zoned as Rural, with an overlay relating to a significant ecological area (U14/50 Ōmanawa River Bush) at the very southern extent of the study area. The Ōmanawa River runs through the Site, and the Kopurererua Stream is located along the eastern boundary of the Site.</p> <p>Topographically, the Site consists of large flat plateaus, intersected with deep gullies. Ōmanawa Road intersects the western block, and Belk Road intersects the eastern block. There are pockets of land which are owned by the same people which does lead to less land fragmentation than otherwise could occur.</p> <p>The Site has mixed Land Use Capability ratings of 2, 3, 6, 7 and 8, and therefore consideration will be required with respect to the NPS-HPL, given that the majority of the areas are rated LUC 2 and 3 are predominantly flat and utilised for horticultural or grazing purposes.</p> <p>Given the proximity to the Ōmanawa River, Kopurererua Stream, and the potential for other pockets of freshwater or wetland areas within the Site, the NPS-FM and NES-FM will need to be considered, particularly with respect to the overarching objective of the NPS-FM which is to ensure that natural and physical resources are managed which prioritises, first, the health and well-being of water bodies and freshwater ecosystems; second, the health and needs of people (such as drinking water); and third, the ability of people and communities to provide for their social, economic and cultural well-being, now and in the future. The policies of the NPS-FM direct that freshwater is managed in a way to protect, maintain and enhance the natural and physical resource. The NES-FM sets out provisions which apply to activities in and around fresh water, including wetland areas. With respect to this Site, there are two main water bodies (the Ōmanawa Stream and the Kopurererua Stream), along with potential pockets of wetland areas within lower lying parts of the Site which should be considered as part of the design as the Site progresses.</p> <p>The NES-CL will also apply given the horticultural uses of the majority of the Site at the time of redevelopment, given the definition of land which forms a HAIL site, as set out in the Land Quality assessment above. The change in use of a defined site under the NES-CL will trigger the need to step through the legislation during a consenting process.</p> <p>With respect to cultural and heritage matters, approximately 53 archaeological sites are identified within the Site as set out within the relevant planning maps (refer to the geospatial tool). There is a pocket of identified Māori-owned land to the south of the Site at Ōmanawa Road, which is adjacent to the DOC Reserve outside of the boundary of the Site. The implications of this proximity to sensitive land could</p>	<p>The Site will need to be rezoned via a plan change process for any development to occur onsite.</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
	<p>result in the application of appropriate buffer areas, and consideration of the type of development to occur within the Site.</p>	
<p>Land Capability: Geotechnical/ Geological Risks & Natural Hazards</p>	<p>The landform across the Site can be described as an elevated ignimbrite terrace or plateau which has been incised by a deep central north-south orientated gully forming steep slopes as a result of erosion. Slopes of similar gradient are also located along the length of the eastern and western boundaries.</p> <p>The majority of developable land is identified at the top of these terraces, the topography of which is either level or gently undulating. This accounts for ~65% of the total site area, accounting for some landform modification.</p> <p>The foremost development constraint is represented by steep sided slopes in the centre and around the perimeter of the site, from which appropriate building setbacks would have to be established.</p> <p>The near-surface geology comprises layers of recent Taupo Volcanic Zone ash layers, which are able to bear shallow foundations, and can be re-used for engineered fill if required. Achieving an appropriate cut/fill balance to optimise re-use of these materials would be completed as part of any landform design.</p> <p>Liquefaction and settlement are not likely to be significant hazards, and thus this Site would be suitable for high load bearing buildings.</p>	<p>The areas of elevated terrace represent a high degree of development readiness, noting that some relatively minor cut and fill earthworks would be required to construct a design landform.</p> <p>While the establishment of slope setbacks comprises the principal control of mitigating slope instability risk, it may be possible to increase yield of developable land through the use of in-ground (palisade) retaining walls however these structures are unlikely to be economic for slopes of this height and gradient.</p> <p>Some pre-loading may be required for significantly heavy loaded foundations, floors and pavements, however these would be managed at the point of building consent.</p> <p>Aside from other civil and planning constraints development within the base of gullies is not recommended due to risk of inundation arising from slope instability, and potential for liquefaction and settlement to occur.</p>
<p>Land Quality: Soil and groundwater contamination</p>	<p>Land use within elevated terrace areas comprises predominantly horticultural activity (mostly kiwifruit orchards). Orchards are recognised by the MfE as potential contamination sources; however the level of contamination is not likely to preclude industrial land development, and remediation to make the land suitable is not likely to be required.</p> <p>While contaminant concentrations are not likely to be present at levels representing risk to human health, a significant portion of topsoil will not be clean. Thus landfill disposal of surplus topsoils will be expensive,</p>	<p>The Site is ready for development subject to completing investigations and obtaining appropriate consents and will not require specific controls to manage or remediate site soils.</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
	<p>even at 2023-rates. It is possible that landfill disposal will not be viable as a result of future legislative changes.</p> <p>Opportunities to reduce expensive disposal costs include:</p> <p>Re-use and recycling of surplus soils at other development sites. Additional soil mixing treatment may be required to re-use on properties with more sensitive land use (i.e. residential).</p> <p>Appropriate landform and landscape design that seeks to retain surplus topsoil on Site, within the development boundary (reserves, berms, landscaping etc).</p>	
<p>Land Suitability: Flooding and Drainage</p>	<p>This Site consists of gullies that are NOT suitable for development from a flooding perspective. The plateau areas discharge to the Kopurererua Stream and Ōmanawa and Wairoa Rivers.</p> <p>Areas discharging to the Kopurererua may be more difficult to develop as this Stream already has capacity issues downstream. Areas discharging to the Ōmanawa and Wairoa Rivers should be more straightforward to develop as the Ōmanawa River is within a confined gully, while the size of the Wairoa catchment means impacts of the development are less likely to be significant.</p>	<p>Developable areas require typical attenuation and water quality treatment measures. However, management of discharge to the Kopurererua Stream may be difficult and expensive to provide.</p>
<p>Basic Infrastructure Servicing:</p>	<p>In general, the Site is located more than 500m away from bulk water supply. Tauriko Business Estate is supplied by a 300mm diameter water main with a possibility to be extended towards this Site to service a small portion in the lower lying area. In general, this Site has a much higher elevation than the available local water supply and will require new reservoirs and booster pumping stations. The current proposal is to provide a dedicated supply connection between Belk Rd and the Pyes Pa/Lakes Reservoir with booster pumping stations as required to facilitate the development growth. A further potable water supply line connecting Belk Rd corridor with the Joyce Rd / Merrick Rd existing supply will cater for future demand and provide resilience with a two ended supply option. The Joyce Rd / Merrick Rd supply is approximate 4-5km away.</p> <p>The existing wastewater services near the proposed site are not designed to cater for the additional flow that will be generated from the Site. The Tauriko Business Estate has a series of wastewater pumpstations and gravity mains with a trunk main towards the Maleme St Pumpstation. The Site may require significant investment in wastewater services before the first section of land can be utilised which includes large pumpstations and dedicated rising mains through future growth areas of Pyes Pa West all towards Maleme St PS about 8km from the site.</p> <p>Power, Fibre, and Gas capacity are unknown. Site-specific assessment is required by Utility providers. The nearest point of connection will be an extension of available services from the neighbouring Tauriko Business Estate.</p>	<p>Significant upgrades to water supply and wastewater services are required to allow development readiness. Site-specific assessment is required to determine the scale of bulk infrastructure required to service the full extent of the Site.</p> <p>Significant infrastructure in the form of water reservoirs and booster pumpstations are required to service the site with a future connection towards Joyce Rd / Merrick Rd bulk supply for resilience.</p> <p>Dedicated wastewater pumpstations and rising mains will be required and may be up to 8km in length</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
<p>Accessibility and Proximity</p>	<p>This site has direct SH29 (primary freight route) connection at Ōmanawa Road, but not at Belk Road. The connection can be made through Kaweroa Drive (TCC local road, currently in construction) via Belk Road, which has an intersection onto SH29. Major upgrades are planned by Waka Kotahi for this interchange for a future grade separated intersection. There is an early works package starting in 2023/24 for a dual lane roundabout .</p> <p>Kaweroa Drive is also expected to have a connection through to SH36 in the future which will provide an alternative route to Tauranga, the Port, East and South.</p> <p>The Belk Road portion of this Site has been identified previously for future development and has been incorporated into current transport planning.</p> <p>The Ōmanawa portion of this site will have significant constraints for access both through to SH29, and via the Belk Road portion. If these become possible, it is likely they will be compromised in design, will require a new bridge, and potentially deliver poor transport connections.</p> <p>Ōmanawa Road SH29 Intersection would need to have a significant upgrade from its current form to service industrial development. It has significant topographical constraints and an alternative connection point further west may need to be investigated. An access to the west would need significant earthworks to negotiate an escarpment between SH29 and the Ōmanawa plateau.</p> <p>SH29 has very poor LOS, significant congestion, and high sensitivity to traffic fluctuations.</p> <p>There is no connection or availability of Rail in this location (present or future).</p> <p>There are reasonable transport connections to the residential communities of Tauriko West, (in development, 3km) to the north, and The Lakes (5km) to the east, Tauranga CBD (15km). A PT network is established within the lakes, with planning underway for a high level of service to the new Tauriko West development, there are further opportunities to provide increased and improved services in future.</p> <p>The Lakes and the establishing Tauriko Business Estate have been designed with a high level of provisions for walking and cycling. As the various stages are complete and built out, the walking and cycling facilities will follow. A walking and cycling underpass, and signalised crossings will be constructed as part of the early works package for the SH29 Redwood Lane Kaweroa intersection being constructed 2023/24.</p>	<p>With no connection or availability of Rail in this location (present or future), the focus will be on the capability of the road network to service demand.</p> <p>Connection to PT network could be provided through the Tauriko Business Estate.</p> <p>Topography of the Site will result in constrained internal roading connections. There are steep grades to negotiate and very limited opportunity to provide transport connections across gullies within the proposed development area.</p> <p>The network is already congested and sensitive to traffic fluctuations. The programmed work will provide some relief and capacity for the planned (Belk Rd) portion, but if the Ōmanawa block was incorporated, additional network improvements at key connections will be required (i.e. upgraded intersections and capacity improvements).</p> <p>SH29 /Ōmanawa intersection will require major upgrade or an alternative access further to the west will need to be formed. A western access point will require significant earthworks to accommodate expected traffic movements.</p> <p>A connection from the Ōmanawa portion through to Belk Road will have significant topographical constraints, including the need for a new bridge.</p>

Western Corridor - Pukemapu 1

Description:	<p>The Pukemapu site (“the Site”) is located off Ōropi Road along the length of Pukemapu Road and is predominantly within the WBOPDC Boundary with a small portion to the north of the Site located within the Tauranga City Council boundary. The Waimapu Stream runs along the western extent of the Site and separates the TCC 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 as Rural under both TCC and WBOPDC plans. This Site did not form part of the UFTI study, however UFTI identifies a future southern connector route from Pyes Pa/Ōropi to Ohauiti that this Site could potentially connect to in future.</p> <p>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.</p>	
Potential Yield:	<p>Gross area: 232ha Yield: 140-180ha</p>	
Appropriate Industrial Land Use Types:	<p>Light or Medium Industrial uses. This site is not appropriate for Heavy industry due to the proximity to the existing residential areas of Ohauiti and lower Oropi.</p>	
Potential Development Timeframe (Medium term: 2024-2031, Long term: 2031-2051)	<p>Long term potential:</p> <p>5 – 7 years for consenting, following which a completed design landform could be constructed via conventional cut and fill processes within successive earthworks seasons. It is likely that works would be completed in development stages along with enabling infrastructure including significantly improved road access to support any large development.</p>	
Major cost items	<p>Limited spare capacity in the transport network, requiring substantial improvements to enable development, including confirmation, designation and funding of the future southern connector.</p>	

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
<p>Planning and Environmental Considerations</p>	<p>The Site has a Land Use Capability rating of 4 and 6 with a very small portion of land zoned 3. Therefore, limited consideration will be required with respect to the NPS-HPL.</p> <p>The Waimapu Stream is located adjacent to the Site, with a small unnamed tributary within the northern end of the Site. Additionally, while there are no identified wetlands within the Site, due to the topography of the Site, there is potential for other pockets of freshwater or wetland areas to be present. Accordingly, the NPS-FM and NES-FM will need to be considered, particularly with respect to the overarching objective of the NPS-FM which is to ensure that natural and physical resources are managed which prioritises, first, the health and well-being of water bodies and freshwater ecosystems; second, the health and needs of people (such as drinking water); and third, the ability of people and communities to provide for their social, economic and cultural well-being, now and in the future. The policies of the NPS-FM direct that freshwater is managed in a way to protect, maintain and enhance the natural and physical resource. The NES-FM sets out provisions which apply to activities in and around fresh water, including wetland areas. Any potential for wetland areas within the Site will need to be considered as part of the design as the Site progresses.</p> <p>The NES-CL will also apply given the horticultural and pastoral uses of the majority of the Site at the time of redevelopment, given the definition of land which forms a HAIL site, as set out in the Land Quality assessment above. The change in use of a defined site under the NES-CL will trigger the need to step through the legislation during a consenting process.</p> <p>With respect to cultural and heritage matters, approximately 26 archaeological sites are identified within the Site, as set out within the relevant planning maps (refer to the geospatial tool).</p>	<p>The Site will need to be rezoned via a plan change process for any development to occur onsite.</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
Land Capability: Geotechnical/ Geological Risks & Natural Hazards	<p>The landform at Pukemapu comprises a series of ridgelines formed by underlying ignimbrite, which is capped by recent mantling layers of ash and tephra derived from the Taupo Volcanic Zone.</p> <p>There are two drainage catchments with small, localised floodplains formed by streams draining to the Waimapu Estuary. As development is not likely to be possible at the base of these catchments, liquefaction and consolidation of soft soils is not expected to be a hazard.</p> <p>A number of small to moderate slopes are present but it is expected that this landform would have to be heavily modified by cut and fill earthworks to create level building platforms suitable for heavy industrial development, reducing constraints imparted by slope instability.</p> <p>Near surface ash layers are able to bear shallow foundations, and can be re-used for engineered fill if required. Achieving an appropriate cut/fill balance to optimise re-use of these materials would be completed as part of any landform design.</p>	<p>There is a relatively high degree of development readiness, but extensive cut and fill earthworks will be required to construct a design landform. There may be a need to establish some exclusion zones behind remaining slopes but there are no significantly steep and high slopes constraining development. The placement of exclusion zones will be governed by landform design.</p>
Land Quality: Soil and groundwater contamination	<p>The land use at Pukemapu is a mixture of pasture and horticultural land use. Orchards are recognised by the MfE as potential contamination sources however the level of contamination is not likely to preclude industrial land development. Remediation to make the land suitable is not likely to be required, although small hotspots arising from building and waste dumping may be required. A sustainable solution would be to encapsulate impacted material onsite.</p> <p>For pastoral areas soil quality can be variable dependent on the level of fertiliser usage, which occasionally elevates the level of heavy metals (such as cadmium) above accepted background. Urban and civil design should be optimised to retain as much topsoil onsite as possible (e.g. in reserves and green spaces) to reduce offsite disposal costs.</p>	<p>The Site is ready for development subject to completing investigations and obtaining appropriate consents and will not require specific controls to manage or remediate Site soils.</p>
Land Suitability: Flooding and Drainage	<p>The Site is bounded on the east and west by streams, with another stream flowing north through the Site east of Pukemapu Road. Most of the site is outside these stream corridors and is relatively flood free, although allowance would be needed for overland flow paths to these streams.</p> <p>These three streams converge immediately downstream (north) of the Site. There is significant existing flooding of both residential and commercial building downstream of the Site. Development will need to be carefully managed to avoid exacerbating these existing downstream issues</p>	<p>Developable areas require typical water quality treatment measures. Significant attenuation measures will be needed to avoid worsening existing flooding downstream.</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
<p>Basic Infrastructure Servicing:</p>	<p>The Site is located near the bulk water supply mains along Ōropi Road which should have sufficient capacity. There is a significant water course separating the Ōropi main connection and the Site.</p> <p>No wastewater services are located near the proposed site. A localised wastewater treatment package plant may be required. A alternative option may be to install a new pump main towards Maleme Street wastewater pump station (PS133) which is approximately 2km away.</p> <p>The Site is located near a water course and care should be taken to determine the best wastewater treatment methodology to prevent overflow.</p> <p>Power, Fibre, and Gas capacity are unknown, site specific assessment will be required by Utility providers. The nearest connection point will be from Ōropi Road with Gas and Fibre readily available.</p>	<p>Further detailed assessments are required to understand the extent of the infrastructure required to allow development readiness</p> <p>Due to the height differences over the proposed site, specific analysis would be required to determine the correct location for the water connection and crossing of the water course.</p> <p>The wastewater treatment methodology is to be analysed and confirmed. Wastewater infrastructure upgrades would be required to ensure development readiness.</p>
<p>Accessibility and Proximity</p>	<p>The closest freight route is SH29A - a secondary freight route, and is accessed via Oropi Road (1.1km to the north of the Oropi / Pukemapu intersection). Significant improvements will be required to Pukemapu Road and Ōropi Road (both narrow rural roads) to accommodate traffic movements for an industrial development. the SH29A/Ōropi Intersection has some capacity, at various time of the day, however there is generally a poor existing LOS along SH29A with high congestion during peak periods between Takitimu Drive and Maungatapu. Additional demand along SH29A will decrease LoS on the secondary freight route even further.</p> <p>The bridge at Waiōrohi Stream (Ōropi Road) is narrow, and has potentially high risk for failure with existing issues with cavitation behind the abutments (historic issue). There is no viable alternative access route for Ōropi Road between SH29a and Pukemapu</p> <p>This site does have close proximity to Ōropi, Ohauti, Pyes Pa and Greerton residential areas, however there are no PT or active mode facilities nearby.</p> <p>UFTI identifies a future western corridor ring road connecting Pyes Pa, Ōropi and Ohauti, that this site could potentially connect to in future.</p>	<p>Site topography presents some constraints to providing good internal roading connections.</p> <p>Future western corridor ring road has not been confirmed, designated, or funded. There is a high level of risk relying on this connection to provide sufficiently improved access for the Site to be considered for substantial development.</p>

Central - Domain Road 1 and 2, Tara Road 1 and 2, and Ottawa 1

Description:	<p>The Domain Road 1 and 2, Tara Road 1 and 2, and Ottawa 1 sites (“the Site”) are located towards the eastern edge of Tauranga City and straddles the boundary of TCC and WBOPDC. The Site is elongated and runs along the Tauranga Eastern Link (TEL), south to Bell Road and the Te Puke Highway, and west towards Bruce Road. The Site is near Papamoa, and the outer extents of the Te Puke area, in close proximity to multiple community facilities such as the Papamoa Library, and local schools and kura. The Site is largely zoned as Rural, with a large portion of the Site subject to a flooding overlay. The Site is also intersected by the East Coast Main Trunk Line railway. This Site fits strategically within the identified freight routes, the existing SmartGrowth growth areas, and the Te Puke growth area of the UFTI report. The most obvious development focus would be on the western land parcels adjacent to TEL (SH2) and Papamoa (Domain Road) interchange, providing easy access and connectivity to priority freight route and PT, and better quality land in terms of flooding and geotechnical characteristics.</p>	
Potential Yield:	<p>Gross area: 904ha</p> <p>Yield: 600-650ha (assuming 70% nett developable yield from the gross site area due to the TEL through the spine and other land quality constraints including stormwater management)</p>	
Appropriate Industrial Land Use Types:	<p>Light Industrial Uses (due to Building foundation requirements) with lesser potential for Medium in areas of better land capability, with sufficient buffer to sensitive receptors). The site is not suitable for Heavy industry given proximity to the Papamoa residential areas.</p>	
Potential Development Timeframe (Medium term: 2024-2031, Long term: 2031-2051)	<p>Medium – long-term potential:</p> <p>Rezoning of the land could take between 5 - 7 years, including a number of years for detailed flood studies.</p> <p>To construct a developable landform and drive out predicted settlements in response to fill loading may take several years from the start of construction in areas with thick peat and estuarine silt layers. Transport infrastructure and access upgrade approvals and timeframes will be tied to land development, stability and bearing capacity for rail embankments and roading (depending on location & scale).</p>	

Major cost items

Due to the geotechnical complexity, this Site carries significant investigation, design and development costs. Development would carry significant costs for fill especially but not limited to the Bell Road catchment. Due to the magnitude of settlement that may occur, several metres of fill may need to be placed to achieve a design landform. Assuming an avg. 4m of fill, 20-30million m³ of imported fill could be required.



Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
<p>Planning and Environmental Considerations</p>	<p>The predominant land uses in this area are grazing and cropping along with small pockets of lifestyle blocks which leads to somewhat fragmented lot sizes and shapes, but with properties in places owned by single or company ownership, leading overall to bigger parcels of developable land when held together.</p> <p>The Site has a Land Use Capability ratings of 2, and 3, and therefore consideration will be required with respect to the NPS-HPL given that the study area is predominantly flat and utilised mainly for grazing purposes.</p> <p>There are no identified streams or rivers within the boundary of the Site, however, there is potential for other pockets of freshwater or wetland areas given the lower-lying nature of the Site. Accordingly, the NPS-FM and NES-FM will need to be considered, particularly with respect to the overarching objective of the NPS-FM which is to ensure that natural and physical resources are managed which prioritises, first, the health and well-being of water bodies and freshwater ecosystems; second, the health and needs of people (such as drinking water); and third, the ability of people and communities to provide for their social, economic and cultural well-being, now and in the future. The policies of the NPS-FM direct that freshwater is managed in a way to protect, maintain and enhance the natural and physical resource. The NES-FM sets out provisions which apply to activities in and around fresh water, including wetland areas. The potential for wetland areas within the Site will need to be considered as part of the design as the Site progresses.</p> <p>The NES-CL will also apply given the pastoral uses of the majority of the Site at the time of redevelopment, given the definition of land which forms a HAIL site, as set out in the Land Quality assessment above. The change in use of a defined site under the NES-CL will trigger the need to step through the legislation during a consenting process.</p> <p>With respect to cultural and heritage matters, approximately 11 archaeological sites are identified within the Site as set out within the relevant planning maps (refer to the geospatial tool). There is a pocket of identified Māori-owned land at the western extent of the study area. The implications of this proximity to sensitive land could result in the application of appropriate buffer areas, and consideration of the type of development to occur within the Site.</p>	<p>The Site will need to be rezoned via a plan change process for any development to occur onsite.</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
<p>Land Capability: Geotechnical/ Geological Risks & Natural Hazards</p>	<p>The predominant landform in this Site comprises an active floodplain environment behind the Mount and Papamoa coastal dune system. The underlying geology is likely to comprise a thick sequence of Holocene (last 10,000 years) aged sediment. The sediment will comprise a sequence of loose sands, soft silt or clay, with layers of peat. These layers are laterally discontinuous, and thickness is variable, so careful investigation is needed for appropriate characterisation.</p> <p>Approximately 90% of this Site is identified as potentially susceptible to consolidation settlement and liquefaction, with lateral spread likely to occur in proximity of surface drains and natural water bodies.</p> <p>Some localities within this Site, for example around Tara and Domain Road are known to have thick peat sequences 15m or greater, which make piling for large structures and ground improvements difficult. Whilst pre-loading is typically employed to drive out settlements, the landform will continue to settle post-construction as a result of secondary consolidation, thus ongoing effects to civil infrastructure can be expensive to mitigate.</p> <p>On the basis of seismic resilience and secondary consolidation effects affecting floor and pavement design, this Site is not recommended for heavy industry typology.</p>	<p>A geotechnical solution to allow future construction is complex and likely to be economically prohibitive, and closely tied to the stormwater management and flood mitigation measures.</p> <p>The current landform elevation is approximately 1 to 2 m RL, needs to be significantly raised to mitigate ongoing flood risk. Residential subdivisions north of the TEL are raised to elevate the landform to between 5 and 6 m RL. Fill will drive consolidation settlement, which may take months or years to drive out. Additional preloading and wick drains could be employed to speed up this process. The placement of engineered fill to raise the landform will create a significant crust of non-liquefiable soils that will mitigate most liquefaction settlement deflections, however buildings with more sensitive performance requirements may require additional structural controls (piles), or further ground improvement.</p> <p>As there is no onsite source, all placed fill material will need to be imported, increasing costs and carbon footprint. Where shallow peat layers are only thin, then it may be possible to undercut these soils, however this creates additional fill deficit.</p>
<p>Land Quality: Soil and groundwater contamination</p>	<p>Land use predominantly comprises pastoral activity, with no significant gross contamination sources. Some localised dumping, and former buildings may yield small 'hotspots' but will not limit development opportunity.</p> <p>Soil quality can be variable dependent on the level of fertiliser usage, which occasionally elevates the level of heavy metals (such as cadmium) above accepted background.</p> <p>Urban and civil design should be optimised to retain as much topsoil onsite as possible. Groundwater contamination is not likely to represent a significant risk.</p>	<p>The Site is ready for development subject to completing investigations and obtaining appropriate consents and will not require specific controls to manage or remediate Site soils.</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
<p>Land Suitability: Flooding and Drainage</p>	<p>This Site consists of significant areas of floodplain. Increasing occurrences of natural hazard events such as Cyclone Gabrielle have shown just how problematic developing in floodplains can be. Development in this area is therefore not recommend without significant caution and detailed flood studies. The area west of Domain Road and north of the Tauranga Eastern Link (TEL) drains into the urban Papamoa area and so extreme caution is recommended here. While the land south of the TEL and west of the Te Puke Highway flows into the Mangatawa Stream, in large storm events this overtops the TEL and flows into urban Papamoa and hence extreme caution for development of this area is also recommended. The Bell Road catchment also has significant flooding issues and significant fill would be required to raise development above the floodplain.</p>	<p>Mitigation for most of this Site is likely to be highly difficult and complex and require detailed flood studies to model and check the mitigation is adequate.</p> <p>Mitigation of flood impacts for development in the Bell Road catchment would likely consist of significantly increasing capacity of rural drains with new large pumps to discharge to the Kaituna River.</p>
<p>Basic Infrastructure Servicing:</p>	<p>The Site has good availability for a water supply connection to the wider network. Capacity might require upgrades in the form of additional storage but will require more detailed assessment to confirm.</p> <p>The Site is relatively flat and will require a series of wastewater pumpstations and rising mains to service the Site. The closest trunk main is located near Bruce Road which will be the likely connection point for the Site. Detailed assessment would be required to determine the capacity of the existing wastewater infrastructure and if it can accommodate the proposed site as it is currently excluded from the TCC eastern corridor wastewater strategy.</p> <p>The portion of the site north of SH2 would be considered more development ready and easier to connect to existing infrastructure.</p> <p>Power, Fibre, and Gas capacity are unknown, site specific assessment will required by Utility providers. The nearest point of connection is north of the SH2.</p>	<p>More detailed assessments will be required to determine the capacity of the existing water supply and wastewater system and what possible upgrades will be required.</p> <p>The Site located to the north of SH2 will be more development ready than the areas to the south except for the water supply.</p> <p>Possible alternative methods of wastewater storage and pumping utilising the existing capacity in the trunk main to be considered should the existing mains not be able to accommodate the entire site.</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
<p>Accessibility and Proximity</p>	<p>This is well placed adjacent to the TEL (SH2) Papamoa (Domain Road) grade separated interchange, providing easy access to priority freight route and Port of Tauranga. A second interchange at Papamoa East will be delivered by 2026.</p> <p>There is good potential for intermodal freight facility being adjacent to the ECMT for sufficient length ~4km to accommodate train plus overrun. In this location it is y single track, . the opportunity to provide double tracking is constrained by the KiwiRail / SH2 boundary which abuts the line for 1.5km on the north side.</p> <p>The road network in the vicinity has limited spare capacity, but may require additional network improvements at key connections as a result of the development (i.e. upgraded intersections and capacity improvements).</p> <p>Topography of the Site is generally flat and could provide good internal roading connections. However Bell Road is a low-lying rural road that floods and is therefore not suitable to accommodate development, requiring major upgrades and fill.</p> <p>The residential communities of Papamoa and Papamoa East are directly adjacent to the site, with good walking and cycling opportunities for potential workforce. Additionally with TEL and Te Puke Highway, there is connection to the wider Tauranga and Western Bay of Plenty communities.</p> <p>The PT network is established, with future route extensions and increased services planned for the area, including an interchange proposed for Papamoa East</p>	<p>Currently there is spare capacity within the Papamoa Domain Road Interchange, but modelling would need to be done to determine if capacity increases would be required as a result of an industrial development.</p> <p>PEI interchange would require additional leg to be dropped into the development area, this has been considered during planning for futureproof of the interchange.</p> <p>Investigation and stakeholder engagement will be required to explore the potential for intermodal freight logistics.</p>

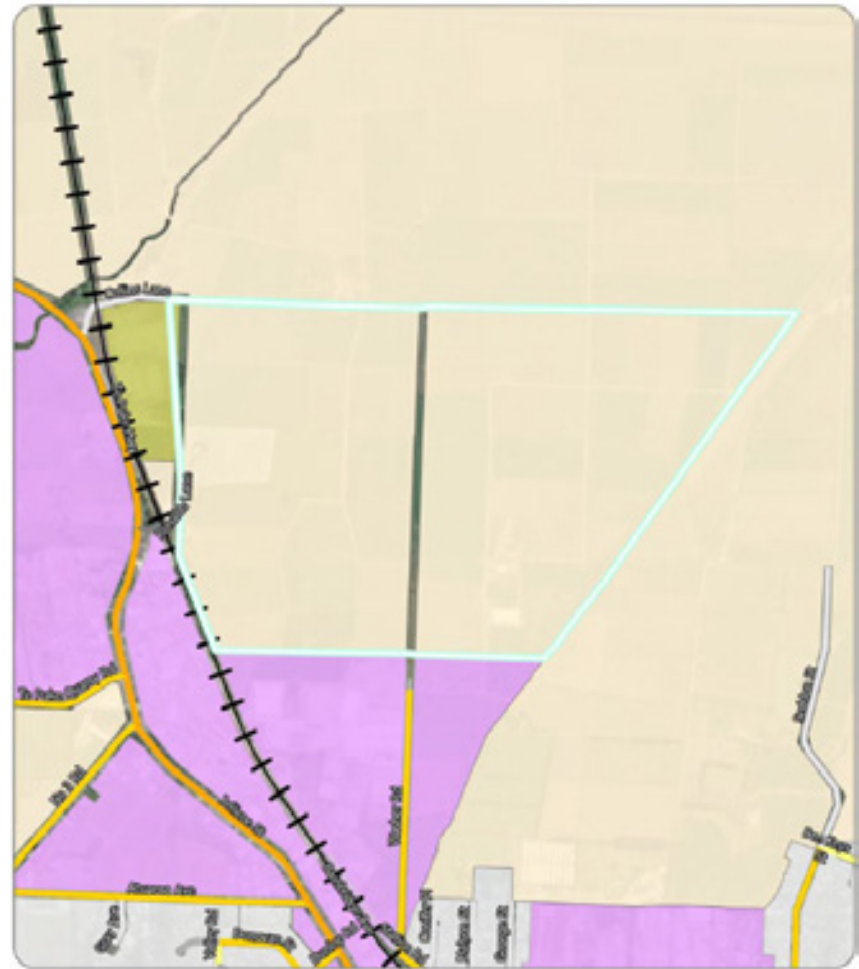
Eastern Corridor - Te Puke 1

Description:	<p>The Te Puke 1 site (“the Site”) is located at the end of Washer Road and Collins Road and is within the WBOPDC Boundary. It forms an extension of the recently consented Washer Road Industrial area, and is across the State Highway from the Te Puke West Industrial area.</p> <p>The Site is zoned as Rural, with a flood hazard over most of the Site. The Site is also adjacent to the Collins Road Horticultural Post Harvest zone. The Ōhineangaanga Stream is located outside of the Site boundary to the east.</p>	
Potential Yield:	<p>Gross area: 190ha Yield: 110 - 120ha (assume 60% developable due to land constraints-geotechnical)</p>	
Appropriate Industrial Land Use Types:	<p>Suitable for all types of industry provided ground conditions could be mitigated, and sufficient buffers to sensitive receptors were in place (subject to further studies and investigation).</p>	
Potential Development Timeframe (Medium term: 2024-2031, Long term: 2031-2051)	<p>Medium term potential: 5 – 7 years for consenting, however investigation and management of surface and groundwater quality risks may delay this timeframe.</p> <p>The timeframe to construct a developable landform will be governed by how long is required to drive out predicted settlements in response to fill loading. Areas requiring less pre-load may be completed in a single earthworks season. Areas with thick peat and estuarine silt layers may require several years from the start of construction.</p>	

Major cost items

Due to the geotechnical complexity, this Site carries significant investigation, design and development costs. Where confirmed by investigations, any required groundwater and surface water treatment to manage or reduce persistent organic pollutants (“PoP”) will increase construction costs.

Due to the magnitude of settlement that may occur, several metres of fill may need to be placed to achieve a design landform. Assuming an area of 171 hectares (90% of site) requires 4m of fill on average, up to 7 million m³ of imported fill may be required.



Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
<p>Planning & Environmental Considerations</p>	<p>The predominant land uses in this area are grazing, and there are only three landowners of all parcels which presents a potential opportunity with respect to development.</p> <p>The Site has a Land Use Capability rating of 2 and 3, and therefore, consideration will be required with respect to the NPS-HPL given the flat topography of the Site. With respect to cultural and heritage matters, approximately three archaeological sites are identified within the Site.</p> <p>There are no identified streams or wetlands within the study area. However, given the proximity of the Ōhineangaanga Stream, the NPS-FM and NES-FM will need to be considered, particularly with respect to the overarching objective of the NPS-FM which is to ensure that natural and physical resources are managed which prioritises, first, the health and well-being of water bodies and freshwater ecosystems; second, the health and needs of people (such as drinking water); and third, the ability of people and communities to provide for their social, economic and cultural well-being, now and in the future. The policies of the NPS-FM direct that freshwater is managed in a way to protect, maintain and enhance the natural and physical resource. The NES-FM sets out provisions which apply to activities in and around fresh water, including wetland areas. Any potential for wetland areas within the Site will need to be considered as part of the design as the Site progresses.</p> <p>The NES-CL will also apply given the pastoral use of the Site at the time of redevelopment, given the definition of land which forms a HAIL site, as set out in the Land Quality assessment above. The change in use of a defined site under the NES-CL will trigger the need to step through the legislation during a consenting process.</p>	<p>The Site will need to be rezoned via a plan change process for any development to occur onsite.</p>
<p>Land Capability: Geotechnical/ Geological Risks & Natural Hazards</p>	<p>The predominant landform of this Site is located within the Kaituna Floodplain. The underlying geology is likely to comprise a thick sequence of Holocene (last 10,000 years) aged sediment. The sediment will comprise a sequence of loose sands, soft silt or clay, with layers of peat. These layers are laterally discontinuous, and thickness is variable, so careful investigation is needed for appropriate characterisation.</p> <p>Approximately 90% of this Site is identified as potentially susceptible to consolidation settlement and liquefaction, with lateral spread likely to occur in proximity of surface drains and natural water bodies.</p> <p>Areas with thick peat sequences 15m or greater, typified by land zoned for industrial land use on the nearby Raparapahoe Floodplain (immediately west of Te Puke</p>	<p>A geotechnical solution to allow future construction is complex, and closely tied to the required stormwater management and flood mitigation measures.</p> <p>The current landform will need to be significantly raised to mitigate ongoing flood risk. The need to raise the landform will drive consolidation settlement, which may take months or years to drive out. Additional preloading and wick drains could be employed to speed up this process.</p> <p>The placement of engineered fill to raise the landform will create a significant crust of non-liquefiable soils that will</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
	<p>Highway), make piling for large structures and ground improvements difficult. Whilst pre-loading is typically employed to drive out settlements, the landform will continue to settle post-construction as a result of secondary consolidation, thus ongoing effects to civil infrastructure can be expensive to mitigate.</p> <p>On the basis of seismic resilience and secondary consolidation effects affecting floor and pavement design, this study area is not recommended for heavy industry typology/high load bearing building.</p>	<p>mitigate most liquefaction settlement deflections, however buildings with more sensitive performance requirements may require additional structural (piles) controls, or further ground improvement.</p> <p>As there is no onsite source, all placed fill material will need to be imported, increasing costs and carbon footprint. Where shallow peat layers are only thin, then it may be possible to undercut these soils, however this creates additional fill deficit.</p>
<p>Land Quality: Soil and groundwater contamination</p>	<p>Land use within the Site predominantly comprises pastoral activity, with no significant gross contamination sources. Some localised dumping, and former buildings may yield small 'hotspots' but will not limit development opportunity.</p> <p>Soil quality can be variable dependent on the level of fertiliser usage, which occasionally elevates the level of heavy metals (such as cadmium) above accepted background. Urban and civil design should be optimised to retain as much topsoil onsite as possible.</p> <p>The Site is located downstream of the Pukepine Sawmill and Timber Treatment site. Aurecon have previously completed sampling and testing within surface water drains (the Factory Drain) the results of which do indicate some impact to surface water and sediment quality by PoP such as pentachlorophenol and dioxins. It is reasonable to infer that groundwater quality may also be impacted.</p>	<p>Where there is a requirement to disturb surface water or sediment, to widen or deepen land drains that run through the study area, there may be a need to manage or remediate sediments and surface water quality, to make these working areas safe for construction workers and re-establish habitats. Impacted groundwater quality may necessitate the need for treatment prior to discharge back to land or off-site disposal.</p>
<p>Land Suitability: Flooding and Drainage</p>	<p>This Site is subject to significant areas of floodplain. Increasing occurrences of natural hazard events such as Cyclone Gabrielle have shown just how problematic developing in floodplains can be. Development of this Site is therefore not recommend without significant caution and detailed flood studies. Significant fill would be required to sufficiently raise development above the floodplain.</p>	<p>Filling of part of the floodplain to aid development would have significant impact on the downstream Kaituna River Scheme which would need to be measured by detailed modelling. Required mitigation may include financial contribution to the Kaituna River scheme for stopbank raising and increased pump capacity.</p>
<p>Basic Infrastructure Servicing:</p>	<p>The Site is located near a 200mm diameter bulk water supply main from Washer Road. If this area requires more supply, then a possible direct connection can be made onto the Waiāri Trunk Supply line located near Seddon Street.</p> <p>Wastewater gravity network is available but will likely need to be upgraded from the Site up to Station Road.</p>	<p>Further detail assessments are required to understand the extent of the infrastructure required to allow development readiness.</p> <p>The Site will be an extension of the existing Te Puke industrial area and will require minimal infrastructure upgrades to be development ready for the first portion of</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
	<p>Power, Fibre and Gas capacity are unknown. Site-specific assessment required by Utility providers. Main connection will be from Station Road located approximately 1km away from the site.</p>	<p>site but may require more significant infrastructure to accommodate the full extent.</p>
<p>Accessibility and Proximity</p>	<p>The Site is adjacent to existing light industry in Te Puke, close to a secondary freight route (Te Puke Highway) and adjacent to the ECMT, but has limited potential for an intermodal freight facility, as the adjacent length to the site is only ~400m.</p> <p>The site is accessed from Te Puke Highway via Station Road and Washer Road which are both local roads.</p> <p>Te Puke Highway has spare capacity with wider network connections via SH2 Domain Road interchange to the north, and SH2 / SH33 Paengaroa interchange to the south (10km/12mins) in each direction.</p> <p>There is poor PT connection to this site, with only two PT services that run Tauranga-Papamoa-Te Puke, these services are via Te Puke Highway with a very limited local road network. As Te Puke grows in residential size, there will be opportunity to increase bus services.</p> <p>There are no existing active mode facilities nearby, and users rely on the low volume roads and local network to provide connections.</p>	<p>Upgrades to local roads will be required (Washer Road, Station Road), in terms of 2 new bridges, pavement strengthening and new intersection form to access Te Puke Highway. (Note: Te Puke Highway is a rescinded State Highway).</p> <p>Topography is flat which will provide good opportunity for internal roading network.</p>

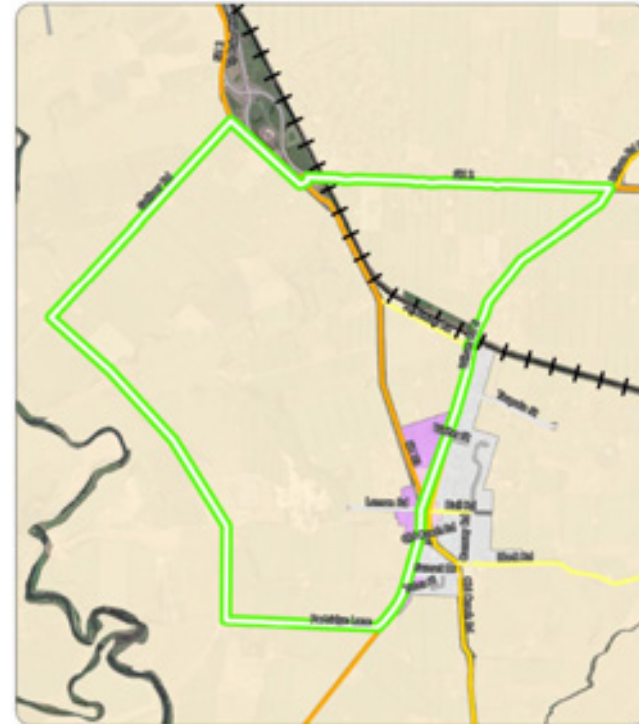
Eastern Corridor - Rangiuuru (comprising Paengaroa 1, Rangiuuru 3 and part of Rangiuuru 13)

Description:	<p>The Rangiuuru site (“the Site”) is located to the west and north of the existing Paengaroa township, and within the WBOPDC boundary. The Site is bound on the western side by the Kaituna River, and the eastern side by State Highway 33, with the exception of a triangle of land at State Highway 2.</p> <p>The Site is close to the Comvita manufacturing plant and is contiguous with the Lemon Grove industrial area. Therefore, it is strategically connected to identified freight routes, and can be considered an extension to the existing growth area of Rangiuuru Business Park, identified within the UFTI.</p> <p>The Site is in close proximity to Paengaroa, and the outer extents of the Te Puke area, near the Paengaroa Hall, and primary schools. The local sports grounds and showgrounds fall within the Site, but would be excluded from the proposed development.</p> <p>The Site is zoned as Rural and is subject to a flood overlay. The predominant land uses in this area are horticultural activities and pastoral grazing. Land is held in a large number of allotments, many of which are held in common ownership, presenting a potential development opportunity.</p>
Potential Yield:	<p>Gross area: 390ha Yield: 220-240ha (assume 60% developable due to site constraints)</p>
Appropriate Industrial Land Use Types:	<p>Suitable for all types of industry provided ground conditions could be mitigated, and sufficient buffers to sensitive receptors were in place (subject to further studies and investigation).</p>
Potential Development Timeframe (Medium term: 2024-2031, Long term: 2031-2051)	<p>Medium term potential:</p> <p>5 – 7 years for consenting, following which a completed design landform could be constructed via conventional cut and fill processes within successive earthworks seasons. It is likely that works would be completed in development stages along with enabling infrastructure, and some building development could proceed at the end of each stage.</p> <p>Some additional preloading time may be required where filling into the floodplain is proposed, however this is likely to be in the latter stages of development.</p>

Major cost items

With sensitive wetlands in the downstream Maketū Estuary a high degree of water quality treatment measures may be required.

Significant sewer infrastructure upgrades will be required to service the Site.



Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
<p>Planning & Environmental Considerations</p>	<p>The Site has Land Use Capability ratings of 2, and 3, and therefore consideration will be required with respect to the NPS-HPL given that the study area is predominantly flat and utilised mainly for horticultural production.</p> <p>There are no identified streams or rivers within the boundary of the Site. However, given that the Kaituna River located on the edge of the Site, there is potential for other pockets of freshwater or wetland areas given the lower-lying nature of the Site. Accordingly, the NPS-FM and NES-FM will need to be considered, particularly with respect to the overarching objective of the NPS-FM which is to ensure that natural and physical resources are managed which prioritises, first, the health and well-being of water bodies and freshwater ecosystems; second, the health and needs of people (such as drinking water); and third, the ability of people and communities to provide for their social, economic and cultural well-being, now and in the future. The policies of the NPS-FM direct that freshwater is managed in a way to protect, maintain and enhance the natural and physical resource. The NES-FM sets out provisions which apply to activities in and around fresh water, including wetland areas. The potential for wetland areas within the Site will need to be considered as part of the design as the Site progresses.</p> <p>The NES-CL will also apply given the pastoral and horticultural uses of the majority of the study area at the time of redevelopment, given the definition of land which forms a HAIL site, as set out in the Land Quality assessment above. The change in use of a defined site under the NES-CL will trigger the need to step through the legislation during a consenting process.</p> <p>With respect to cultural and heritage matters, there are two marae located to the west of the Site, over the Kaituna River (Te Matai and Te Paamu).</p> <p>Additionally, there are approximately 16 archaeological sites are identified within the Site. There is a pocket of identified Māori-owned land at the northern extent, and centrally within the Site. The implications of this proximity to sensitive land could result in the application of appropriate buffer areas, and consideration of the type of development to occur within the Site and consideration should be given to the sensitive receiving environment.</p>	<p>The Site will need to be rezoned via a plan change process for any development to occur onsite.</p>
<p>Land Capability: Geotechnical/ Geological Risks & Natural Hazards</p>	<p>The landform within the Site comprises a raised alluvial terrace elevated above a tributary catchment which drains north-west to the Kaituna Floodplain.</p> <p>The underlying geology will comprise mid to late Quaternary pumiceous soils, capped by a layer recent ash derived from the Taupo Volcanic Zone.</p> <p>Approximately 75% of the total land area is elevated above the Kaituna floodplain. The liquefaction risk is classified as 'undetermined', however depth to groundwater will mitigate this hazard to some</p>	<p>The raised terrace areas have a high degree of development readiness, with only limited cut/fill earthworks required to modify what is already a relatively level landform. It is not anticipated that lower elevation floodplains will be suitable for development.</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
	<p>degree. Some consolidation settlement may be expected under heavy embankment and building or floor loads, but not to the same degree as emerging preferred sites for investigation located predominantly within floodplain environments.</p> <p>The floodplain itself, located along the western boundary of the Site, will be prone to more significant magnitudes of liquefaction, lateral spread and consolidation settlement.</p> <p>Some limited setbacks maybe established from slopes of low relief that drop down into the floodplain. There may be the ability to increase the yield of developable land by filling out further over the floodplain, however the opportunities for this need to be evaluated as part of any stormwater modelling and civil design.</p> <p>The raised terrace is likely to be suitable for all industrial building types, however some heavily loaded structures may need some additional preloading to accommodate anticipated building loads.</p>	
<p>Land Quality: Soil and groundwater contamination</p>	<p>Land use within terrace areas outside of active floodplain comprises predominantly horticultural activity (mostly kiwifruit orchards). Orchards are recognised by the MfE as potential contamination sources; however the level of contamination is not likely to preclude industrial land development, and remediation to make the land suitable is not likely to be required.</p> <p>Contaminants associated with orchard sites include heavy metals such as arsenic, lead and zinc, along with typically limited trace residues of persistent organochlorine pesticides such as DDT. These contaminants are typically constrained to near surface topsoil.</p> <p>While contaminant concentrations are not likely to be present at levels representing risk to human health, soils will not be clean. Thus landfill disposal of surplus topsoils will be expensive, even at 2023-rates. It's possible that landfill disposal will not be viable as a result of future legislative changes. Opportunities to reduce expensive disposal costs include:</p> <ul style="list-style-type: none"> ■ Re-use and recycling of surplus soils at other development Sites. Additional soil mixing treatment may be required to re-use on properties with more sensitive land use (i.e. residential). ■ Appropriate landform and landscape design that seeks to retain surplus topsoil onsite, within the development boundary (reserves, berms, landscaping etc). <p>Based on level of information currently available, groundwater contamination is not likely to be a risk.</p>	<p>The Site is ready for development subject to completing investigations and obtaining appropriate consents and will not require specific controls to manage or remediate Site soils.</p>
<p>Land Suitability:</p>	<p>The Site has a significant gully through the middle of it running from north-east to south-west. This area is likely to be flooded in large storm events and is therefore not appropriate for development. The</p>	<p>With sensitive wetlands in the downstream Maketū estuary a high degree of water quality treatment measures may be required. The Site</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
Flooding and Drainage	<p>remaining Site area is on higher ground, and, apart from some minor streams, is generally flood-free and therefore suitable for development.</p> <p>The Site either discharges to the Kaituna River or to streams that discharge to the Kaituna floodplain and hence is likely to impact on the Kaituna River scheme and need mitigation for increases in both peak flow and total runoff volume.</p>	<p>will require typical peak flow attenuation measures. In terms of mitigation of runoff volume increases, this is very difficult to provide onsite and may instead require financial contribution to the Kaituna River scheme for increased pump capacity.</p>
Basic Infrastructure Servicing:	<p>The Site is located near a 200mm diameter bulk water supply main located in Paengaroa and a 300mm diameter main along Te Puke Highway. This will likely not be sufficient to supply the entire Site but may allow partial development.</p> <p>No wastewater network is available within the vicinity of the Site and may require localised wastewater treatment package plant to service the development. Alternative opportunity is to discharge towards Te Puke Wastewater Treatment Works approximate 6km away, which will include a crossing of Kaituna River.</p> <p>The Site is located near a water course and care should be taken to determine the best wastewater treatment methodology to prevent overflow.</p> <p>Power, Fibre and Gas capacity are unknown. Site-specific assessment required by Utility providers. Nearest point of connection</p>	<p>Further detail assessments are required to understand the extent of the infrastructure required to allow development readiness.</p> <p>The portion of the Site near Paengaroa would be the likely the location to be more development-ready compared to the rest of the Site.</p> <p>Significant sewer infrastructure upgrades will be required to service the Site.</p>
Accessibility and Proximity	<p>This Site is directly adjacent to SH2 and SH33 with close access to TEL (<1km). It has direct access to ECMT ~ 1.6km on both sides of the line which gives this site a high potential to provide an intermodal facility. The track is currently single tracked but consultation with KiwiRail could be undertaken early to determine wider network ability to be double tracked to create an</p> <p>It is an extension to the existing Paengaroa township, which is also proposed to have further residential growth in the long term (UFTI).</p> <p>Paengaroa is close to Te Puke (10km/10mins) via Te Puke Highway, Maketū (10km/10mins) and Papamoa East via TEL/PEI (toll, 20km / 15mins) for potential employment base locations. It is also expected a portion of potential workers will commute from Tauranga, and the wider Bay of Plenty such as Whakatāne and Rotorua (45mins).</p> <p>There is poor public transport services and facilities currently, with only one existing regional service. A future development would need to work with stakeholders to establish new routes and services, with a view to establish these in the early stages of the project.</p>	<p>There is spare capacity within adjacent roading network, but it will require intersection upgrades for SH2 (Wilson Road) and SH33 (Wilson Road, Lemon Road, Partridge Ln). The TEL would need to have upgraded access, and capacity improvements, this will likely require a grade separated interchange and new intersection form.</p> <p>The topography is generally flat or rolling which will provide excellent opportunity for an internal roading network.</p> <p>The potential intermodal facility would require consultation with KiwiRail to determine if</p>

Criteria	Constraints/opportunities (e.g.)	Recommendation for Development readiness
	<p>Future active mode facilities are planned between Te Puke and Maketū, along Maketū Road and Wilson Road. There is a shared path that follows the TEL, and connection to that route could be incorporated into a future development. Connections in Paenagaroa are limited, as the local roads generally have low volumes, and demand is low. An increase in population density in future, and a potential industrial site would be an opportunity to create more walking and cycling facilities.</p>	<p>capacity could be provided within the existing rail corridor outside of the 1.6km rail frontage.</p>



Industrial Land Capacity

Demand and supply reconciliation

4 Industrial Land Capacity

4.1 Industrial land demand summary

The HBA forms part of a wider workstream relating to employment projections across the sub-region. The HBA aims to estimate the quantum of business land that is required to enable and support business activity over the next 30 years, and to compare the outlook against available capacity. In summary:

- The cumulative industrial land demand for the sub-region over the 30 years equates to 519 ha of land being required. The assessment of vacant land and redevelopment of existing sites shows insufficient current capacity for Tauranga City as identified in the supply and demand projections in **Figure 7** and **Figure 9**, and no additional requirements for WBOP district. These numbers are 'nett developable area' numbers and do not include roads, stormwater reserves, infrastructure etc., which adds a further 20% on average.
- There is an estimated long-term shortfall in Tauranga. By providing capacity close to Tauranga, with high quality transport accessibility and supporting infrastructure, this will ensure that the city and sub-region can compete for investment.
- The WBOP estimated capacity is sufficient to cater for industrial growth (**Figure 8**), however, if the envisaged greenfield developments (largely Rangiuru Business Park) do not manifest in a reasonable timeframe relative to growth, sufficiency will be under pressure, undermining local growth effects, therefore constraining economy growth and competitiveness.
- The spatial distribution of industrial capacity is towards the east, around Rangiuru, with this area making up the largest portion of the future capacity (43%). This area has been slow to develop.
- The development of Rangiuru is key to supporting sufficiency. Rangiuru has been designed and marketed to accommodate agri-tech and associated logistics businesses that focus on servicing the local rural sector, including wet industries (primarily related to processing agri-goods). This focus limits the type of businesses that can be accommodated and precludes large parts of the Tauranga industrial growth. The degree to which the development aspirations are

	WBOP	TGA
Current	48ha	112ha
Future potential (Greenfield capacity)	379ha	166ha

Figure 7 – WBOP and Tauranga Current and Future Supply

ha		Approach 1: General ratios*			Approach 2: Local ratios*		
Type		Short-term 2021-2024	Medium-term 2024-2031	Long-term 2031-2051	Short-term 2021-2024	Medium-term 2024-2031	Long-term 2031-2051
WBOP	Demand within period						
	Comm. & Retail	5	7	14	4	8	15
	Industrial	18	37	71	19	38	70
	Running total/Cumulative demand						
	Comm. & Retail	5	12	26	4	12	27
	Industrial	18	55	127	19	58	128
Approach 1 reflects the results using 'general ratios' (land-employment relationships) as observed around NZ. Approach 2 reflects the results if local land-employment ratios are used.							

Figure 8 – WBOP Demand Projections

ha		Approach 1: General ratios*			Approach 2: Local ratios*		
Type		Short-term 2021-2024	Medium-term 2024-2031	Long-term 2031-2051	Short-term 2021-2024	Medium-term 2024-2031	Long-term 2031-2051
Tauranga	Demand within period						
	Comm. & Retail	22	42	86	19	38	78
	Industrial	60	130	273	52	119	221
	Running total/Cumulative demand						
	Comm. & Retail	22	64	150	19	58	136
	Industrial	60	190	462	52	170	391

Figure 9 - Tauranga Demand Projections

enforced will influence the eventual focus and nature of Rangiuru. While Rangiuru is a sizeable development option and a potential location that could provide for some of Tauranga’s demand, it is unlikely to accommodate substantial shares of the growth. However, there are limited opportunities to accommodate additional industrial activities within the (current) boundaries of Tauranga.

- Tauriko will continue to provide core short- to medium-term supply but requires significant infrastructure to meet longer-term demand and for development potential to extend into the future Belk Road/Ōmanawa area.
- When looking for substantial land areas for future industrial use as is the purpose of this Industrial Land Study, it is inevitable and a logical outcome that land across the sub-region will be considered as a whole rather than in silos. Additionally, because there is minimal rural land in Tauranga to use, any large-scale new industrial area is likely to be located within WBOP. The distance to the core business locations in Tauranga and WBOP has been reflected in the MCA to ensure that transport cost and overall business costs are minimised.

The HBA assisted in guiding this study toward to need to identify a **targeted 500ha+ of gross land supply to meet long-term demands**.

4.2 Demand and supply reconciliation

The HBA Study findings for long term demand, current and future capacity, and the nett estimated yield of the various investigation areas identified in this study are summarised in **Table 7**. These are estimates only, with each study having considered a range of value differentials and development variables. This study has identified that land with adequate suitability and capability exists in the sub-region, within both the TCC and WBOPDC, to meet any potential long-term deficit.

As predicted in the HBA, there are few suitable options for new development in TCC, however the sites identified in the Central corridor should be closely scrutinised for potential relocation and development of industry close to the centres of demand, as spatial planning needs and priorities evolve. While these land parcels are located close to transport links and in close proximity to employee resource, the development of this land represents a significant geotechnical and civil challenge, with costs to develop being potentially prohibitive. The WBOPDC offers various options across the Northern, Western and Eastern Corridors for strategic industrial land development to meet the long term needs of the sub-region.

Table 7 – Demand and Supply Summary (estimates only)

All areas in Hectares (ha)	Long term demand (HBA Study – local ratios)	Planned capacity (HBA Study – current vacant and future greenfield)	Long term surplus or (Deficit) range (HBA Study, ref Table 5.2 & 5.4)	Medium – Long term supply potential (identified in this ILS)
TGA	391	278	(216 to 267)	Central: ~200
WBOP	128	427	239 to 247	Northern Corridor – Ōmokoroa & Apata: 300+ Western Corridor – Belk Road / Ōmanawa: 500+, Pukemapu: 100+ Eastern Corridor – Te Puke: 50, Rangiuru: 300+

4.3 Recommendations

4.3.1 Further Site Investigation

Further detailed investigations are recommended in order to explore development options for the recommended industrial site locations in the sub-region, and identify the prioritisation of actions for key sites. This will inform the forecasting of associated timeframes for additional technical investigation, planning and environment considerations, as well as enabling infrastructure servicing and funding, to outline actions that must be prioritised to ensure planning can be undertaken now to ensure industrial land supply can meet expected long-term demand.

The corridor approach to development (i.e.. consideration of opportunities for industrial land development in each of the northern, eastern, central and western corridors, as shown in Figure 6) will allow balanced consideration of self-sufficiency as urban population grows and people seek employment opportunities closer to home, additionally contributing to sustainability by reducing vehicle travel and emissions. This approach aligns to the UFTI Connected Centre principles. Large, strategically located centres for industrial business development will present better ability to invest in public transport and alternative transport mode choices for workers, as well as presenting opportunity for circular economies to evolve.

With respect to the legislative environment, further analysis will be required under the NPS-HPL for Sites which are subject to LUC ratings between 1 – 3. Of note, BOPRC has three years from the commencement date of the NPS-HPL to map highly productive land for the region. The regional mapping is influenced by the findings within the HBA, which concludes that additional industrial land capacity is required and is unlikely to be achieved without rezoning additional land. This may lead to mapping which determines different land ratings or conclusions than currently considered under the LUC framework within this study. In light of any decisions reached as a result of BOPRC’s additional mapping exercise, 3.6(1) of the NPS-HPL provides steps which Tier 1 authorities must work through to provide for urban rezoning of highly productive land. The key opportunities and constraints of each Site are summarised in **Table 8**.

Table 8 – Investigation Summary

Corridor / Site	Key Opportunities & Constraints	Summary recommendation
Central Corridor	<p>The combined Domain Road 1 and 2, Tara Road 1 and 2, and Ottawa 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.</p> <p>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 would carry significant costs for fill due to flood risk.</p> <p>While the Site is also intersected by the East Coast Main Trunk Line railway, the land scale and quality characteristics will limit intermodal potential in this location.</p>	<p>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.</p> <p>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 connectivity to priority freight route and PT, and better quality land in terms of flooding and geotechnical characteristics.</p>

Corridor / Site	Key Opportunities & Constraints	Summary recommendation
Eastern Corridor	<p>The Rangiuuru Site is strategically connected to freight routes and can be considered an extension to the existing growth area of Rangiuuru Business Park, identified within the UFTI. It is close to the Comvita manufacturing plant and is contiguous with the Lemon Grove industrial area.</p> <p>The Te Puke site forms an extension of the recently consented Washer Road Industrial area, and is across 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 cost. A geotechnical solution to allow future construction is complex, and closely tied to the required stormwater management and flood mitigation measures.</p>	<p>Focus development on the Rangiuuru 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 development could be explored with KiwiRail.</p>
Northern Corridor	<p>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 Ōmokoroa 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.</p> <p>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.</p>	<p>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.</p>
Western Corridor	<p>The Belk Road/Ōmanawa site represents large scale development potential aligned with envisioned growth of the western corridor, close to the priority high-volume road-freight 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.</p> <p>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 required to the SH intersection and/or a new bridge connection from TBE Stage 4 to Ōmanawa Road.</p> <p>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.</p>	<p>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.</p>

4.3.2 Heavy Industry

The application of heavy industry to the short-listed sites requires a balancing of assessment between likely ground conditions with the surrounding existing, established, and (in some cases) proposed, land uses.

Section 2.2.2 of this report established the parameters of light, medium and heavy industry definitions and has applied those to each short-listed site.

The analysis of sites undertaken by the study identified that two sites (Pukemapu and Domain, Tara 1 and 2, and Ottawa 1) are considered unsuitable for Heavy industry due to proximity to established suburban residential populations and poor ground conditions.

Ōmokoroa 1 and 2, Ōmokoroa 3 and Apata, the Western Corridor (Omanawa and Belk), and Rangiora have all been assessed as being capable of incorporating some heavy industry within the site boundaries – subject to appropriate buffer areas being applied in each instance as part of any potential future plan change.

Te Puke 1 is considered appropriate for heavy industry; however, consideration of ground conditions in this area will be required.

We recommend that further detailed analysis is undertaken for each of these sites considered capable of establishing Heavy industry, including specific case studies of the potential relocation of existing industrial activities.

4.3.3 Engagement Requirements

Future stakeholder engagement should adopt best practice, by considering the level of interest each stakeholder group and the degree to which they will be impacted by, have influence over, or become advocates for the project. Subsequent analysis and the stakeholder's role in decision making will inform the level in which they will be engaged throughout the project.

Aurecon recommends establishing specific mechanisms to engage and involve the partners and stakeholders early. This could look like:

- **Our Partners:**

Mana Whenua, Waka Kotahi and Local Government (x3 Councils)

Aurecon recommends establishing a working group with all partners for involvement early and regularly with a view to understanding the opportunities, desires, impacts and misalignments. Suggest representation from affected hapū to provide specific advice around Te Ao Māori, tikanga and cultural guidance for detailed design and into construction. Feedback from the CTWF supports this but highlighted that having hapū representatives on a working group should not be relied upon as the sole source of guidance for the next stage. The project will need to be resourced to support tangata whenua engagement for the four corridors (i.e. specific representation relevant to the consideration of opportunities for industrial land development in each of the northern, eastern, central and western corridors) and site specific engagement where there is proximity to marae, Māori land and cultural heritage sites. This is recommended by CTWF to include iwi authorities, relevant hapū, marae committees and trustees/beneficiaries of Maori Land blocks as well as any relevant co-governance entities.

■ **Stakeholders:**

Economic Development Agencies, Major affected industries and businesses, landowners, developers and community at large

Aurecon recommends largely informing these groups via newsletters and website, except for landowners who will require a more personal kanohi-ki-te-kanohi approach. Reflect on the key themes identified in the Stakeholder Summary (appendix) – specifically environmental impacts and site-specific, to build an understanding of existing perspectives and concerns which should help guide planning, engagement and communications.

4.3.4 Sustainable Development

Further to the above engagement recommendations and combined what we heard from the CTWF subgroup, we recommend building upon the following principles and values to inform the Spatial Planning process and shape future industrial land development:

- Leave it better than it was – cleaner air, water
- Long term value and mutually beneficial outcomes
- Draw on international relationships - cleaner technology, fuel, re-use
- Localisation
- Principles of circular economy – reuse, recycle – within kaitiaki limits
- Sustainable management of three waters
- Tikanga (all things right), through the expression of mātauranga Māori (what we know or understand)

It is recommended that future planning for the Sites incorporate performance standards (specifications) for Infrastructure, Transport, and Sustainability for sustainable development that meets the needs of the present without compromising the ability of future generations to meet their own needs. By building on the above, this would support the balance of wealth generation and conservation of the environmental resources. Additionally, when any given Site is progressed, further analysis as to the consistency with National Direction and Legislation should occur.

This should include sustainability principles for the following factors:

- Water
 - Water consumption and recycling, landscape, and stormwater treatment
- Energy
 - Energy efficient design, energy management systems, and access to renewable power (incl. onsite generation)
- Environment Quality
 - Air quality, vegetation, sensitive ecology protection, and use of non-toxic materials
- Waste
 - Waste minimisation and recycling
- Transport
 - Public transport, active modes, accessibility, and end of trip facilities
- Building Design
 - High quality industrial estate that provides for inherent flexibility and adaptability
- Economic and Social
 - Business assistance, employee facilities, IT services, and future technologies.



A

Appendices

Section description

Appendix A: Multi-Criteria Analysis (“MCA”) Framework

SmartGrowth Industrial Land MCA Assessment

Note: The criteria has been cross checked with **UFTI** principles, **Connected Centres** principles, the **Market Economics Study**, and the **SmartGrowth Residential Land Capacity and Suitability Study** criteria

Criteria	Sub-criteria	KPI	Rationale	WEIGHTING
Strategic Fit	Government objectives alignment	Extent to which each option aligns with wider government strategic objectives for the development of the sub-region	Sites within the SmartGrowth Joint Spatial plan have undergone thorough investigation into the extension of existing urban form and are already justified/supported	5
Land Capability	Geotechnical/ Geological Risks & Natural Hazards	Susceptibility to slope stability / landslides	<p>Slopes in Western Bay greater than 18.5 degs typically considered unstable with typical 1 in 50 year design life of typical building structures. Risk can be reduced through:</p> <ol style="list-style-type: none"> landform modification or engineering (retaining walls) however increases cost of development. Applying set-backs from slope crests, however reduces yield of developable land. 	10
		Susceptibility to Liquefaction Hazard	<p>Recent Holocene-aged (<~10ka) alluvium below the groundwater table prone to liquefaction hazard (seismic vertical settlement). Typically these areas are constrained to active flood plains, harbour margins and channels. Liquefaction risk reduced by ground improvement, deep foundations or avoiding susceptible area.</p> <p>As industrial land typically of higher importance level for building design, greater levels of seismic shaking need to be applied for design (thus afforded a higher level weighting to MCA scoring).</p>	
		Susceptibility to lateral spread hazard	Lateral spread hazard (horizontal ground movement in response to liquefaction (see above).	
		Susceptibility to consolidation settlement hazard (soft compressible soils)	<p>Consolidation settlement of compressible soils under foundation and embankment loads is a common hazard in the Bay of Plenty. Typically prevalent in Quaternary soils, particularly for heavy foundation loads and floor/pavement loadings required by industrial buildings.</p> <p>Consolidation settlement will predominantly occur within Quaternary aged soils (mapped Q1a, Q2a etc; mQa) and in active floodplain and harbour margin environments. Coastal barrier dunes (Mount Maunganui Industrial Zone) with sandy soils less prone to settlements.</p> <p>The risks are reduced through undercut of shallow peat, or preloading to drive out predicted settlements, such they can be within foundation tolerances. Some areas, particularly estuarine/flood plain may require years of preloading as an alternative to expensive ground improvements.</p> <p>Suggest lower weighting as data input less definite and likely similar conditions for most sites.</p>	
			Land already zoned for industrial and with development	

Land Quality	Soil and groundwater contamination	Land zoning	history more likely to have soil or groundwater contamination issues needing to be resolved through development than not (albeit more suitable for development overall and with less restrictive contamination levels required to develop).	3
		Existing land contamination	The presence of existing contamination is not likely to represent a significant constraint to industrial redevelopment of land, due to the lower sensitivity of land use, however may represent an increased cost to develop. Impacted soils may generate additional waste stream (if not designed or accounted for) and groundwater may represent a pathway for water takes, potable water use and potential migration of vapours in extreme circumstances. Low weighting, as contamination sources can range to relatively insignificant, and risks can largely be managed subject to early identification and sustainable re-use policy established.	
Land Suitability	Drainage & Hydrology	Flood plain	Developing in a floodplain can be highly problematic. Displaced floodwaters can often have impacts on downstream landholders. Usually very difficult and costly to mitigate against.	8
		Overland Flow paths	If major overland flow paths run through the site these will either need to be maintained or redirected around the perimeter of the site. May take up land	
		Flooding in downstream catchment	If there is flooding in the downstream catchment then on site attenuation will be required so that there are no impacts on downstream landholders. This usually requires very large ponds which are expensive to build and take up large amounts of space. There are unlikely to be many locations however where this isn't the case.	
	Stormwater	Stormwater catchment management plans	Stormwater management plans usually require water quality and flooding issues to be addressed. Flooding concerns are dealt with in the items above. Water quality issues can usually be accommodated on site.	
Basic infrastructure servicing	Water supply	Proximity and capacity of water supply	Land for industrial development require basic infrastructure to service the intended purpose of the land which include the allowance of suitable water supply demand and operating pressures for domestic use and firefighting purpose.	6
	Wastewater	Proximity and capacity of wastewater infrastructure	Land for industrial development require basic infrastructure to service the intended purpose of the land which include the allowance of suitable wastewater disposal systems.	
	Waste management	Proximity to waste management facilities	Land for industrial development require basic infrastructure to service the intended purpose of the land which include the allowance of suitable waste management facilities.	
	Power, ICT, Gas	Utility companies	Land for industrial development require basic infrastructure to service the intended purpose of the land which include the allowance of suitable power supply and communication systems.	

Accessibility and proximity to the transport corridors	Ensure proximity of freight rail and road to identified priority routes	Land for industrial development needs to be accessible by freight via rail and road to move goods and materials in/out of WBOP	5
	Ensure accessibility to/from employment base (and therefore social services e.g. shops, schools, medical centres, professional services, community centres)	Local social and economic opportunities are located within a 15-min journey time, and sub-regional social and economic opportunities are located within 30-45 minutes journey time of existing urban and new residential growth areas	5
	Provide and improve Public Transport / Active Modes access to industrial areas	As per UFTI objectives, land for industrial development needs to be accessible by public transport and active modes, to encourage mode shift, provide mode choice and reduce carbon emissions within WBOP	3
	Maintain and improve existing performance of the supporting freight network	Proposed industrial land locations could induce additional demand on the transport network, in particular locations which already experience low levels of service. Increased demand at these locations could lead to additional delays and congestion of the state highway, local road and/or public transport network, and negatively impact the efficiency and effectiveness of the freight network	2
	City plan and regional planning mapping	Typically industrial zoned land is not located adjacent to sensitive zones, i.e. residential, cultural, heritage, significant natural areas etc., landscape layers (ONFL). With respect to potential reverse sensitivity effects and contribution to a well-functioning urban environment.	20
Environmental consideration/consenting requirements	National Environmental Standards or National Policy Statements	The NES and NPS Freshwater regulate activities within and adjacent to wetlands and freshwater bodies. Consideration of the location of freshwater within subject sites is required as this will significantly impact on the ability of any site to be developed in the future	
Land ownership complexity/fragmentation	Land ownership complexity would present additional potential issues if any land was to be acquired		
Land/Parcel size	Potential ease of development through less stakeholder involvement		

	LUC classification	LUC classification to be mapped with respect to NPS(HPL) requirements	
	Cultural considerations	Cultural and heritage sites to be mapped as sensitive areas	
			80

Appendix B: Document Summary

Document Title	Date	Owner/Author	Purpose
Draft SmartGrowth Joint Spatial Plan	2021	SmartGrowth	The Joint Spatial Plan is created by the SmartGrowth Partnership to predict the growth of the community and strategically decide what the best approach is to support demand.
Future Development Strategy	2018	SmartGrowth	SmartGrowth strategy, objectives, and desired outcomes. The purpose of the future development strategy is to ensure that there is a sufficient amount of capacity available for the development of the community.
Development Trends	2021	SmartGrowth	A technical report that addresses the development trends of business and housing land, while ensuring the requirements of the National Policy Statement on Urban Development have been met.
Integrated Planning and Settlement Pattern	2000-2020	SmartGrowth	Multiple research and reference reports that contribute to the settlement pattern, regarding the development of the western Bay of Plenty sub-region.
Urban Form and Transport Initiative	2020	Urban Form and Transport Initiative	The Urban Form and Transport Initiative (“ UFTI ”) report addresses strategic plans that can mitigate issues that are associated with urban form and transport.
Housing and Business Development Capacity Assessment 2017	2017	SmartGrowth	The Housing and Business Development Capacity Assessment (“ HBA ”) report addresses the National Policy Statement for Urban Development Capacity (“ NPS-UDC ”, now replaced by the NPS-UD) requirements for a Housing and Business Development Capacity Assessment. The objective is to hold updated evidence base that can contribute to strategic planning decisions for the western Bay of Plenty sub-regions urban growth.
Tauranga City and Western Bay of Plenty Housing and Business Development Capacity Assessment	16 December 2022	Market Economics for Tauranga City Council, Western Bay of Plenty District Council	Assessment of business land demand and supply analysis, as well as drawing conclusions about sufficiency. The HBA forms part of a wider workstream relating to employment projections across the city and district. The HBA aims to estimate the quantum of business (including industrial) land that is required to enable and support business activity over the next three decades, and to compare the outlook against available capacity.
Western Bay of Plenty Transport System Operating Framework Reports	2020	Western Bay of Plenty TSP Partners	The Western Bay of Plenty Transport System Operating Framework (“ TSOF ”) will guide projects within the Western BOP over the next 30 years to align to the UFTI. It indicates the primary and secondary routes for modes of transport at particular times of day to manage congestion, safety and competing demands for road space.

Appendix C: Geospatial Datasets

Dataset Title	Source
Three Water Utility Datasets:	
WBOP Water	https://map.westernbay.govt.nz/arcgisext/rest/services/Water_WFS/MapServer
TCC Water	https://mapi.tauranga.govt.nz/arcgis/rest/services/MapiServices/TCCUtilities/MapServer/71
BOPRC Water	https://gis.boprc.govt.nz/server2/rest/services/KDC/KDCThreeWaters/MapServer/
WBOP Wastewater	https://map.westernbay.govt.nz/arcgisext/rest/services/Sewer_WFS/MapServer
BOPRC Wastewater	https://gis.boprc.govt.nz/server2/rest/services/ODC/ODCThreeWaters/MapServer
TCC WasteWater	https://mapi.tauranga.govt.nz/arcgis/rest/services/MapiServices/TCCUtilities/MapServer
BOPRC Stormwater	https://gis.boprc.govt.nz/server2/rest/services/KDC/KDCThreeWaters/MapServer
WBOP Stormwater	https://map.westernbay.govt.nz/arcgisext/rest/services/Storm_WFS/MapServer
TCC Stormwater	https://mapi.tauranga.govt.nz/arcgis/rest/services/MapiServices/TCCUtilities/MapServer/127/ https://mapi.tauranga.govt.nz/arcgis/rest/services/MapiServices/TCCUtilities/MapServer/123 https://mapi.tauranga.govt.nz/arcgis/rest/services/MapiServices/TCCUtilities/MapServer/129 https://mapi.tauranga.govt.nz/arcgis/rest/services/MapiServices/TCCUtilities/MapServer/105
Flood Layers	
WBOP district plan – flood hazard layer “district” – “flood hazard”	https://map.westernbay.govt.nz/arcgisext/rest/services/District_PlanWFS/MapServer
WBOP Waihi Beach Flood	https://map.westernbay.govt.nz/arcgisext/rest/services/Other_Natural_Hazards/MapServer/7/
WBOP Wairoa flood	https://map.westernbay.govt.nz/arcgisext/rest/services/Other_Natural_Hazards/MapServer/8
WBOP Ōmokoroa Flood	https://map.westernbay.govt.nz/arcgisext/rest/services/Other_Natural_Hazards/MapServer/5/
WBOP Te Puke Flood	https://map.westernbay.govt.nz/arcgisext/rest/services/Other_Natural_Hazards/MapServer/6/
WBOP KatitKati Flood	https://map.westernbay.govt.nz/arcgisext/rest/services/Other_Natural_Hazards/MapServer/4/

WBOP Rural Settlement flood	https://map.westernbay.govt.nz/arcgisext/rest/services/Other_Natural_Hazards/MapServer/9
TCC Flood Prone Flood plain – flood prone area	https://mapi.tauranga.govt.nz/arcgis/rest/services/MapiServices/NaturalHazards_New/MapServer
TCC Floodable area	Layer: Floodable Area (ID: 162) (tauranga.govt.nz)
Protected Lots	
Consent notice Conservation covenant Ecological Environmental Protection actual polygon	https://map.westernbay.govt.nz/arcgisext/rest/services/Protected_Lots/MapServer
	https://map.westernbay.govt.nz/arcgisext/rest/services/Recommended_Protected_Lots/MapServer <ul style="list-style-type: none"> - DOC RAPs not already in DP - Environment protection proposed line - Environment protection proposed point - Environment protection proposed polygon - Environment protection proposed polygon registered
TCC Landslide shared dataset	
Landslide Prone (Earthquake and Rainfall events) Data Provided by TCC as a geodatabase	Sourced from: <ul style="list-style-type: none"> - Project Number: 2-9B441.01 Tauranga Landslide Study Technical Report
Geomorphology	
TCC geomorphology	https://mapi.tauranga.govt.nz/arcgis/rest/services/MapiServices/LandFeatures/MapServer
WBOP geomorphology	https://qis.boprc.govt.nz/server2/rest/services/BayOfPlentyMaps/CivilDefenceEmergencyManagement/MapServer
Liquefaction	

TCC Liquefaction	https://mapi.tauranga.govt.nz/arcgis/rest/services/MapiServices/NaturalHazards_New/MapServer					
BOPRC Liquefaction	Layer: Liquefaction - Level A (Basic Desktop Assessment) (ID: 10) (boprc.govt.nz)					
Planning Zones						
TCC Zones	Layer: Zoning 1:200,000 (ID: 145) (tauranga.govt.nz)					
WBOP district plan zones	https://map.westernbay.govt.nz/arcgisext/rest/services/District_Plan/MapServer					
SH Network	https://services.arcgis.com/CXBb7LAjgllDcsPt/ArcGIS/rest/services/SH_Network/FeatureServer					
NZ Rail	NZ Railway Network (arcgis.com)					
Land use Capability	Data Table NZLRI Land Use Capability 2021 LRIS Portal (scinfo.org.nz)					
Elevation Datasets						
From UFTI out of scope datasets	<p>Elevation___Areaabove350m Elevation___Areabetween250and350m</p> <table border="1"> <tr> <td>Elevation above 350m</td> <td>BOP</td> <td>internal BOPRC layer. Extracted land elevation above 350m from 15m LANDCARE DEM</td> <td>https://services1.arcgis.com/TWsoAGv_e3wb3oFHK/arcgis/rest/services/Elevation_above_350m/FeatureServer</td> <td>UFTI DATABASE - Areaabove350m_ClipUFTIAOI</td> </tr> </table>	Elevation above 350m	BOP	internal BOPRC layer. Extracted land elevation above 350m from 15m LANDCARE DEM	https://services1.arcgis.com/TWsoAGv_e3wb3oFHK/arcgis/rest/services/Elevation_above_350m/FeatureServer	UFTI DATABASE - Areaabove350m_ClipUFTIAOI
Elevation above 350m	BOP	internal BOPRC layer. Extracted land elevation above 350m from 15m LANDCARE DEM	https://services1.arcgis.com/TWsoAGv_e3wb3oFHK/arcgis/rest/services/Elevation_above_350m/FeatureServer	UFTI DATABASE - Areaabove350m_ClipUFTIAOI		
Māori Court blocks	<ul style="list-style-type: none"> - Māori owned land derived from “2017 Māori Court owned land” and Title information ‘August 2022’ 					
Future Market Growth Areas	Derived from SA2 Areas and Future Market growth figures provided by the future market growth economics report.					
UFTI Planned/Proposed Areas	Planned and Proposed Areas derived from the UFTI Spatial plan					
Coastal Inundation	COAST/Coastal Sensitivity Index Inundation NZTM (MapServer) (niwa.co.nz)					
Hail Site BOPRC depreciated dataset	https://qis.boprc.govt.nz/server2/rest/services/BayOfPlentyMaps/Environment/MapServer					

Appendix D: Stakeholder Communication and Engagement Summaries



Advisory Industrial Land Study



Background

Context

The SmartGrowth partners are currently developing a sub-regional Joint Spatial Plan that will incorporate the National Policy Statement on Urban Development (NPS-UD) requirements for a Future Development Strategy. A key part of this work is understanding the industrial land needs over the next 30 years.

SmartGrowth has recently completed a Housing and Business Development Capacity Assessment (HBA), as required by the NPS-UD . The 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 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 brings into question the sustainability and suitability of existing industrial land to continue to meet current demand.

Based on evidence thus far, the HBA confirms that the current situation is not sustainable and there is not enough industrial land capacity to cater for expected future growth.

In light of these issues, is it clear that there is a need for a long-term subregional view in respect of industrial development.

The purpose of the Industrial Land Study is to identify potential locations for future industrial development, consider the wider context (including geotechnical issues, reverse sensitivity, cultural matters) and then make recommendations on potential future industrial development locations based on these considerations. The study purpose and objectives are discussed in further detail below.

Project Objectives

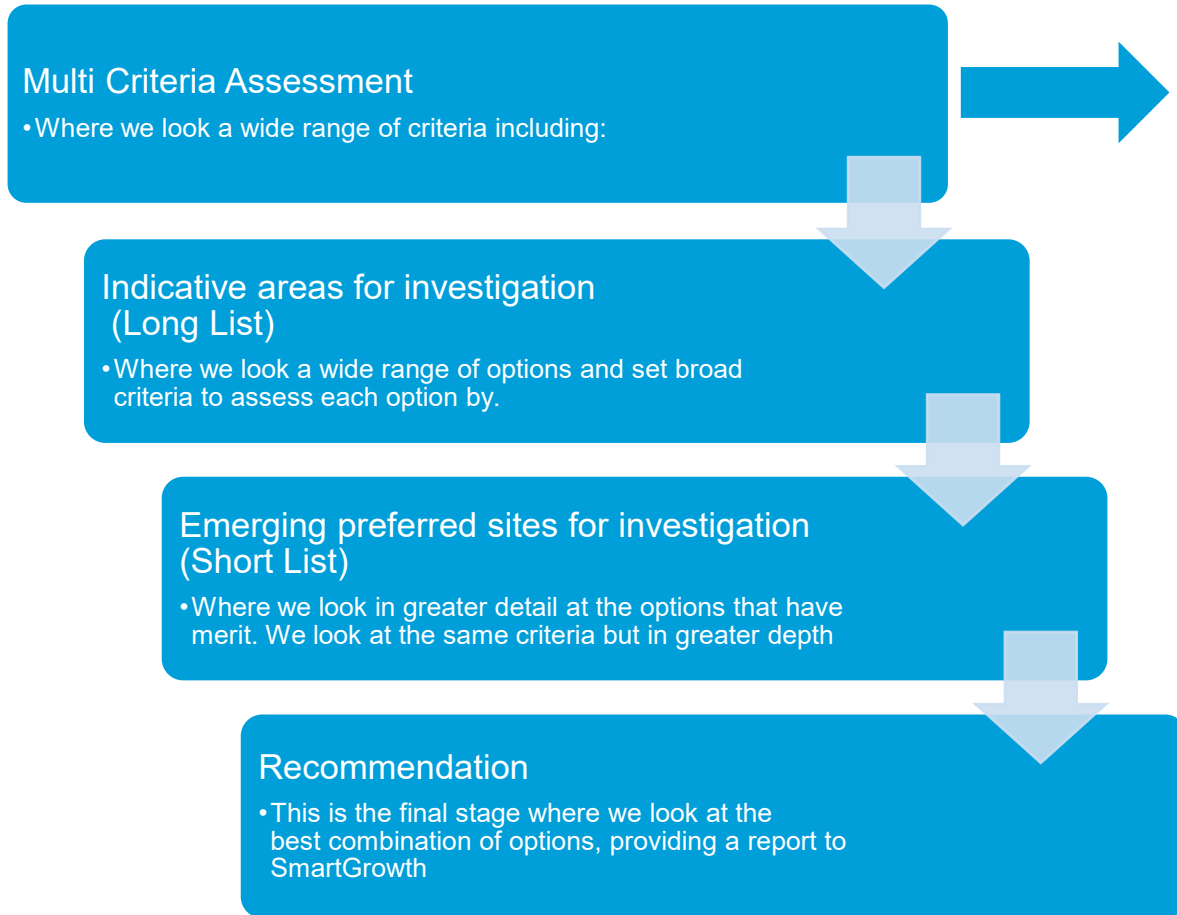
- Identify areas suitable for industrial development for the sub-region, taking into account the role of neighbouring regions. This will include identifying land that would be suitable for new, or relocating existing, heavy industry.
- Ensure there is sufficient industrial land supply over the long-term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

Spatial Modelling Approach – a repeatable process

Using the information we have, we test and assess against a variety of phenomena and land use scenarios:

- 1 Spatial test workflow using land parcel attributes
- 2 Spatial tests to delineate out of scope parcel areas
- 3 Multi-criteria, overlaid with strategic transport and workforce proximity to identify amalgamated sites

Process undertaken



- **Strategic Fit**
(UFTI Connected Centres Principles, Region & Local Planning regulations)
- **Market Fit**
(Housing and Business Assessment – Demand)
- **Te Ao Māori**
(Ngā Tangata and Te Taiao / Social and built environment and natural environment)
- **Land Capability**
(Geotechnical/Geological and natural hazards)
- **Land Quality**
(Soil and groundwater contamination)
- **Land Suitability**
(Drainage and Hydrology)
- **Infrastructure Servicing**
- **Accessibility & Proximity to transport corridors**
- **Environmental Considerations**

Here's what we've heard so far

CONSTRAINTS

Growth implications

Development and availability of land has implications such as an increase in prices and constraints around the pressure to meet growth demand.

Supporting infrastructure

Traffic congestion, infrastructure constraints etc, need to be looked at carefully for ongoing expansion and growth.

The lack of transport infrastructure limits city growth. Infrastructure delivery is always 'just in time', but often "too late".

The improvement of freight connections is critical to meet demand for logistics and distribution and to cater towards the golden triangle.

Resilience of areas- disruption from climate change

Disruptions from climate change should be considered when assessing future business land. It was presented that there is a chance that existing industrial areas may need to be relocated, which comes with its challenges.

Here's what we've heard so far

OPPORTUNITIES

Rural economy

Remains key, post-production facilities need to be automated to increase productivity.

Population dynamics

Population dynamics and growth come hand in hand to create new opportunities.

Housing development, housing prices and the relative attractiveness

The role of sufficient and appropriate housing is crucial.

Technology

The role of technology will impact the business-to-land relationships and labour content of local activities.

Sense of urgency for long term capacity

Sense of urgency to provide capacity over the long term, Tauriko was viewed as the main development area for short-medium term.

Indicative sites for investigation

The sites are clustered in four key areas.



Project name: **Smart Growth Industrial Land Study**
Figure 1: 3
aurecon
Legend
Indicative Sites for Investigation
National Industry Boundary
Map 4 of 4



Project name: **Smart Growth Industrial Land Study**
Figure 1: 4
aurecon
Legend
Indicative Sites for Investigation
National Industry Boundary
Map 4 of 4

Why we're here today

We're interested in hearing your thoughts and perspectives.

With reference to each key area:

- What have we missed?
- What are the key risks and challenges?
- What are the opportunities?

Post-it key:



Red post-its: Negative feedback / Perceived challenges



Green post-its: Positive feedback / Opportunities



Yellow post-its: Suggestions or question

Next Steps

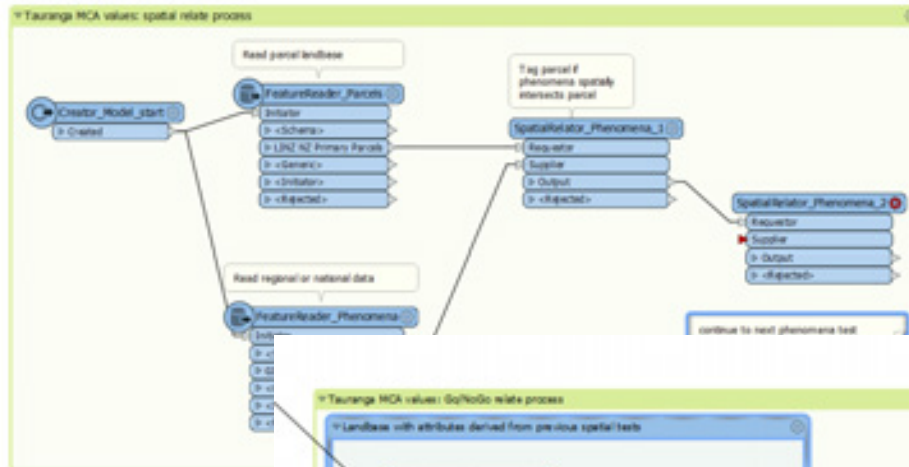
- The final report is due to be completed in the coming months.
- The findings from the SmartGrowth Industrial Land Technical Study will be input into the SmartGrowth Strategy 2023 (Joint Spatial Plan).
- Decisions on where future industrial land may be located will be subject to korero through the SmartGrowth Strategy.
- Any new industrial land will need to be rezoned and go through an RMA plan change process, including engagement with tangata whenua.

Spatial Modelling Approach – a repeatable process

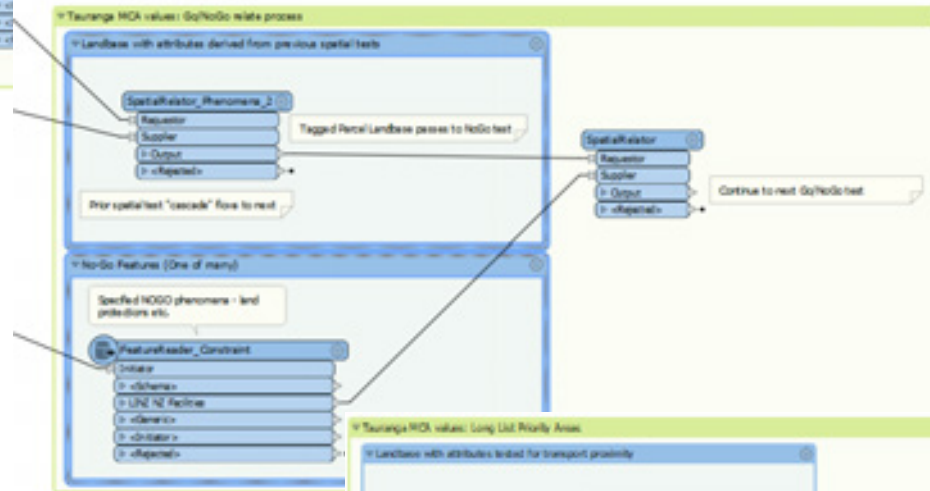
	1. Spatial test workflow using land parcels	2. Spatial tests to delineate no-go parcel areas	3. Spatial transport proximity and amalgamated site areas	4. Priority "Long List" areas visualisation
Purpose	A number of phenomena need to be recorded against the landbase to identify suitable areas for subsequent assessment.	A set of specific constraints are to be recorded against the landbase to identify areas to exclude from subsequent detailed assessment.	A set of tagged landbase parcels proximate to key transport links are grouped together to highlight Long List areas subsequent detailed assessment.	Grouping the tagged landbase parcels to identify areas to focus for subsequent detailed assessment.
Input	GIS data from regional and national datasets against the LINZ Parcel data set.	GIS data from local protective datasets against the LINZ Parcel data set.	Tagged landbase GIS parcel and transport network links.	Tagged LINZ Parcel data set and transport links
Output	Geoportal features for longlist and individual tagged parcels.	Tagged parcels with attributes indicating Go/NoGo.	Aggregated Long List site areas built from merged parcel groups.	Grouped areas of focus that meet size and location criteria: creating "Long List".
Outcome	Focus areas of specific assessment to land parcels that meet the defined criteria.	Focus model land parcel outputs away from no-go areas, and inform assessors of the attributes that discounted those parcels from shortlisting..	Focus SMEs to land parcel model outputs concentrated around transport links that meet industrial development size criteria.	"Long List" priority focus areas displayed along with SmartGrowth context features and planning boundaries. Used by SMEs to build "Short List" through detailed assessments.

Spatial Modelling Approach – a repeatable process

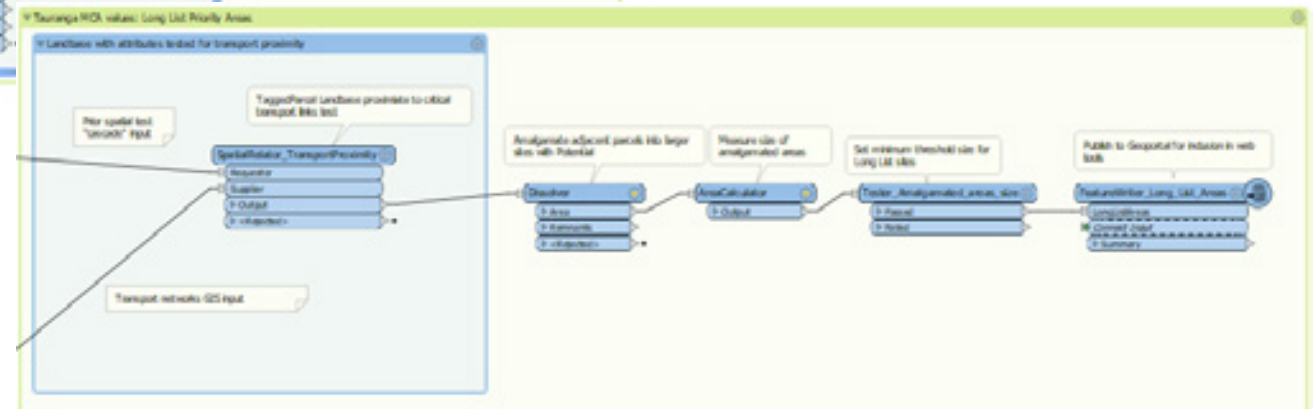
1. Spatial test workflow using land parcels



2. Spatial tests to delineate no-go parcel areas



3. Spatial transport proximity and amalgamated site areas



Demand Overlay (Ref: Market Economics, 2022)

Business Land Vacant capacity:

WBoP	TGA
48ha	112ha
Future potential (Greenfield capacity)	
379ha	166ha

ha		Approach 1: General ratios*			Approach 2: Local ratios*		
Type		Short-term 2021-2024	Medium-term 2024-2031	Long-term 2031-2051	Short-term 2021-2024	Medium-term 2024-2031	Long-term 2031-2051
Tauranga	Demand within period						
	Comm. & Retail	22	42	86	19	38	78
	Industrial	60	130	273	52	119	221
	Running total/Cumulative demand						
	Comm. & Retail	22	64	150	19	58	136
	Industrial	60	190	462	52	170	391

Tauriko will continue to provide core short-medium term supply, but requires significant infrastructure to meet longer term demand

Providing capacity close to Tauranga, with high quality transport accessibility and supporting infrastructure, will ensure that the city and sub-region can compete for the investment.

An estimated long term shortfall of 203-267ha in TGA

WBoP – estimated capacity is sufficient to cater for industrial growth*

The spatial distribution of industrial capacity is towards the east, around Rangiora with this area making up the largest portion of the future capacity (43%). This area has been slow to develop*

ha		Approach 1: General ratios*			Approach 2: Local ratios*		
Type		Short-term 2021-2024	Medium-term 2024-2031	Long-term 2031-2051	Short-term 2021-2024	Medium-term 2024-2031	Long-term 2031-2051
WBoP	Demand within period						
	Comm. & Retail	5	7	14	4	8	15
	Industrial	18	37	71	19	38	70
	Running total/Cumulative demand						
	Comm. & Retail	5	12	26	4	12	27
	Industrial	18	55	127	19	58	128

Approach 1 reflects the results using 'general ratios' (land-employment relationships) as observed around NZ. Approach 2 reflects the results if local land-employment ratios are used.

*If the envisaged greenfield developments do not manifest in a reasonable timeframe (relative to growth), sufficiency will be under pressure, undermining local growth effects, and the constraining economy growth and competitiveness.



Shortlisting assessment by Specialist Advisors

Criteria	Sub-criteria	KPI	
Te Ao Māori	Relationships with ancestral lands, waters, sites, wāhi tapu and other taonga	Recognise tāngata whenua values	
		Alignment with development aspirations for Māori land	
Strategic Fit	UFTI objectives alignment to Connected Centres (implementation principles)	To enable and shape a sustainable, vibrant, efficient, and more liveable urban form	
		To enable and support sufficient housing supply in existing and new urban areas to meet current and future needs	
		To support access to economic and social opportunities as the western Bay of Plenty population and economy grows	
		To ensure long-lasting economic, social, environmental, and cultural benefits and value for money from the agreed strategic plan	
		To improve measurable transport outcomes such as congestion levels, road safety, travel choice and private vehicle dependency, and environmental impacts(CO2)	
		Predictability of interpeak travel times on freight priority journeys	
		% of jobs that are assessible within a 30-45 minute travel threshold by private vehicles (currently 80%; 2070-67%), PT (currently 22%; 2070-58%)	
		Government objectives alignment	Extent to which each option aligns with wider government strategic objectives for the development of the sub-region
			Land price
		Market fit	

Criteria	Sub-criteria	KPI
Land Capability	Geotechnical/ Geological Risks & Natural Hazards	Susceptibility to slope stability / landslides
		Susceptibility to Liquefaction Hazard
		Susceptibility to lateral spread hazard
		Susceptibility to consolidation settlement hazard (soft compressible soils)
Land Quality	Soil and groundwater contamination	Land zoning Existing land contamination
Land Suitability	Drainage & Hydrology	Flood plain
		Overland Flow paths
		Flooding in downstream catchment
Basic infrastructure servicing	Stormwater	Stormwater catchment management plans
	Water supply	Proximity and capacity of water supply
	Wastewater	Proximity and capacity of wastewater infrastructure
	Waste management	Proximity to waste management facilities
		Utility companies
	Accessibility and proximity to the transport corridors	
Ensure accessibility to/from employment base (and therefore social services e.g. shops, schools, medical centres, professional services, community centres)		
Provide and improve Public Transport / Active Modes access to industrial areas		
Maintain and improve existing performance of the supporting freight network		
City plan and regional planning mapping		
Environmental consideration/ consenting requirements		National Environmental Standards or National Policy Statements
		Land ownership complexity/fragmentation
		Land/Parcel size
		LUC classification
		Cultural considerations

Our scope is to identify the top 4 sites for further detailed engagement and investigation, to determine their suitability to be progressed to development ready, to feed industrial land demand.

Ngā mihi nui



Advisory
SmartGrowth
Industrial Land Study

Stakeholder Workshop Summary

aurecon

Workshop Summary

Date/Time:

Tuesday 21 February
8:30am – 10:30am

Location:

Basestation
Babbage Event Space
148 Durham Street, Tauranga

Attendees:

Listed as appendix

Sites for investigation:

1. Eastern Corridor –
Including Te Puke, Rangiuru, Paengaroa
2. TEL Junction – including Domain Rd, Tara Rd,
Welcome Bay Rd, Otawa
3. Western Corridor – including Omanawa, Belk
Rd, Pukemapu
4. Northern Corridor –
including Te Puna, Omokoroa

The intent of the workshop was to provide an opportunity for information sharing, collect feedback from a range of interest groups including major industry members, mana whenua representatives, land developers and economic development agencies. Aurecon shared information about the study process to date, including data gathering and spatial modelling in alignment with a multi criteria assessment framework, assessment findings, key risks and opportunities relating to the current list of sites emerging for potential future industrial development investigation.

The workshop enabled robust discussion, with parties vested interests and perspectives coming to the forefront.

Not surprisingly, we heard that sites identified as having good connection to existing infrastructure, road and rail were seen more positively. Similarly, those with good proximity to established townships and industry were advantageous.

Environmental factors specifically relating to flooding, stormwater management and topography were raised across all sites, but especially in connection to the Eastern Corridor, TEL Junction and Western Corridor. Cultural considerations were raised too, with specific reference to developments already underway and a comment to consult with iwi prior.

When looking at preferred sites, the Belk Road site option seemed to have the strongest positive feedback within the Western corridor map. Factoring good connections to roading, good connection with the existing industrial estate and the environmental aspects to the site seemed to have nothing that appeared insurmountable with respect to eventual development.

Overarching Themes

- Connection and proximity
- Economic Growth
- Flooding / environmental risks
- Site-specific positive
- Site-specific negative

Site-specific post-it comments that were transcribed and grouped out of the discussions are shown on the following slides.

Workshop Themes: Site 1

Eastern Corridor – Including Te Puke, Rangiuuru, Paengaroa

Connection and proximity

- Opp to connect cycleways
- Rail link (1.1)
- Proximity to existing communities / new township
- Rangiuuru 2 & 11, logical growth, good roading, major intersection, synergy with RBP

Cultural consideration

- Buffers from Marae especially Tuhourangi (1.5)
- Need to engage with Iwi/Hapu (1.7)
- Known Tangata Whenua concerns: Water supply from Waiari, Wastewater discharges to Waiari
- Discussion around mapping cultural heritage sites

Economic growth

- Employment opportunities
- Kiwifruit industry, requires expansion for pack houses etc.
- Park 'n' ride at Paengaroa

Flooding

- Flooding around sites (1.4)

SITE 1:
 Eastern Corridor –
 Including Te Puke,
 Rangioru, Paengaroa

Need to engage
 w/
 - Waikā Drainage
 scheme
 - Te Maru o
 Kaitiaki River
 Authority

* EXTENSION
 OF
 EXISTING

Rangi 2 + 11
 - logical growth Co-
 Rangioru business park
 - Also already located
 - Good road network
 - major connection
 - synergy with Rangioru
 PA

Park 'n' Ride
 @ Paengaroa

FLOORING

Need to engage
 w/
 - Iwi/hapū
 - Relevant +
 nearby Māori
 Land
 Trusts

- PARASOFT
 VILLAGE
 this is
 RESIDENTIAL
 LIGHT INDUSTRIAL
 - Rangioru PA

Connectors of
 traffic to Rangioru
 will benefit. Headlifts.

Opp to
 connect
 cycleways

Don't touch
 the Te Puke
 Golf
 Club

* WEST
 INDUSTRIAL
 AREA
 - Sub Area - Rangioru

Go carefully
 with engagement
 lots of recent
 botched up attempts
 via other
 projects

Group of
 Kiwisoft
 including
 Te Puke East

Rail Link
 FEL

Known Tāngata
 Whenua concerns
 re:
 - water supply from
 Waikā
 - waste water
 discharged to water
 - Rangioru + Kaitiaki
 - Cultural heritage impact

Need to
 map brown
 cultural
 heritage
 sites

Proximity
 to existing
 communities
 (+) new township

Employment
 opportunities
 for locals

Buffers
 from Mārae
 esp Tuharangi



Workshop Themes: Site 2

TEL Junction – including Domain Rd, Tara Rd, Welcome Bay Rd, Ottawa

Connection and proximity

- Close to Papamoa/Te Puke and roads
- Some potential sensitivity issues at some locations here due to proximity to residential areas (Domain Road 1)
- Some of this area is very visible from areas of Papamoa and the SH due to its slight elevation, could cause visual amenity issues, similar issues may exist to the SE, not sure (Domain Road 2).

Cultural consideration

- Known concerns from Tapuika/Waitaha re: Waiarki

Flooding

- Flooding risks for all areas in site 2

Limited Ownership

- Land is available, discussion around the other urban development requirements. Site is ready (Ottawa 2 & Tara Road 2 + 2.1)

SITE 2:

TEL Junction –
including
Domain Rd, Tara
Rd, Welcome
Bay Rd, Ottawa

Buffer
around/
from
Kura +
Schools

Why not
included?

Limited
Ownership

Flooding
risks

Planned
papakāinga
along
Kairua Rd
(chat to
Arthur)

Close
to roads

Known
concerns
from Tapika/
Wairaka
re: HAIKI
Water supply

Close to
pāpāma
Te Puke



Workshop Themes: Site 3

Western Corridor – including Omanawa, Belk Rd, Pukemapu

Environmental risks

- Flooding issues/stormwater management (3.4)
- Topography creeks and streams (3.3)
- Need to engage with Te Kauae a Koopu (3.5)

Positive site attributes

- Elevation of sites positive
- Opportunity to incorporate walkways and ecological corridors (gullies)
- Extension of TBE
- Contour is good
- Natural buffer
- Landform is good
- Alignment with existing industrial estate (3.8)
- Potential options for half/serviceable areas of sites (3.6)
- Adjacent housing for workforce (live,work,play)

Negative site attributes

- Fragmentation of land ownership
- Reverse sensitivity issues
- Part of Keenan Road UGA
- Uncertainty over SH29, upgrades required
- Long term business case issues

Other ungrouped comments

- Proximity to UNI mkts
- Is this one of the areas with less congestion issues when accessing the Port (more so the container terminal, issues remain with the harbour bridge) (Omanawa 1 & Belk Road 1)

SITE 3:

Western Corridor – including Omanawa, Belk Rd, Pukemapu

Proximity to open water

Need to engage with i-Kāiārae a Roopu

UNCERTAINTY OVER -54.29 UPGRADES REQUIRED

Reverse Sustainability Issues

Alignment is avoiding industrial estate

Potential options for half/variable areas of sites

Flooding Kōwhiri / SW Management

Fragmentation of industrial estate

Opp to incorporate walkways + ecological corridors (gullies)

Elevations of sites +ve.

Part of Kōwhiri Road UGA.

Topography Creeks + streams

Extension of the Greenfield Network in the Landform + separate zoning for services - transport

Long term BC issues





Workshop Themes: Site 4

Northern Corridor – including Te Puna, Omokoroa

Connection and proximity

- Proximity to rail (4.1)
- Te Puna site 1 (4.2) access to SH and intersection to service

Economic Growth

- Employment for Omokoroa Hub-Industrial uses
- More jobs close to Omokoroa (live,work,play)
- Cool stores, post-harvest, buying land around local areas 480-100/m2 for land to then development

Negative environmental elements

- Steep land on other side of SH2 Omokoroa
- Already negative feedback of Station Rd development/ industrial zoned land
- Low lying close proximity to river

Negative market attributes

- Getting close to lifestyle

SITE 4:

Northern Corridor –
including Te Puna,
Omokoroa

Low lying
Close proximity to
river
(43)

Getting to
Close to lifestyle
Land price (45)

Employment
for Anderson
Hubs
- Industrial uses

Te Puna 1
- access to SH
- interaction to service
-

= Workforce
- Commute
- Distance to port

Already negative
feedback of
Station 2nd
development/
ind zoned
(46)

Coolsties
Post-harvest
buying land
small land
near
\$80-100k for land
+ other costs.

proximity
to rail
(47)

Multiple
ownership

Steep land
on other side
of SH2
Anderson
(48)

Need^s to
ensure
engagement with
respective
Iwi/hapu

More jobs
Close to Omaha
'for work play'



Attendees

Greg Simmonds	Priority One	David Phizachlea	SmartGrowth Project Team
Grant Downing	Element IMF	Tracey Miller	SmartGrowth Project Team
Nathan York	Bluehaven	Andy Mead	SmartGrowth Project Team
Jeff Fletcher	Property Developers Forum	Adam Fort	SmartGrowth Project Team
Paul Hickson	Te Puke Economic Development		
Mark	Kiwifruit Association	Harriet McKee	Aurecon Project Team
Mark Arbuthnot	Tauranga Crossing	Johan Pretorius	Aurecon Project Team
Andrew Vincent	Fosters	Daniel Robinson	Aurecon Project Team
Matthew Fenton	Preston Rowe Paterson	Chloe Reid	Aurecon Project Team
Jeremy Tucker	Preston Rowe Paterson	Grace Hakaria	Aurecon Project Team
Matt	Property Institute	Jason Ridley	Aurecon Project Team (online)
Elva Conroy	SmartGrowth Combined Tangata Whenua Rep		
Michelle Grinlinton-Hancock	Kiwi Rail (online)		
Joey McKenzie	Port of Tauranga (online)		



a *Bringing ideas
to life*



Advisory Industrial Land Study



Background

Context

The SmartGrowth partners are currently developing a sub-regional Joint Spatial Plan that will incorporate the National Policy Statement on Urban Development (NPS-UD) requirements for a Future Development Strategy. A key part of this work is understanding the industrial land needs over the next 30 years.

SmartGrowth has recently completed a Housing and Business Development Capacity Assessment (HBA), as required by the NPS-UD . The 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 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 brings into question the sustainability and suitability of existing industrial land to continue to meet current demand.

Based on evidence thus far, the HBA confirms that the current situation is not sustainable and there is not enough industrial land capacity to cater for expected future growth.

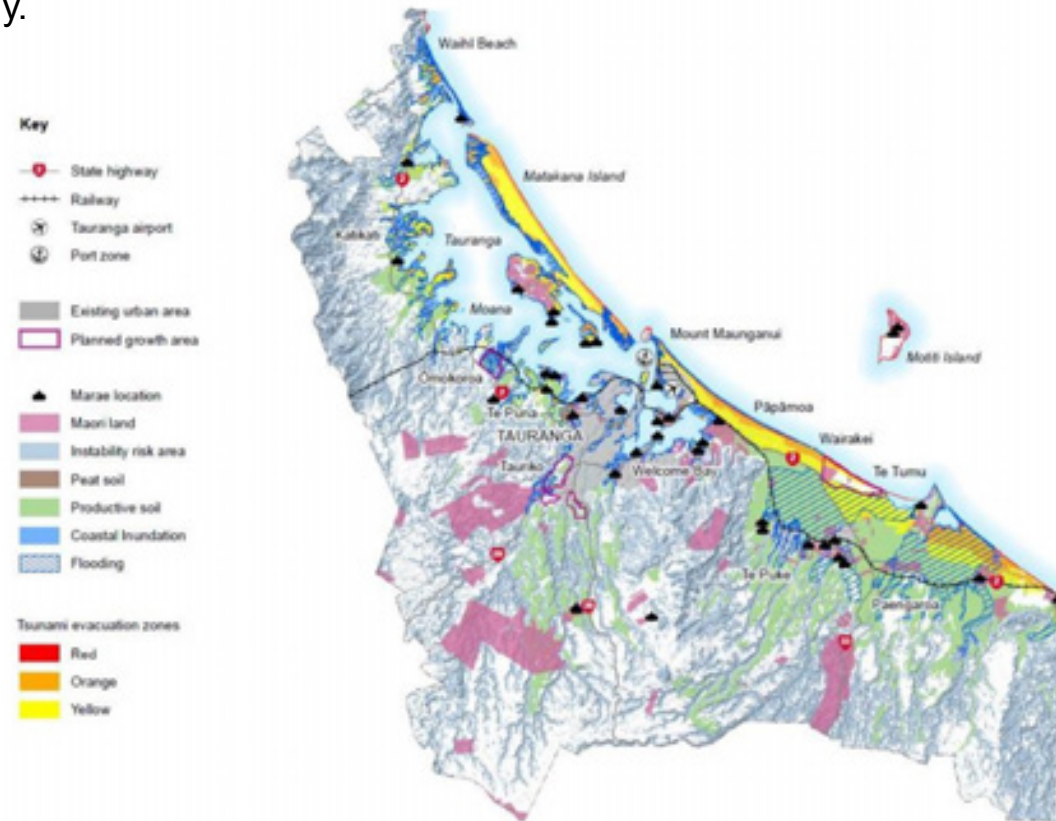
In light of these issues, is it clear that there is a need for a long-term subregional view in respect of industrial development.

The purpose of the Industrial Land Study is to identify potential locations for future industrial development, consider the wider context (including geotechnical issues, reverse sensitivity, cultural matters) and then make recommendations on potential future industrial development locations based on these considerations. The study purpose and objectives are discussed in further detail below.

Purpose of the Technical Study

The purpose of the Industrial Land Study is to identify industrial land locations for the sub-region over the next 30 years to ensure that there is sufficient supply to meet demand.

The outputs of this study will be used to support future decision-making on industrial land and will feed into the Joint Spatial Plan / Future Development Strategy.



Study Area: The western Bay of Plenty sub-region which encompasses the land within the jurisdiction of the Tauranga City Council and the Western Bay of Plenty District Council.

Project Objectives

- 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
- Take into account strategic level influences on industrial land in the western Bay of Plenty
- Take into account commercial factors that affect development decisions
- Ensure adequate engagement with key stakeholders to help inform the work

Objectives of this Hui

We recognise that you as Tangata Whenua hold the insights, aspirations, values and knowledge when it comes to Te Ao Māori, specific to your rohe.

Summary of hui objectives;

- Provide transparency that this Study has begun and recap on it's objectives
- Provide an initial forum for knowledge sharing, specific to understanding the relationships with ancestral lands, waters, sites, wāhi tapu and other taonga that may not be identified yet
- Understand local values and aspirations
- Seek input on Te Ao Māori and how information is used to assess sites for this technical study

Multi Criteria Assessment Framework

Aurecon has been engaged to create the MCA framework, assess land suitability and provide a subsequent report detailing the possible industrial site options that meet the criteria.

The high-level criteria categories are listed below and Te Ao Maori considerations are woven through many of them:



Referenced through various criteria in the identification or exclusion of sites that have cultural significance, cultural heritage, landscape values, sensitive ecology.

'Current state' Natural Environment and Social/Built Environment references (2021 Joint Spatial Plan)

Figure #
**Tangata Whenua
Ngā Tangata
(Social & Built Environment)**

- Key**
- State highway
 - Railway
 - ✈ Tauranga airport
 - ⚓ Port zone
 - Existing urban area
 - Planned growth area
 - Potential growth area
 - Cultural view shaft
 - View shaft
 - Schools - primary, secondary & tertiary
 - Papakāinga
 - Nga Kohanga Reo
 - Hauora
 - Marae location
 - Marae / CD centre
 - Māori land
 - Cultural heritage site - land
 - Cultural heritage area - marine
 - Significant natural area
 - Reserves & DOC land
 - Pāpāmoa Regional Park
 - Huharua Park
- DRAFT PRINTED 24/08/2021
GSP-626203

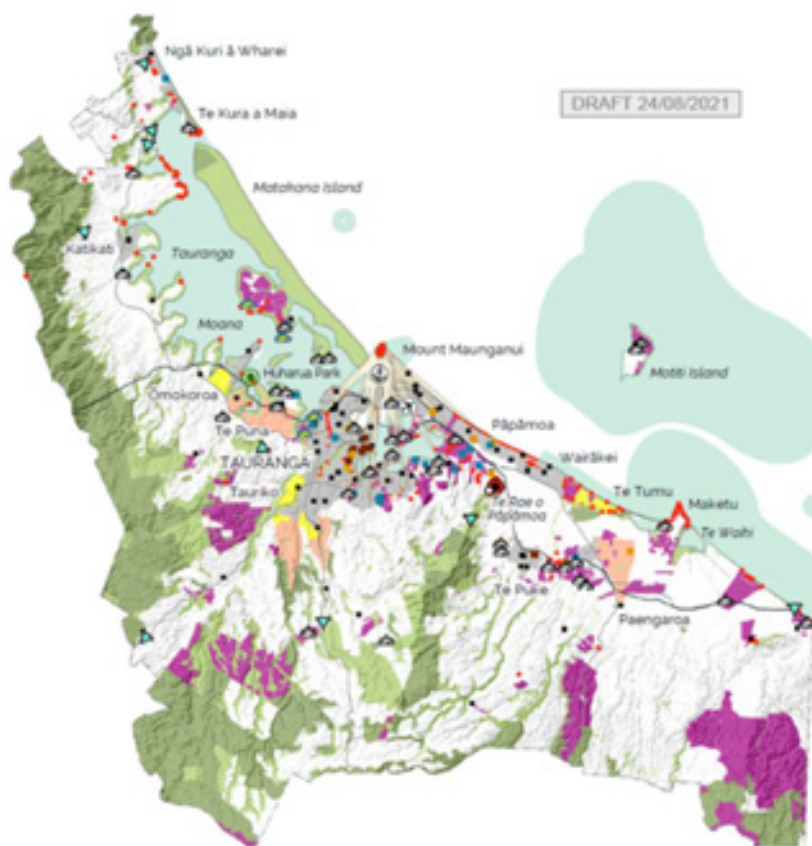


Figure #
**Tangata Whenua
Te Taiao
(Natural Environment)**

- Key**
- State highway
 - Railway
 - ✈ Tauranga airport
 - ⚓ Port zone
 - Waterway
 - Maunga
 - Existing urban area
 - Intensification
 - Planned growth area
 - Potential growth area
 - Statutory Acknowledgements
 - Key green space
- DRAFT PRINTED 24/08/2021
GSP-626203



Recognised tāngata whenua values and relationships with ancestral lands, waters, sites, wāhi tapu and other taonga have been guided by local values (existing/known as identified in the 2021 JSP)

Spatial Modelling Approach – a repeatable process

	1. <u>Spatial test workflow using land parcels</u>	2. <u>Spatial tests to delineate no-go parcel areas</u>	3. <u>Spatial transport proximity and amalgamated site areas</u>	4. <u>Priority "Long List" areas visualisation</u>
Purpose	A number of phenomena need to be recorded against the <u>landbase</u> to identify suitable areas for subsequent assessment.	A set of specific constraints are to be recorded against the <u>landbase</u> to identify areas to exclude from subsequent detailed assessment.	A set of tagged <u>landbase</u> parcels proximate to key transport links are grouped together to highlight Long List areas subsequent detailed assessment.	Grouping the tagged <u>landbase</u> parcels to identify areas to focus for subsequent detailed assessment.
Input	GIS data from regional and national datasets against the LINZ Parcel data set.	GIS data from local protective datasets against the LINZ Parcel data set.	Tagged <u>landbase</u> GIS parcel and transport network links.	Tagged LINZ Parcel data set and transport links
Output	Geoportal features for longlist and individual tagged parcels.	Tagged parcels with attributes indicating <u>Go/NoGo</u> .	Aggregated Long List site areas built from merged parcel groups.	Grouped areas of focus that meet size and location criteria: creating "Long List".
Outcome	Focus areas of specific assessment to land parcels that meet the defined criteria.	Focus model land parcel outputs away from no-go areas, and inform assessors of the attributes that discounted those parcels from shortlisting..	Focus SMEs to land parcel model outputs concentrated around transport links that meet industrial development size criteria.	"Long List" priority focus areas displayed along with <u>SmartGrowth</u> context features and planning boundaries. Used by SMEs to build "Short List" through detailed assessments.

Shortlisting assessment by Specialist Advisors

Criteria	Sub-criteria	KPI
Te Ao Māori	Relationships with ancestral lands, waters, sites, wāhi tapu and other taonga	Recognise tāngata whenua values Alignment with development aspirations for Māori land
Strategic Fit	UFTI objectives alignment to Connected Centres (implementation principles)	To enable and shape a sustainable, vibrant, efficient, and more liveable urban form
		To enable and support sufficient housing supply in existing and new urban areas to meet current and future needs
		To support access to economic and social opportunities as the western Bay of Plenty population and economy grows
		To ensure long-lasting economic, social, environmental, and cultural benefits and value for money from the agreed strategic plan
		To improve measurable transport outcomes such as congestion levels, road safety, travel choice and private vehicle dependency, and environmental impacts(CO2)
		Predictability of interpeak travel times on freight priority journeys
Government objectives alignment	Extent to which each option aligns with wider government strategic objectives for the development of the sub-region	% of jobs that are assessible within a 30-45 minute travel threshold by private vehicles (currently 80%; 2070-67%), PT (currently 22%; 2070-58%)
Market fit		Land price
		Industrial land type demand and supply analysis

Criteria	Sub-criteria	KPI
Land Capability	Geotechnical/ Geological Risks & Natural Hazards	Susceptibility to slope stability / landslides
		Susceptibility to Liquefaction Hazard
		Susceptibility to lateral spread hazard
Land Quality	Soil and groundwater contamination	Susceptibility to consolidation settlement hazard (soft compressible soils)
		Land zoning
Land Suitability	Drainage & Hydrology	Existing land contamination
		Flood plain
		Overland Flow paths
Basic infrastructure servicing	Stormwater	Flooding in downstream catchment
		Stormwater catchment management plans
	Water supply	Proximity and capacity of water supply
		Proximity and capacity of wastewater infrastructure
	Waste management	Proximity to waste management facilities
		Utility companies
Accessibility and proximity to the transport corridors	Power, ICT, Gas	Ensure proximity of freight rail and road to identified priority routes
		Ensure accessibility to/from employment base (and therefore social services e.g. shops, schools, medical centres, professional services, community centres)
		Provide and improve Public Transport / Active Modes access to industrial areas
		Maintain and improve existing performance of the supporting freight network
		City plan and regional planning mapping
		National Environmental Standards or National Policy Statements
Environmental consideration/ consenting requirements		Land ownership complexity/fragmentation
		Land/Parcel size
		LUC classification
		Cultural considerations

Our scope is to identify the top 4 sites for further detailed engagement and investigation, to determine their suitability to be progressed to development ready, to feed industrial land demand.

Applying the Te Ao Māori MCA Criteria

Can you tell us about...

- Development aspirations known
- Values / Kaupapa / Principles we should be factoring
- Additional sites currently not shown on the mapping
- Maatauranga Māori considerations

Next Steps

- A workshop with key stakeholders is being scheduled later this month to discuss the study and to present draft findings when available.
- The final report is due to be completed by 13 March 2023.
- The findings from the SmartGrowth Industrial Land Technical Study will be presented to the CTWF and will be an input to the SmartGrowth Strategy 2023 (Joint Spatial Plan).
- Decisions on where future industrial land may be located will be subject to korero through the SmartGrowth Strategy and Tangata Whenua Spatial Plan processes.
- Any new industrial land will need to be rezoned and go through an RMA plan change process, including engagement with tangata whenua.

Pātai / Questions

- How do you want to engage going forward?
- Would you like to attend the upcoming stakeholder workshop later this month?
- Do you want to audit how we use any information you give us?
- Do you want the opportunity to provide feedback on the short-listed sites?

Ngā mihi nui

Grace Hakaria

Email : grace.hakaria@aurecongroup.com

Mobile : 027 622 6202

SmartGrowth Industrial Land Study Combined Tangata Whenua Subgroup Meeting Notes

2.2.2023

Attendees:

Arthur Flintoff – CTWF

Leanne Faulkner – CTWF

Kura Martin – CTWF

David Phizacklea – SmartGrowth

Rebecca Hollett (Online) – Aurecon

Zoe Langman – Aurecon

Grace Hakaria – Aurecon

Notes:

- Market Economics report – share
- Long-term plans/mix of industrial land? How do we address heavy industrial within/near regional areas.
- Te Ao Māori – applies to more than just strategic fit, land suitability, and environmental considerations and consenting requirements? E.g., land quality etc.
- Rangiuru Lots 4, 2, 6 are on mana whenua (among others)
- Access to the archGIS model to share with tangata whenua?
- Pā /urupā sites on printed map – explanation of the key e.g., combination / unknown are unclear. Suggest inclusion of macrons for maintaining tikanga
- What are the no-go criteria specifically?
- What about the impact of industrial land on nearby sites?
- How does the land affect the mauri? What is the mauri of the land?
- Concerns from Arthur re: resourcing capability to assist with input on the map
- What is the industry planned for each site? Speak with the hapū for each area who will be impacted by the industrial land to establish what is important to them. Consider shareholders and the associated process for mana whenua.
- More consideration for past use of land
- If it's not good for Ranginui and Papātuānuku, then it's a no-go for us (with regard to land use and industry)
- Would like a Tohunga Rangatira from each hapu for future engagement
- Cultural offset? Des Heke involvement?
- International relationships – other countries who are more technologically advanced than us. Are we leveraging this technology and knowledge (and relationships) / incentivising low impact industrial activities
- Principles of circular economy and how this applies to Te Ao Māori.
- Te Ao Māori vs tikanga vs mātauranga Māori – need to represent this more accurately through the mapping and assessment of appropriate sites if we expect to be able to engage tangata whenua productively.

Questions

- How do you want to engage moving forward?

Arthur expressed they want to engage their own spatial experts to understand the context / data ahead of getting deeper into the project/engagement process. As much as possible moving forward.

- Would you like to attend the upcoming stakeholder workshop later this month?

Yes (Kura and Leanne). Arthur declined because he wants to be a part of the ongoing partnership.

- Do you want to audit how we use any information you give us?

Yes

- Do you want the opportunity to provide feedback on the short-listed sites?

Yes

Actions

- David to confirm with subgroup if/when the archGIS data can be shared.
- Share Market Economics business capacity report
- Share meeting notes (these)
- Communicate date of stakeholder workshop and dates for subsequent information / questions from the group
- Provide the subgroup members with the opportunity to provide feedback on the short-listed sites
- Present the industrial land technical study findings back to the CTWF when complete

Summary of what we heard as possible principles / values to inform the outcomes of the industrial study and Spatial Planning.

- Leave it better than it was – cleaner air, water
- Long term value and mutually beneficial outcomes
- Draw on International relationships - cleaner technology, fuel, re-use
- Localisation
- Principles of circular economy – reuse, recycle - kaitiaki limits
- Three waters
- Tikanga (all things right) is the through the expression of mātauranga Māori (what we know or understand)

Appendix E: Supporting Map Sets

LEGEND

 Territorial Authority Boundary

 Emerging preferred sites for investigation

Hydrology and Environment

 Floodable Area - WBOP

 New Zealand Waterway Centerlines - LINZ hydrography

 Environment - Wetlands

Liquefaction*

 Possible

 Undetermined

 Unlikely

Environmental Protected Lots

 Statutory Acknowledgement Areas


 Consent Notice Covenant

 Ecological

 Environment Protection Actual Polygon

 Conservation Covenant

Cultural

 Marae Locations

 Significant Māori Areas - Tauranga City

Cultural sites – Western Bay of Plenty District

 Unknown

 Combination

 Māori

 Non Māori

Road / Rail - Road Class

 CLASS 1 / 2

 CLASS 1 / 2

 CLASS 3

 CLASS 4

 CLASS 5

 CLASS 6

 CLASS 7

 New Zealand Rail Network

Western Bay of Plenty - Planning Zones

 Commercial

 Commercial Transition

 Future Urban

 Horticultural Post Harvest

 Industrial

 Light Industrial

 Lifestyle

 Medium Density Residential

 Residential

 Rural

 Rural Residential

 TECT All Terrain Park

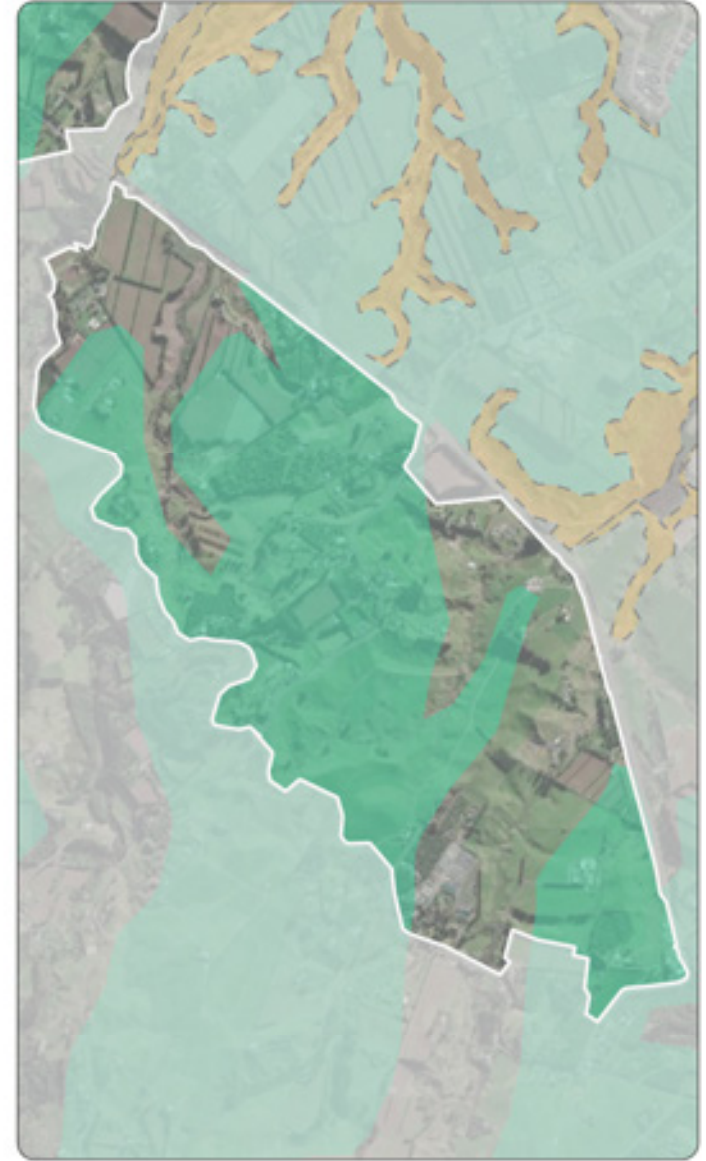
*We recommend that areas mapped 'liquefaction is possible' be utilised as a preliminary reference to identify areas of potential consolidation settlement hazard



Flooding / Wetlands / Waterways

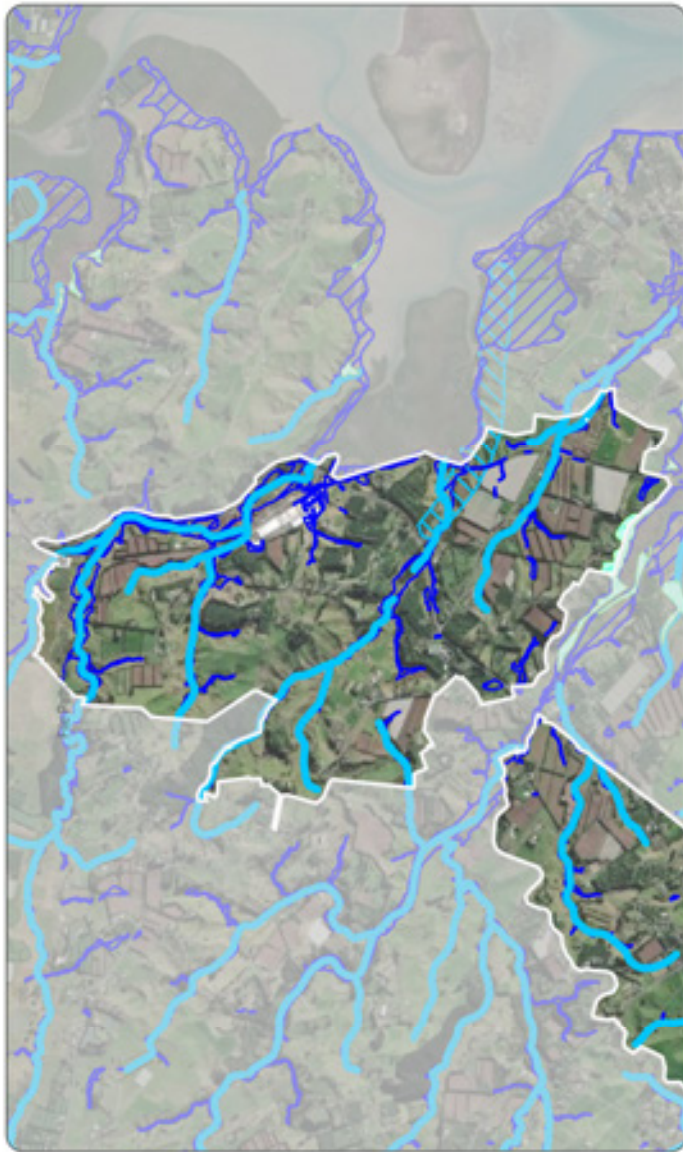


Topography

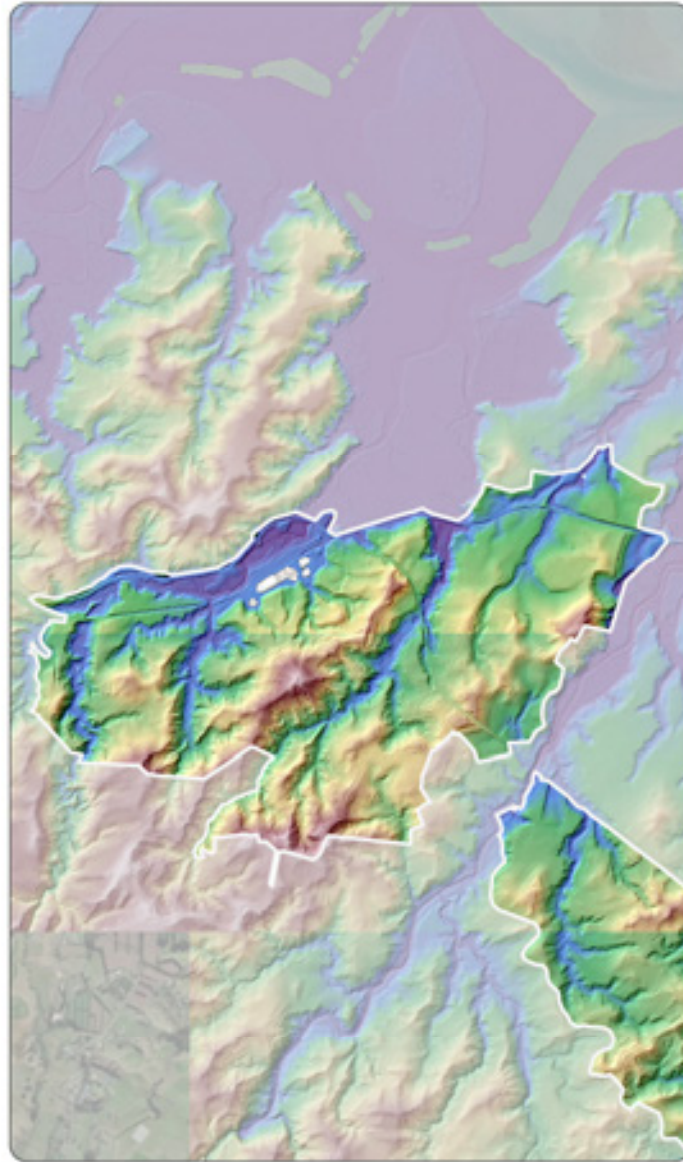


Liquefaction

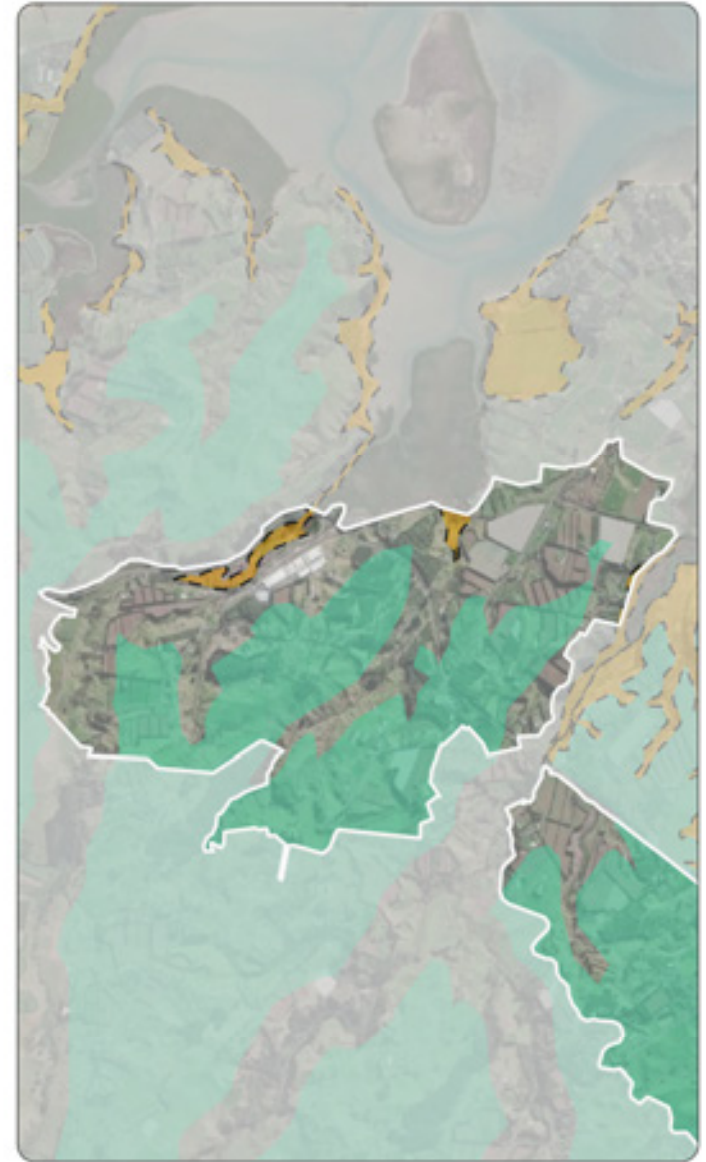




Flooding / Wetlands / Waterways

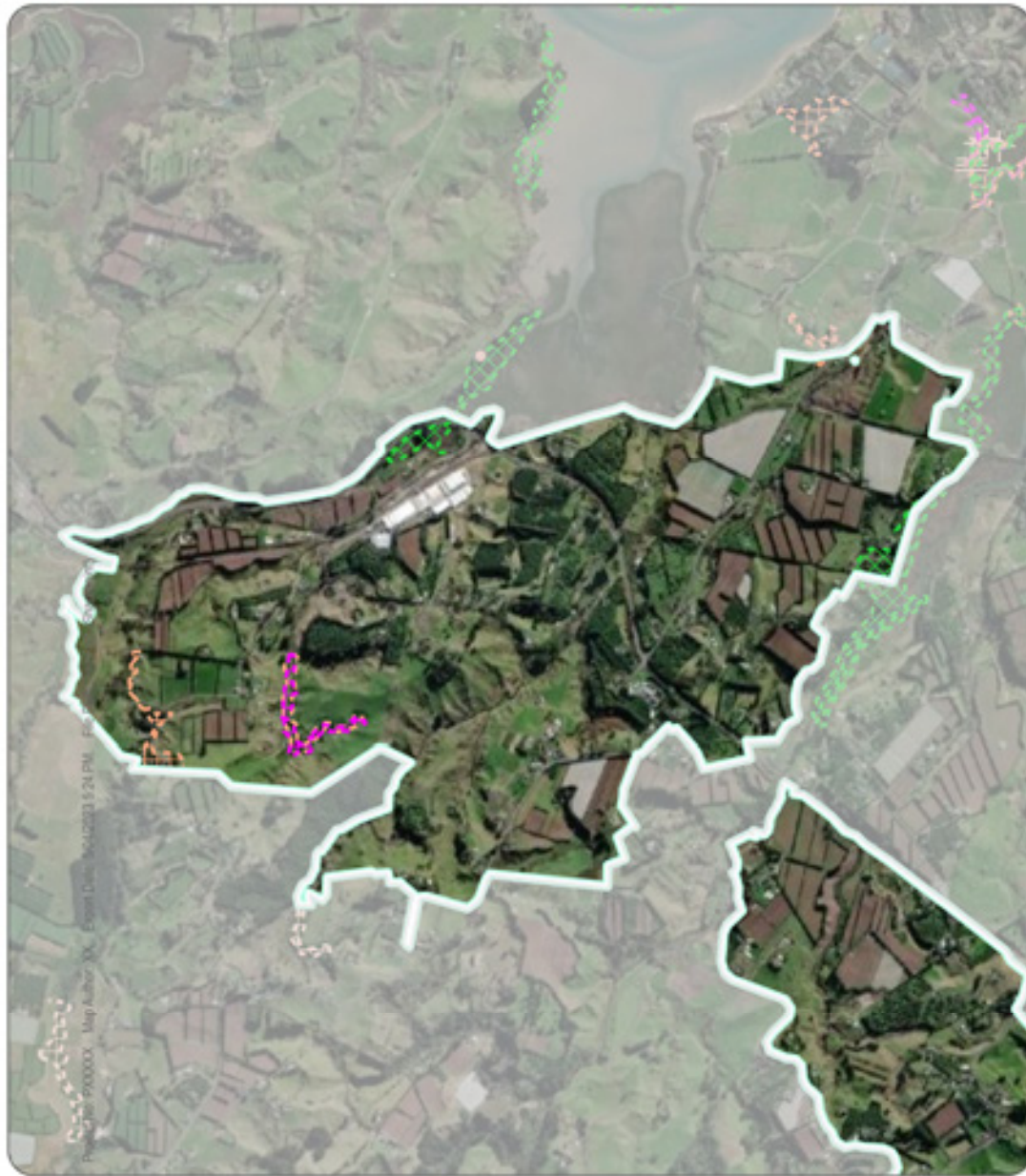


Topography



Liquefaction





Flooding/Wetlands



Road & Rail / Cultural

Project name **Smart Growth Industrial Land Study**



Figure B.2: Northern Corridor; Ōmokoroa 3 and Apata

Date: 23/02/23

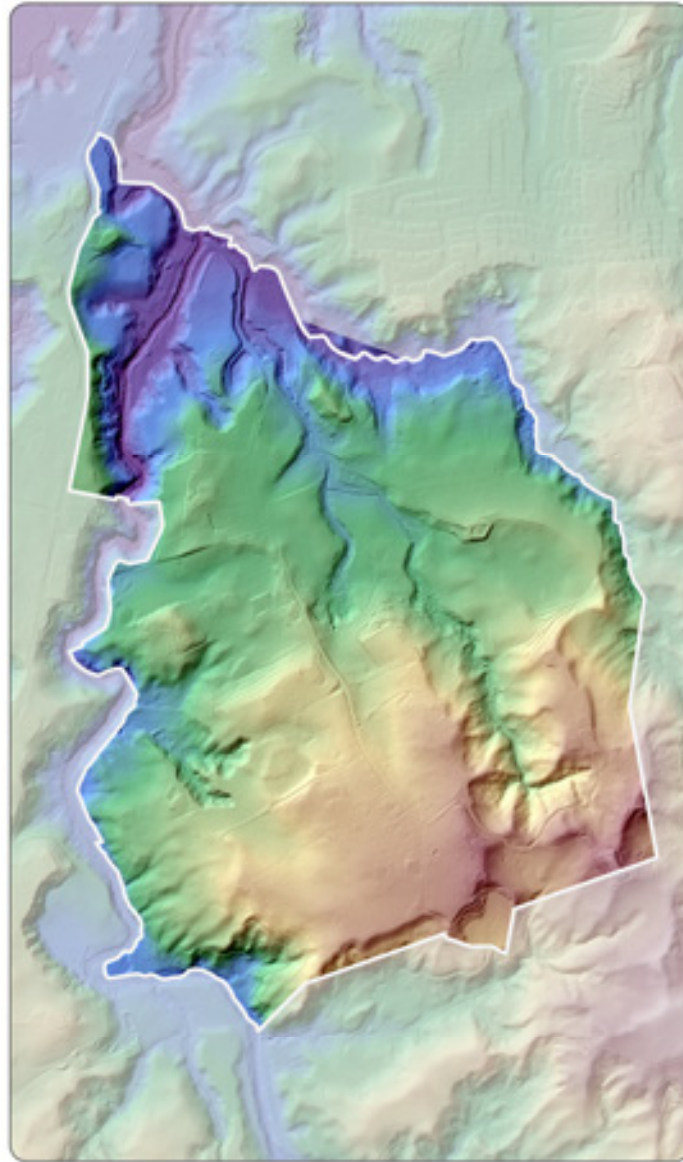
Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:30,000



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Flooding / Wetlands / Waterways



Topography



Liquefaction



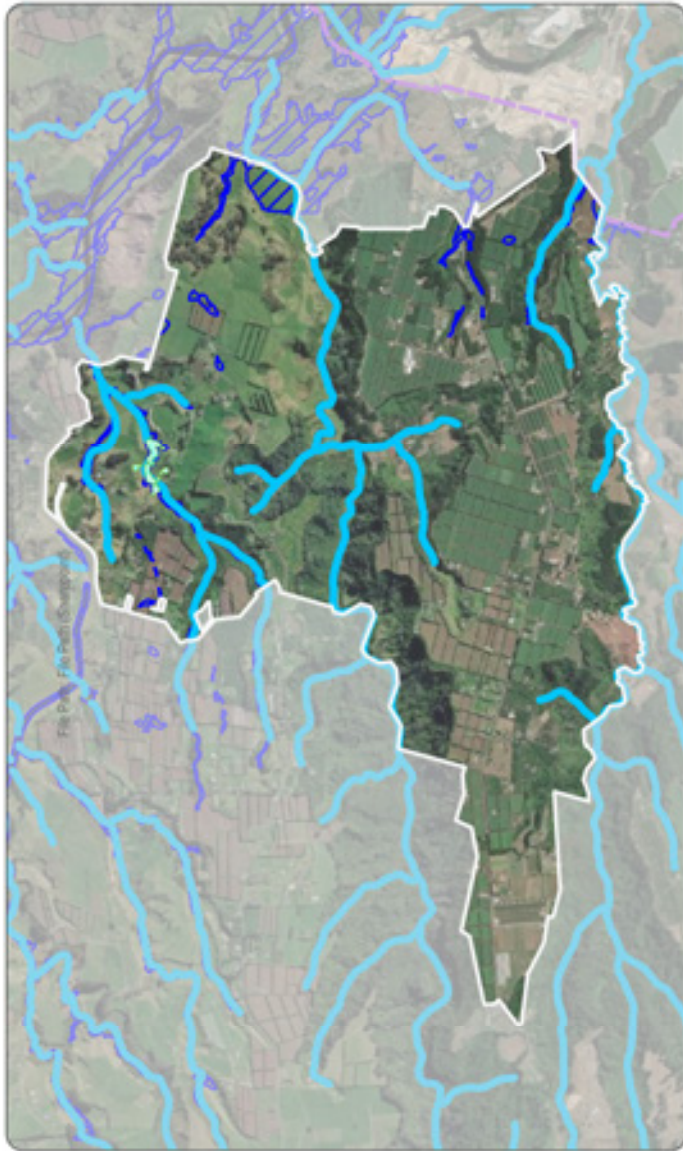


Protected Areas / Cultural

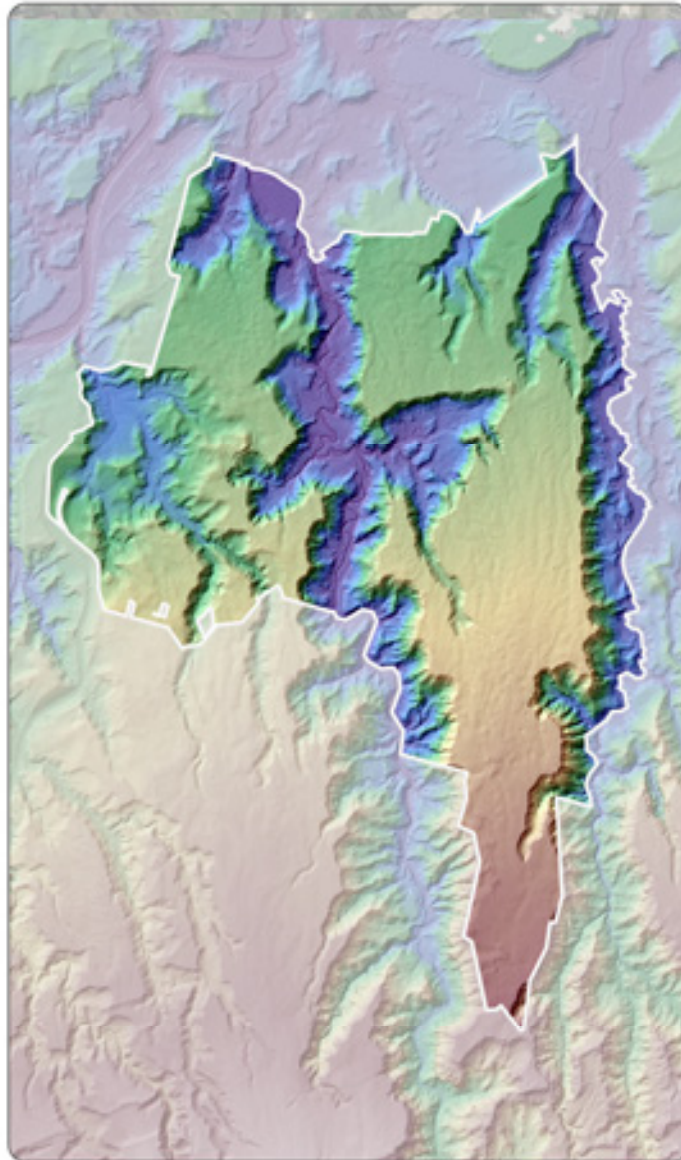


Road & Rail / Planning





Flooding / Wetlands / Waterways



Topography



Liquefaction

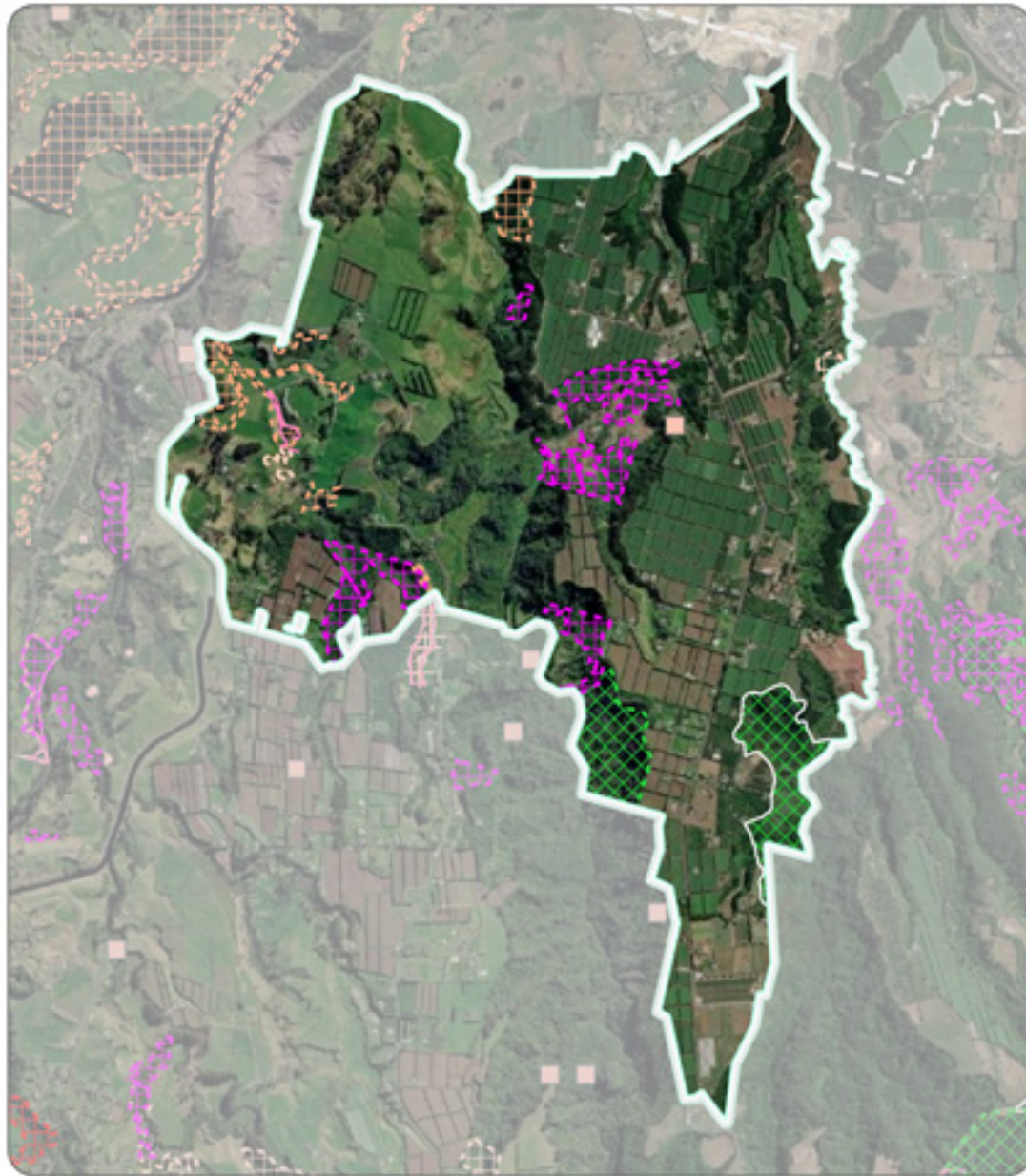
Project name **Smart Growth Industrial Land Study**



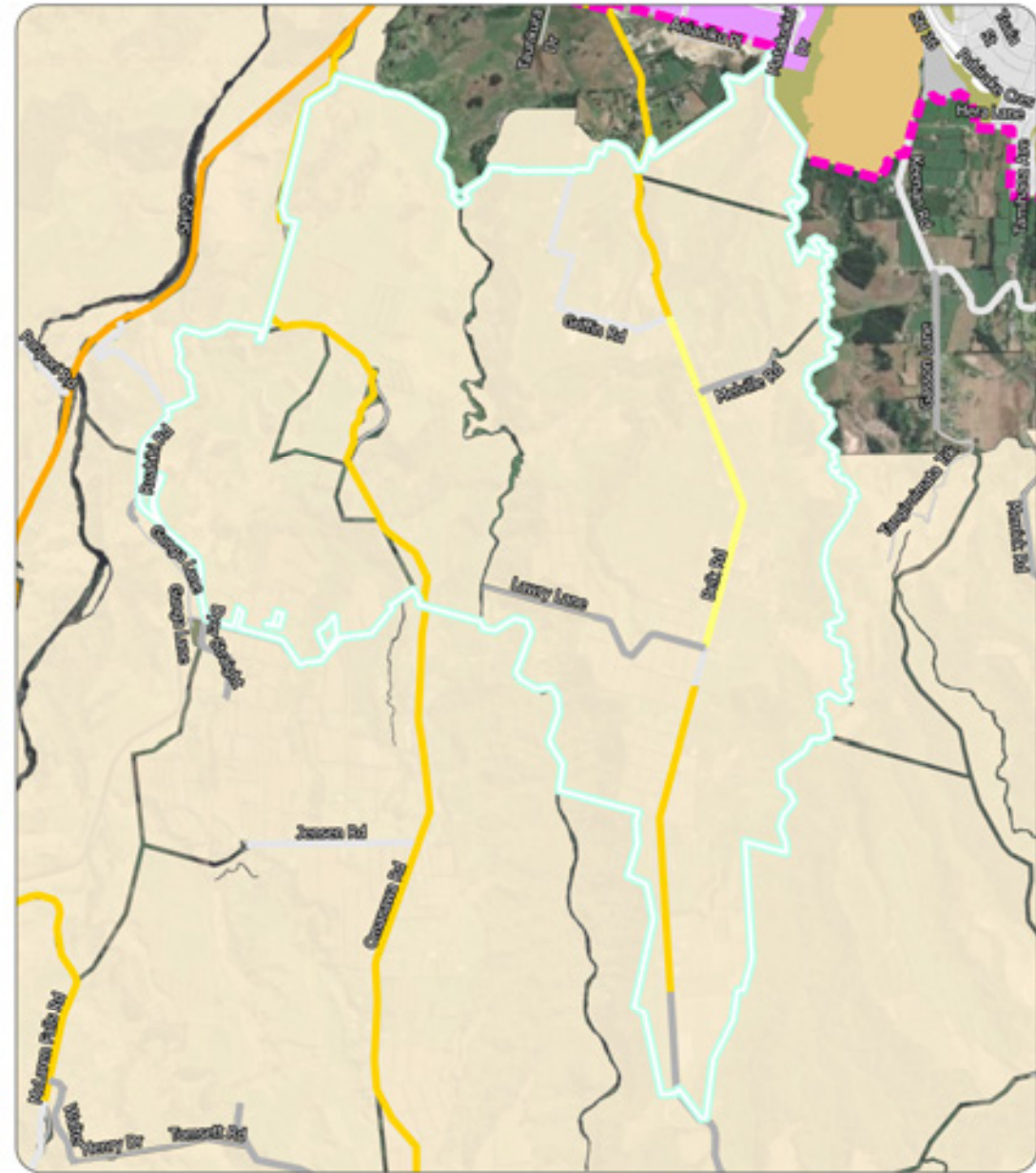
Figure C.1: Western Corridor: Ōmanawa 1 and Belk Road 1

Date: 23/02/23
 Coordinate System:
 NZGD 2000 New Zealand Transverse Mercator
 Scale: 1:50,000





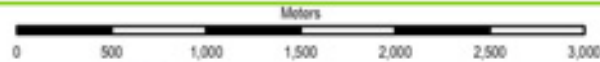
Protected Areas / Cultural



Road & Rail / Planning

Project name **Smart Growth Industrial Land Study**

Figure C.2 : Western Corridor : Ōmanawa 1 and Belk Road 1

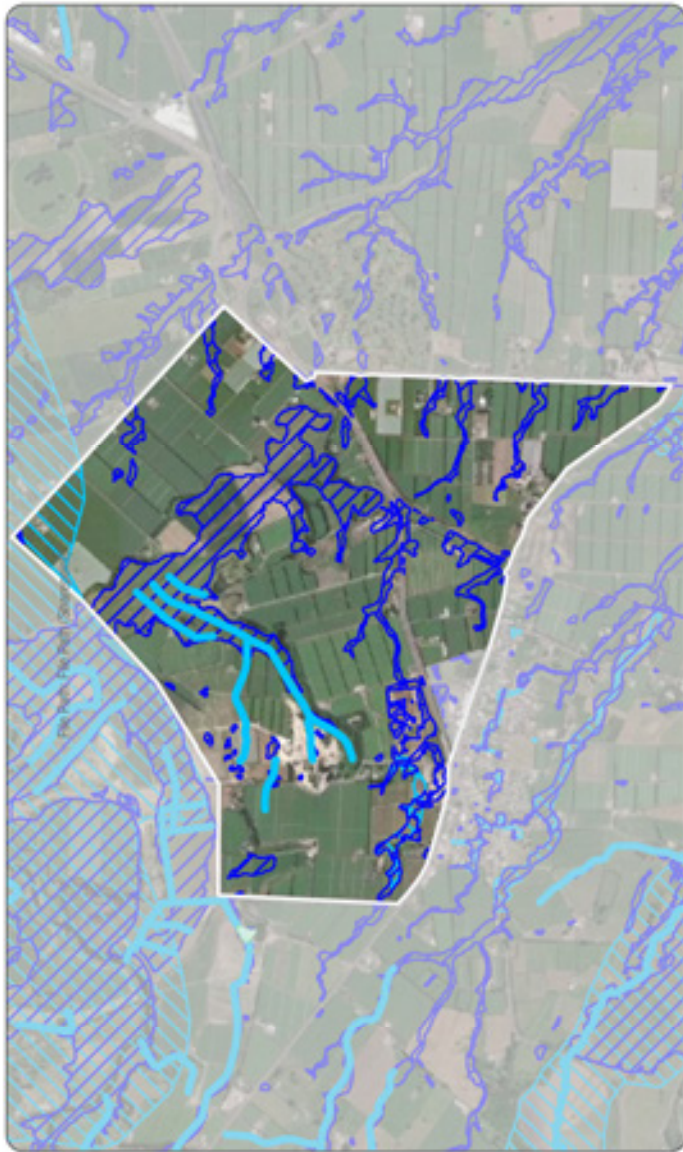


Date: 23/02/23

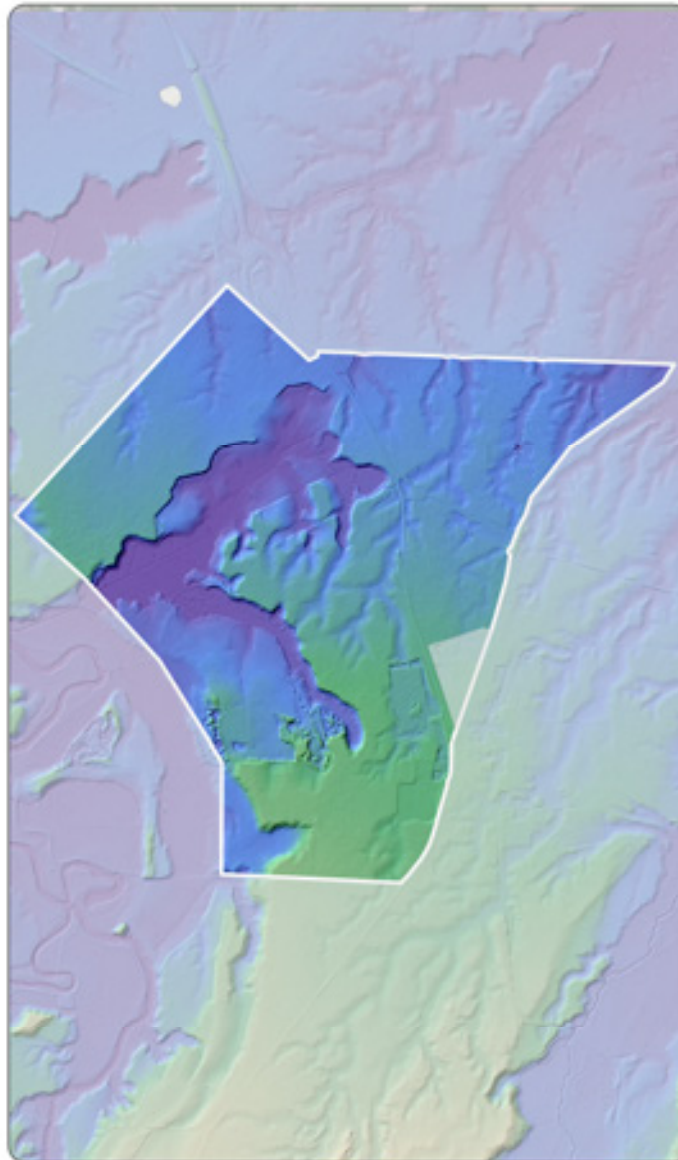
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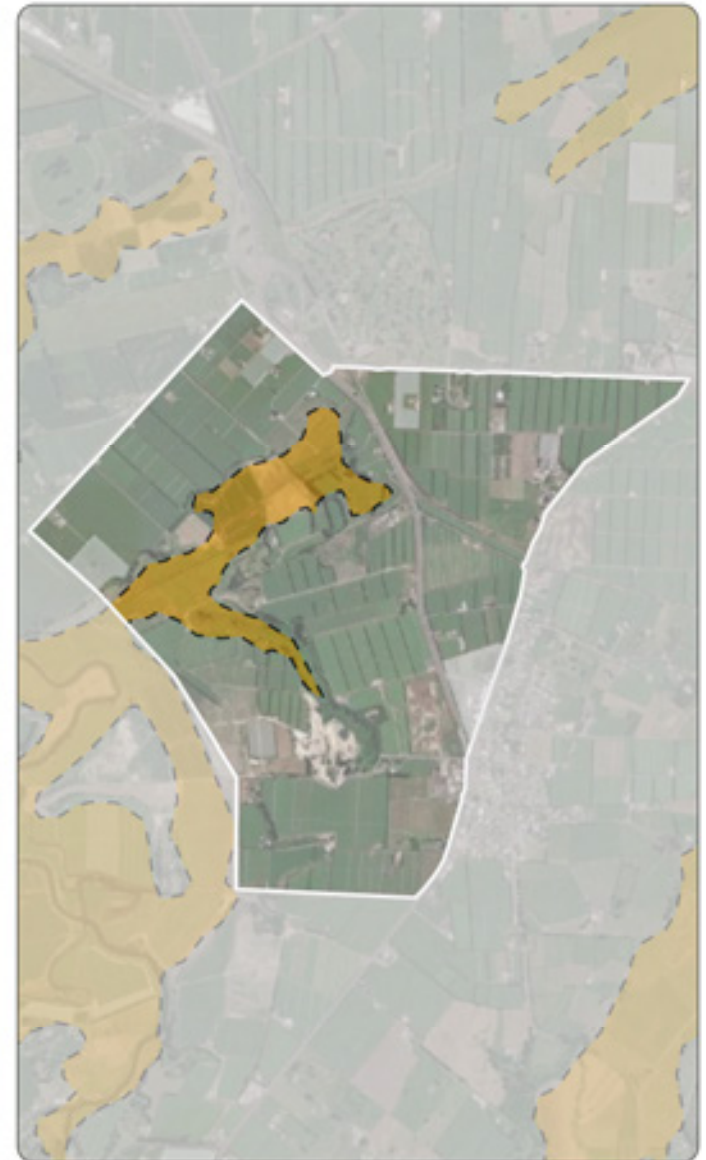
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Flooding / Wetlands / Waterways



Topography



Liquefaction

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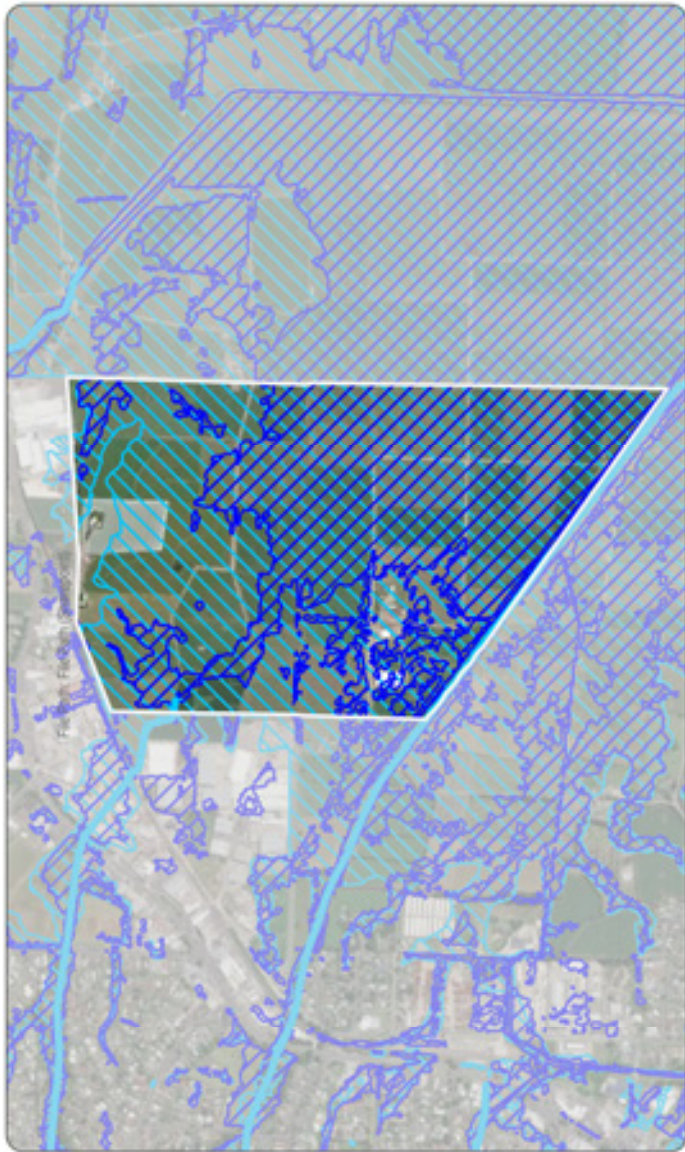


Figure F.1: Eastern Corridor: Rangiuuru (comprising Paengaroa 1, Rangiuuru 3 and part of Rangiuuru 13)

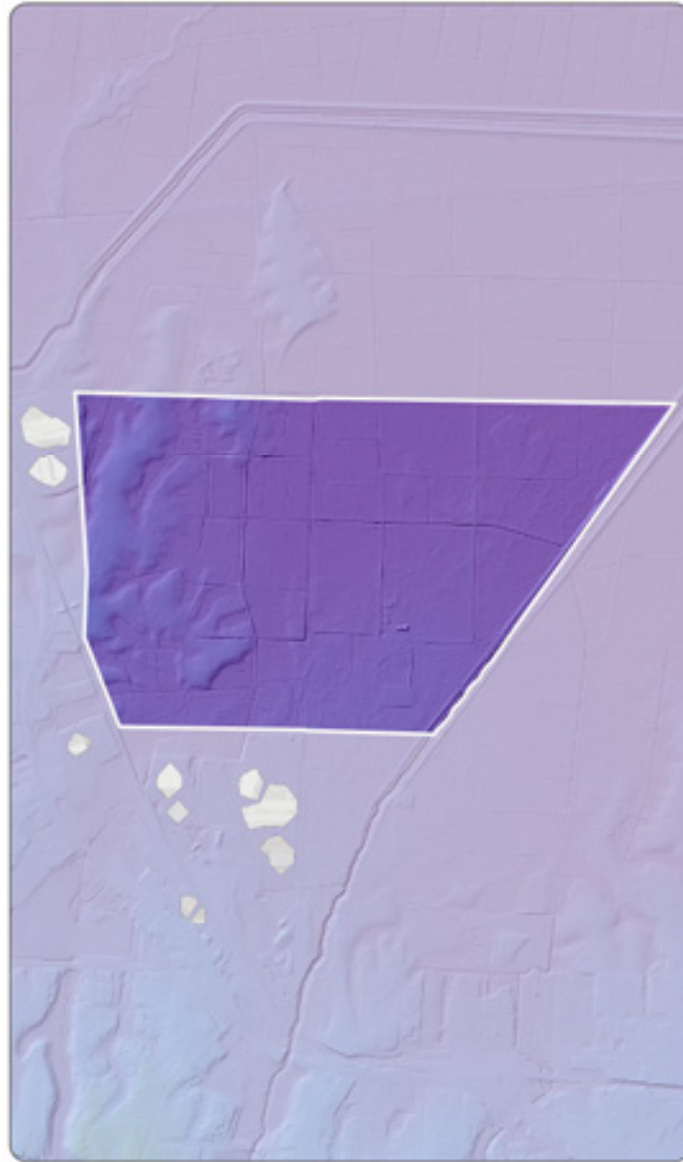
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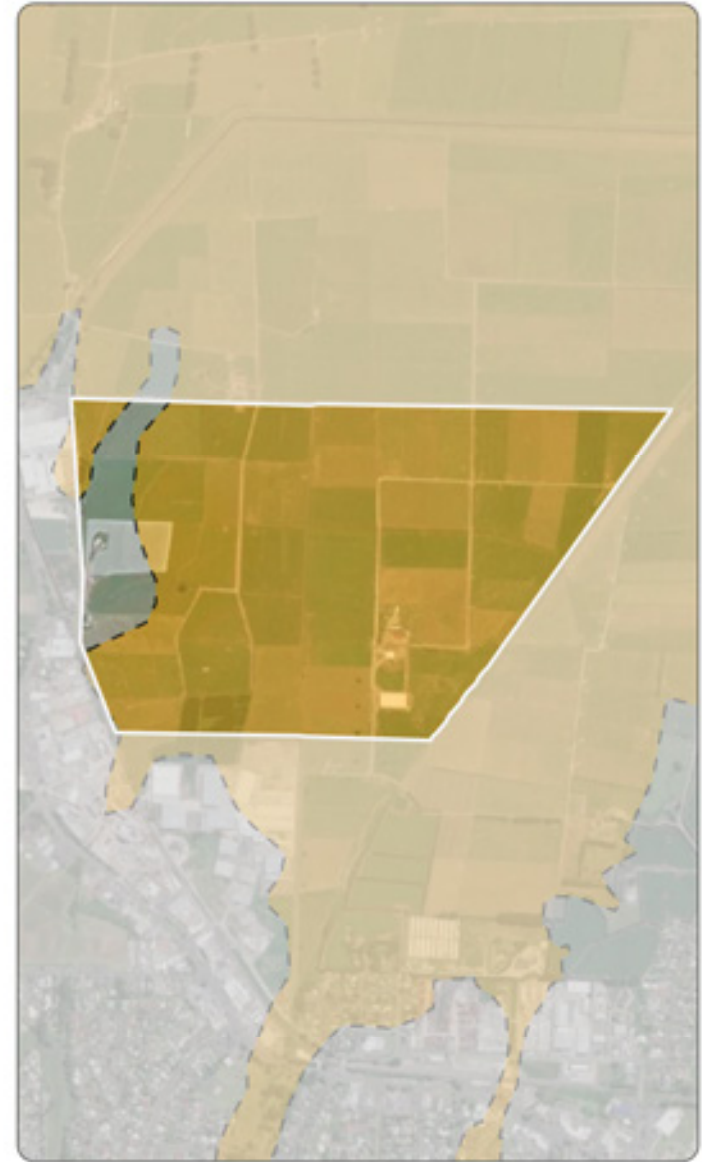
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Flooding / Wetlands / Waterways



Topography

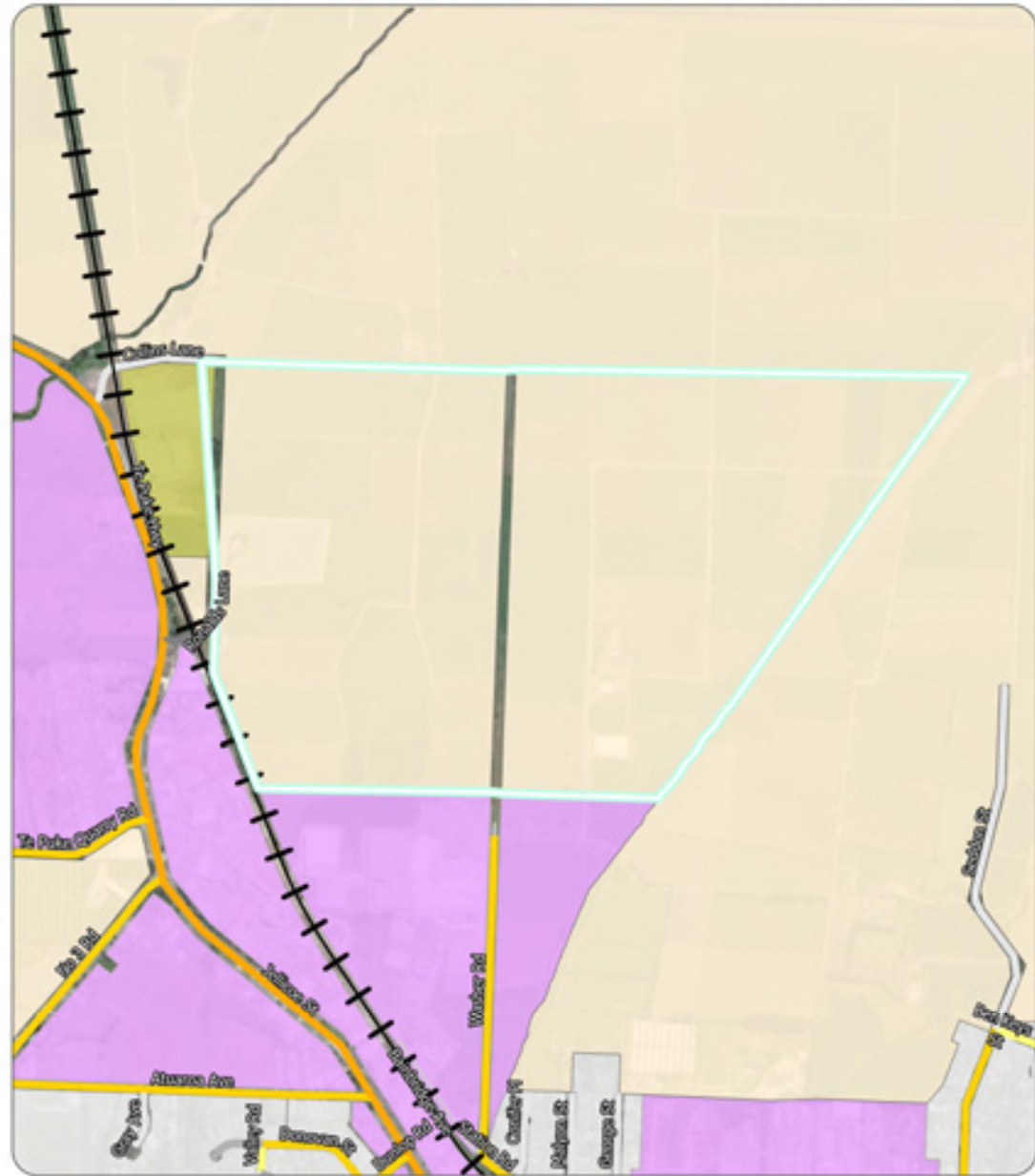


Liquefaction





Protected Areas / Cultural



Road & Rail / Planning





Flooding / Wetlands / Waterways



Topography



Liquefaction



Project name **Smart Growth Industrial Land Study**

Figure E.1: Central Corridor : Domain Rd 1 and 2, Tara Rd 1 and 2, and Ottawa 1



Date: 23/04/23
Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:70,000



Protected Areas / Cultural



Road & Rail / Planning

Project name **Smart Growth Industrial Land Study**



Figure E.2: Central Corridor: Domain Rd 1 and 2, Tara Rd 1 and 2, and Otawa 1

Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:65,000



Document prepared by

Aurecon New Zealand Limited
Ground Level 247 Cameron Road
Tauranga 3110
PO Box 2292
Tauranga 3140
New Zealand

T +64 7 578 6183

F +64 7 578 6143

E tauranga@aurecongroup.com

W aurecongroup.com