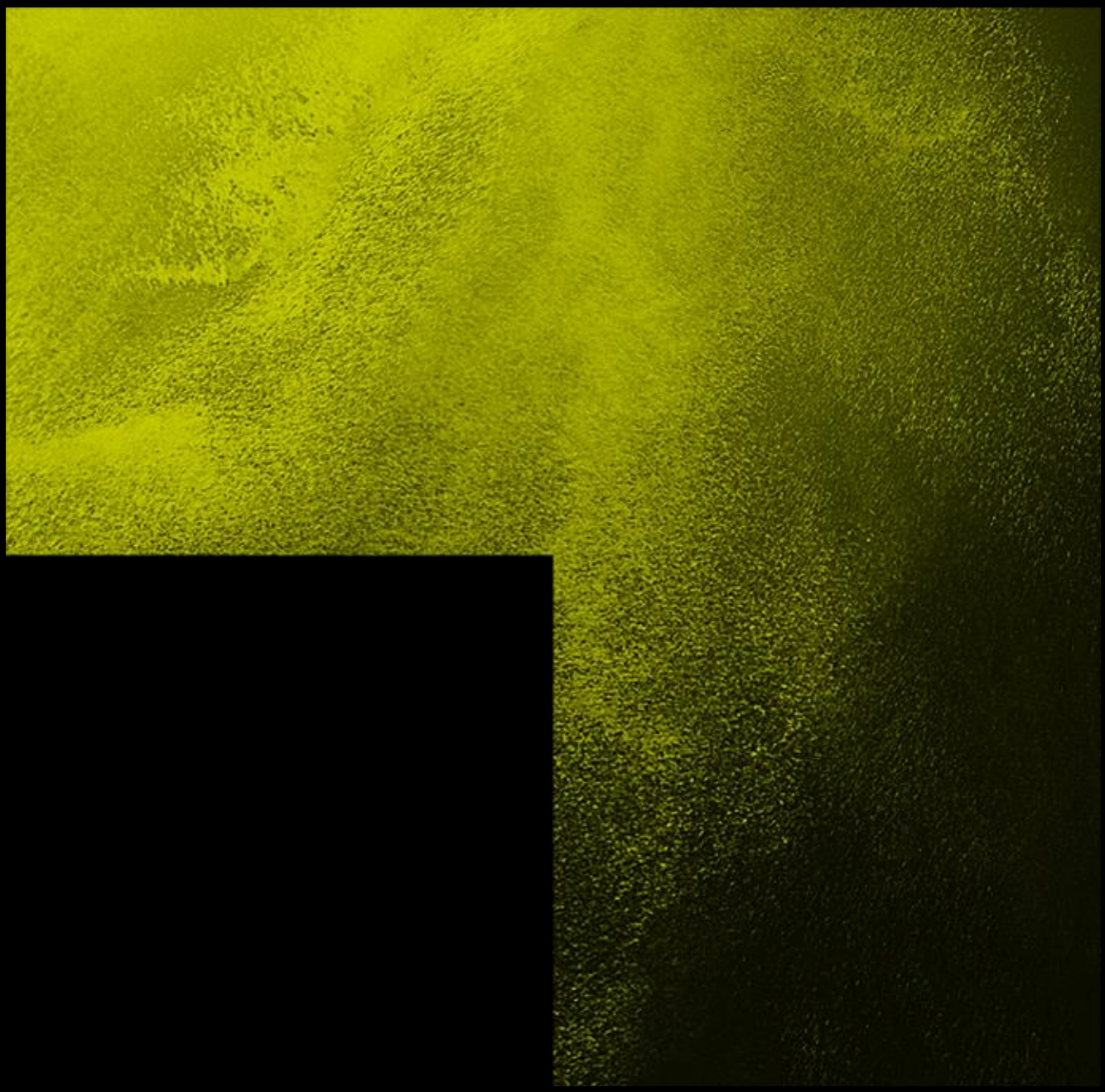
NORTHERN PRECINCT PRIVATE PLAN CHANGE

PPC Request Addendum

Titanium Park Limited & Rukuhia Properties Limited



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APPENDICES

1.0 INTRODUCTION

The purpose of this report is to provide an Addendum to the Request for Proposed Private Plan Change 20 – Airport Northern Precinct Extension (PPC20) that was lodged in April and updated in July 2022.

Since PPC20 was lodged, two additional statutory documents have been released that require further consideration in assessing PPC20:

- The National Policy Statement for Highly Productive Land 2022 (the 'NPS-HPL') – published by the Ministry for the Environment on 20 September 2022 and came into force on 17 October 2022; and
- The Waikato Regional Policy Statement Proposed Change 1 (the 'WRPS-PC1') – which is an amendment of the Waikato Regional Policy Statement 2018 Version (the 'WRPS 2018') and gives effect to the National Policy Statement on Urban Development 2020 (the 'NPS-UD') and Future Proof Strategy Update. The WRPS-PC1 was notified by Waikato Regional Council (WRC) on 18 October 2022.

As such, this Addendum provides further assessment of PPC20 against the abovementioned statutory documents.

The Addendum has been informed by further specialist reports which have been prepared in consideration of these new statutory documents including:

- Assessment of Industrial Land Capacity for the National Policy Statement on Highly Productive Lane prepared by Insight Economics (contained as **Appendix 1**)
- Titanium Park Limited (Plan Change 20) NPS-HPL Assessment (Agriculture Assessment), prepared by AGFirst, (contained as **Appendix 2**).
- Rukuhia Properties Limited (Plan Change 20) NPS-HPL Assessment (Agriculture Assessment), prepared by AGFirst, (contained as **Appendix 3**).

This assessment should be read in conjunction with these supporting reports.

2.0 NATIONAL POLICY STATEMENT FOR HIGHLY PRODUCTIVE LAND

2.1 OVERVIEW

The National Policy Statement for Highly Productive Land (NPS-HPL) was released in September of 2022 after PPC20 had been lodged with Waipa District Council. It came into effect on 17 October 2022 and is therefore now a policy statement that PPC20 must give effect to.

The objective of the NPS-HPL is that *"Highly productive land is protected for use in land-based primary production, both now and for future generations"*. Policy 5 is that *"The urban rezoning of highly productive land is avoided, except as provided in this National Policy Statement"*.

The NPS-HPL requires Councils to map highly productive land by October 2024 and update their Regional and District Plans to give effect to the NPS-HPL by October 2023. It also includes transitional provisions that apply in the interim, including for any proposals to rezone productive land from rural to an urban zone[1]. It is these transitional provisions that apply to much (but not all) of PPC20, which is seeking to rezone an area of productive rural zoned land to Airport Business zone.

Productive land is transitionally defined as being LUC 1, 2 or 3 under the New Zealand Land Resource Inventory (NZLRI). The Northern Precinct (as proposed under PPC20) is comprised of LUC 1, 2 and 3 land and it is only the parts of the site that have a current rural zoning under the Waipa District Plan that are subject to the transitional provisions (i.e. it excludes the 41ha (approx.) of the site that already has an Airport Business zoning).

The LUC extents are illustrated within Figure 1 below and demonstrates that all the land around the Airport (except for the undevelopable gullies) are comprised of LUC 1-3 soils.

[1] Urban zone is defined in the NPS-HPL as including commercial and industrial zones

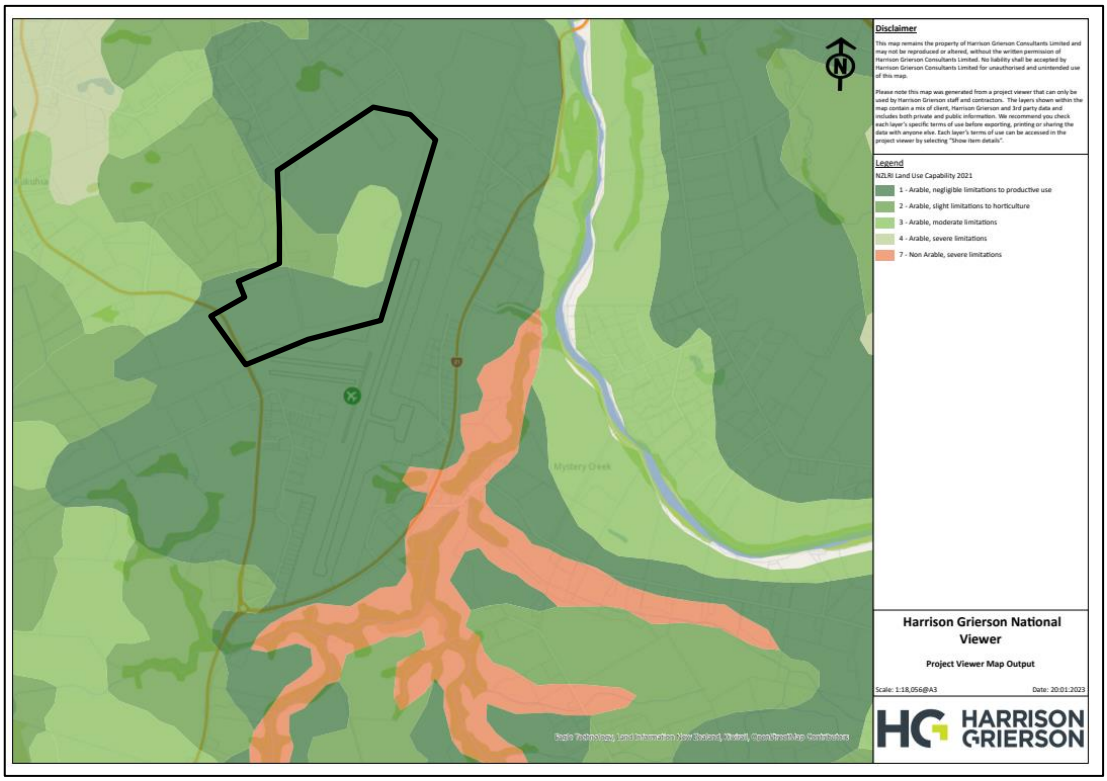

FIGURE 1: LUC extents from the New Zealand Land Resource Inventory.

The following assessment of PPC20 against the NPS-HPL has been prepared in line with the implementation guide that has been released by the Ministry for the Environment[2].

2.2 SECTION 3.6 ASSESSMENT

The provisions of the NPS-HPL that are relevant to PPC20 are contained within Clause 3.6. This effectively sets out three requirements that urban rezoning must satisfy in order for Tier 1 and 2 territorial authorities to allow urban rezoning of highly productive land. Clause 3.6 provides:

3.6 Restricting urban rezoning of highly productive land

(1) Tier 1 and 2 territorial authorities may allow urban rezoning of highly productive land only if:

(a) the urban rezoning is required to provide sufficient development capacity to meet demand for housing or business land to give effect to the National Policy Statement on Urban Development 2020; and

(b) there are no other reasonably practicable and feasible options for providing at least sufficient development capacity within the same locality and market while achieving a well-functioning urban environment; and

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

(2) In order to meet the requirements of subclause (1)(b), the territorial authority must consider a range of reasonably practicable options for providing the required development capacity, including:

[2] National Policy Statement for Highly Productive Land: Guide to implementation prepared by Ministry for the Environment, dated December 2022.

(a) greater intensification in existing urban areas; and

(b) rezoning of land that is not highly productive land as urban; and

(c) rezoning different highly productive land that has a relatively lower productive capacity.

(3) In subclause (1)(b), development capacity is within the same locality and market if it:

(a) is in or close to a location where a demand for additional development capacity has been identified through a Housing and Business Assessment (or some equivalent document) in accordance with the National Policy Statement on Urban Development 2020; and

(b) is for a market for the types of dwelling or business land that is in demand (as determined by a Housing and Business Assessment in accordance with the National Policy Statement on Urban Development 2020).

…

(5) Territorial authorities must take measures to ensure that the spatial extent of any urban zone covering highly productive land is the minimum necessary to provide the required development capacity while achieving a well-functioning urban environment.

2.2.1 CLAUSE 3.6(1)(A) REQUIREMENT 1: DEVELOPMENT CAPACITY

The first requirement is under clause 3.6(1)(a) of the NPS-HPL and relates to whether the rezoning proposal is required to provide sufficient development capacity to meet the demand for business land under the National Policy Statement on Urban Development 2020 (NPS-UD).

Sufficient development capacity refers to land needed to meet demand in the short-term and medium-term which is required to be zoned for it to be 'plan-enabled' under clause 3.4 of the NPS-UD.

The Insight Economics assessment contained in **Appendix 1** of this addendum has undertaken an assessment of the latest demand vs supply for business land within the Waipa District and wider Future Proof Sub -Region (which also includes Hamilton City).

The assessment provides an update to the economics assessment that supported PPC20 when it was lodged with Waipa District Council earlier in 2022 and utilises the latest industrial employment data and market research to supplement the Business Capacity Assessment (BCA) - which is based on information that is now over 5 years old.

The assessment concludes that there is a shortfall of business land supply within the sub-region (including the Waipa District) and that the full extent of the Northern Precinct being sought under PPC20 (approximately 130ha) is required to meet demand over the short-term and medium-term (i.e. the next 10-years). The additional 89ha that is proposed to be rezoned under PPC20 is therefore necessary to provide sufficient development capacity in accordance with the NPS-UD, thereby also satisfying the requirement of clause 3.6(1)(a) of the NPS-HPL.

PPC20 also meets the requirements of clause 3.6(5) because the spatial extent of the proposed Airport Business Zone is the minimum necessary to provide the required development capacity while achieving a well-functioning urban environment.

2.2.2 CLAUSE 3.6(1)(B) REQUIREMNT 2: OTHER PRACTICABLE AND FEASABILE OPTIONS

The second requirement focuses on whether there any other reasonably practicable and feasible alternatives for providing sufficient development capacity within the same locality and market, whilst still achieving a well-functioning urban environment as sought by Objective 1 of the NPS-UD.

The latter is an important aspect because it recognises that a proposal must give effect to both the NPS-HPL and the NPS-UD, with neither having primacy over the other. In our view, any alternative options must still be able to result in a well-functioning urban environment in order for it to be a valid consideration.

Section 3.6(2) elaborates on the requirement and specifies that alternative options must include consideration of:

1. Achieving greater intensification in existing urban areas (which is not relevant to PPC20 as industrial zones cannot be intensified like residential or commercial zones can).
2. Rezoning land that is not highly productive instead.
3. Rezoning land that has a lower productive capacity instead.

Section 3.6(3) specifies that '*within the same locality and market*' means alternative options that are either in, or is close to, a location where demand for additional development capacity has been identified through a Housing and Business Assessment (or equivalent – which in the case of PPC20 would be the BCA prepared for the Future Proof sub-region) and is for a similar type of business land that is in demand.

We have identified options that would enable a similar type of business land to be established (being larger scale industrial activities) being extensions of the existing industrial growth cells within the Waipa District. These are all contiguous to established or zoned industrial areas. The growth cells are identified in Appendix S1 of the Waipa District Plan and include a range of LUC soil types, including soil that has a lower LUC classification than the Northern Precinct. The locations and extents of these areas are identified in **Figures 2** and **3** below.

We note that these alternatives are within the same district as the Northern Precinct but are still approximately 10km away in the case of Hautapu and 15km away in the case of Bond Road in Te Awamutu. We do not consider that there are any closer feasible alternatives within the Waipa District that would achieve a well-functioning urban environment as required under the NPS-UD because they would not be contiguous with an existing urban area, have good transportation connections (including public transport) or be infrastructure ready.

Similarly, we have also excluded any alternative expansions of the Airport Business zone on account of the adjoining land being almost entirely within the LUC 1 classification (refer Figure 1) and not being the logical growth pattern for the Airport Business zone (i.e. not being the most effective option for achieving a well-functioning urban environment).

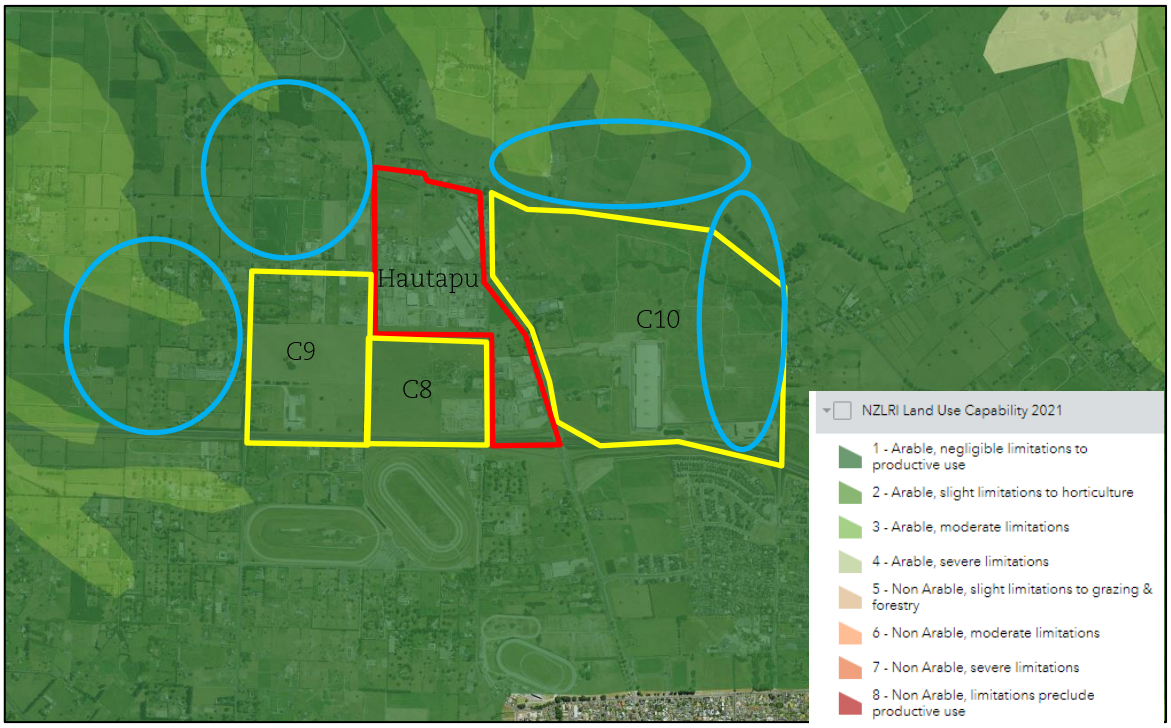

FIGURE 2: Potential Hautapu / Cambridge expansion areas for C8, C9 and C10 (yellow outline) are shown by the blue outline.

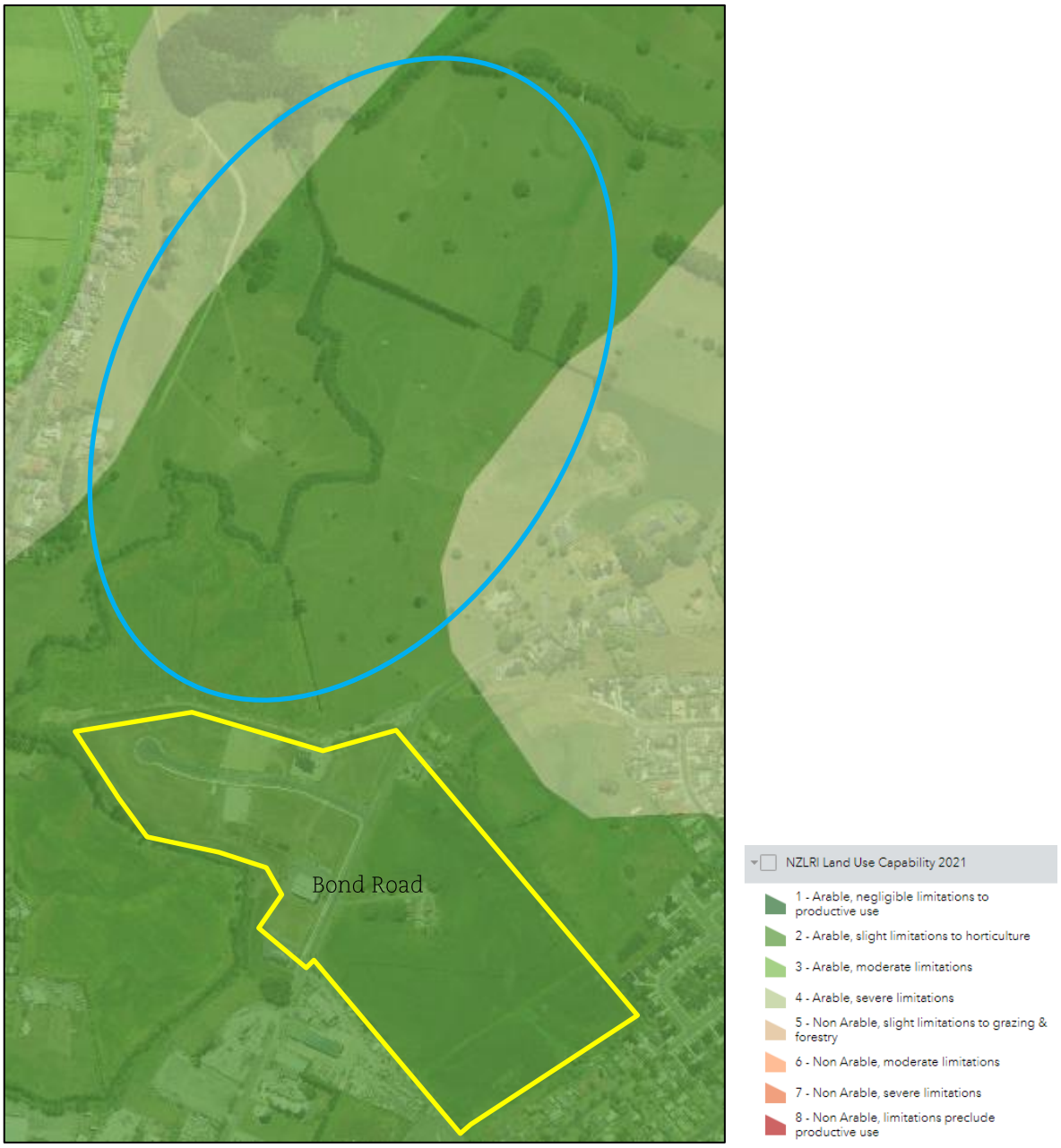

FIGURE 3: Potential Te Awamutu expansion areas for Bond Road (yellow outline) are shown by the blue outline.

Hautapu expansion

Growth cells C8 and C9 and part of growth cell C10 are already zoned Industrial and have been factored into the available supply. The extent of the Industrial zoned land that could logically be expanded to accommodate an additional 89ha. This would be an equivalent size to the current rural zoned portion of the Northern Precinct and would enable a greenfield industrial development that could accommodate a similar type of activities to what is envisaged in the Airport Business zone.

We note that soils surrounding the C8, C9 and C10 growth cells and the soils within the remaining part of the C10 growth cell that is zoned Rural are all mapped as LUC 1 under the NZLRI and any expansion to these areas would be over a mix of LUC 1 and 2 soils, with a high proportion comprising LUC 1.

The AgFirst assessments contained as **Appendix 2** and **3** provide an assessment of these alternative options. It finds that, compared to the Northern Precinct:

- The soil has a much higher productive capacity due to the limitations that exist on the RPL site, where the consented R&D facility reduces the net productive area down to 10ha.
- There are no limitations on the types of productive crops or practises that are otherwise needed to protect aeronautical safety next to the Airport.
- Established productive systems offer higher versatility on the types of rural production that the land can be used for.
- Land ownership and parcel boundaries are less fragmented, which is necessary to harness the productive capacity of the soil.

The assessment demonstrates that expanding the current Industrial Zone at Hautapu is not a reasonably practicable or feasible alternative to expanding the Northern Precinct as sought by PPC20. The Hautapu expansion land has a higher proportion of LUC 1 soils and has a higher productive capacity. Nor does it possess the strategic advantages of the Northern Precinct that would most effectively achieve a well-functioning urban environment; namely the location close to a growing residential growth cell; proximity to Hamilton City and a busy regional airport; and access to existing and planned transport networks and infrastructure.

Bond Road Expansion

The other potential expansion opportunity involving a greenfield growth cell in Waipa is to the north of Te Awamutu, directly north of the Bond Road industrial growth cell. The existing Industrial Zone within the Bond Road industrial growth cell is approximately 17ha, meaning that any extension would need to be significantly larger for it to be comparable to the 89ha at the Northern Precinct.

An extension to the Industrial Zone around Bond Road would likely comprise mainly of LUC 2 soils, with pockets of LUC 4 close to the nearby residential areas.

The AgFirst assessments found that, compared to the Northern Precinct:

- It has poorer quality soils but has a higher productive capacity due to the consented R&D facility that reduces the net productive area of the RPL site down to 10ha.
- The surrounding land contains better established productive systems that offer higher versatility and land use. While there are limitations to the south, east and west with zoning and development, there are fewer physical constraints.
- There are no limitations on the types of productive crops or practises that are otherwise needed to protect aeronautical safety next to the Airport.
- The expansion area, overall, would have a slightly higher long term productive capacity.

The assessment demonstrates that expanding the existing Industrial Zone at Bond Road is not a reasonably practicable or feasible alternative to expanding the Northern Precinct as sought by PPC20. While the Bond Road expansion land has lower quality soils, it has a higher long term productive capacity. It also does not possess the strategic advantages of the Northern Precinct, namely the location close to a growing residential growth cell; proximity to Hamilton City and a busy regional airport; and access to existing and planned transport networks and infrastructure.

Summary

The assessment has demonstrated that there are no other reasonably practicable and feasible options for providing sufficient development capacity within the Waipa District that would also achieve a well-functioning urban environment as required to give effect to Objective 1 of the NPS-UD.

2.2.3 CLAUSE 3.6(1)(C) REQUIREMENT 3: COST – BENEFIT ASSESSMENT

The final test of the assessment under clause 3.6 of the NPS-HPL is to undertake a cost – benefit assessment of proposed rezoning. This requires an assessment of whether the environmental, social, cultural and economic benefits of the rezoning outweigh the environmental, social, cultural and economic costs associated with the loss of highly productive land.

TABLE 2: COST – BENEFIT ASSESSMENT[3]

	COST	BENEFIT
Environmental	The loss of approximately 69ha of highly productive land for productive rural use[4] for the long term. At a District scale, PPC20 will have a lesser impact on rural production capacity than rezoning in alternative locations.	Improved quality of stormwater runoff during a 1 in 10-year storm event or worse (rural production vs urban). Removal of potential aeronautical safety hazard to the Airport. Introduction of ecological habitat protection through the Airport Structure Plan and supporting plan provisions (compared to the current rural zoning that affords no protection to habitat).
Social	Opportunity cost of social benefits associated with the employment of **3 FTE's** if the land was to continue to be used for rural productive use. Opportunity cost of different rural activities (including those yet to be invented) from being able to be established on the site in the future.	Social benefits associated with the employment of **2,210 FTE's**. Social benefits associated with creating employment opportunities close by to residential areas, with reduced commuting times enabling people to spend more time with family or other social activities.
Cultural	No cultural costs associated with the loss of productive soils were identified in the Cultural Impact Assessment that supported PPC20.	No cultural benefits associated with the loss of productive soils were identified in the Cultural Impact Assessment that supported PPC20.
Economic	The loss of productive rural land will result in an opportunity cost of **$420,000**.	The rezoning will result in an economic benefit of **$279,500,000.**

3

4 89ha of rural zoned land less the 20ha already occupied by the consented R&D facility

TABLE 2: COST – BENEFIT ASSESSMENT[3]		
	COST	**BENEFIT**
	Opportunity cost of different rural activities (including those yet to be invented) from being able to be established on the site in the future.	Enabling greater critical mass to establish around the airport over time, which will help achieve agglomeration benefits. These are a type of economic efficiency that arises through the co-location of economic activities, which helps reduce transport costs and lift the average productivity of firms (for example, through the sharing of labour, assets, and ideas). Maximising infrastructure efficiency by spreading the costs of bulk network upgrades over a greater land area and/or a larger number of lots. Creating synergies with planned investments in roading and wastewater capacity, particularly the Southern Links, while ensuring a planned and integrated approach to land use and infrastructure provision. Enabling the site's locational benefits to be maximised, including its multimodal potential (connecting road and rail with air). Providing an easily accessible employment node to meet employment growth arising from the adjacent Peacocke growth cell. Providing certainty to encourage investment in the airport.

The assessment demonstrates that the benefits of PPC20 will outweigh the costs associated with the loss of highly productive land.

2.3 SUMMARY

The assessment has demonstrated that Waipa District Council can allow the rezoning of highly productive land as part of PPC20 because:

1. PC20 meets the three requirements of clause 3.6 of the NPS-HPL.

2. The rezoning will provide additional business land that is required to meet demand in the short and medium term and give effect to the NPS-UD.

3. There are no other reasonably practicable or feasible options for providing sufficient development capacity within the same locality or market whilst also resulting in a well-functioning urban environment.

4. The environmental, social, cultural and economic costs associated with the loss of highly productive soils are significantly outweighed by the benefits of PPC20.

3.0
WAIKATO REGIONAL POLICY STATEMENT PROPOSED CHANGE 1

3.1 STATUS OF THE WRPS

The Waikato Regional Policy Statement (the 'WRPS') has been amended as required under the National Policy Statement on Urban Development 2020 (the 'NPS-UD') with the updated version (the WRPS Proposed Change 1) being notified on 18 October 2022.

In accordance with s74(2A) a territorial authority shall have regard to a proposed regional policy statement.

Given submissions have only recently closed (December 16 2022), and no formal hearings have been held on submissions or further submissions, it is considered that only limited weighting should be given to the WRPS Proposed Change 1 when considering PPC20.

3.2 PROPOSED CHANGES TO 'IM – INTEGRATED MANAGEMENT'

IM-O5 – CLIMATE CHANGE

This objective has been amended to include an additional clause:

2. *support reductions in greenhouse gas emissions within urban environments and ensure urban environments are resilient to the current and future effects of climate change.*

PPC20 will support reductions in greenhouse gas emissions by:

- Clustering industrial growth with an already established industrial area, thus reducing travel distances within the sector.
- Enabling employment opportunities within an existing industrial location within close proximity to a large residential growth area (Peacocke).
- Promoting active modes of transport to and within the Airport Business zone through walking and cycling routes and enabling public transport to be provided to the Airport and surrounding Airport Business zone.
- The Hub will provide day-to-day amenities for employees and visitors to the precinct to further reduce travel requirements to other centres, or becoming a retail destination for nearby settlements.
- Enabling a development pattern that will encourage north facing buildings to maximise the potential for buildings to maximise solar energy.
- PPC20 will be resilient to the current and future effects of climate change by implementing stormwater management measures into the development of the site. This will be achieved through an integrated approach to include low impact urban design features such as rain gardens and swales into road reserves, as well as on-lot stormwater management (such as detention)

IM-O9 – AMENITY

This objective has been updated to include the following clause:

2. *Where intensification occurs in urban environments, built development results in attractive, healthy, safe and high-quality urban form which responds positively to local context whilst recognising that amenity values change over time in response to the changing needs of people, communities and future generations, and such changes are not, of themselves, an adverse effect.*

PPC20 will unavoidably result in a change in character from rural to urban, which will be in response to the changing needs of people, communities, and future generations, noting that there has been a proven demand for industrial land supply in the short-medium term.

The Objective does not imply this change is negative, it instead recognises and acknowledges that urban environments will change over time.

PPC20 will manage this impact on amenity values by incorporating landscaping and building setbacks around external boundaries of the Northern Precinct.

The master plan process and the inclusion of street cross sections into the Structure Plan will ensure the precinct will have a high-quality public realm with appropriate street amenity that is consistent with a modern, well-designed and well-functioning business park.

3.3 PROPOSED CHANGES TO 'UFD – URBAN FORM AND DEVELOPMENT'

The most significant changes to the WRPS that have bearing on PPC20 are contained within the UFD – Urban Form and Development section. With particular relevance to PPC20, the criteria for assessing out-of-sequence or unanticipated land release has been revised.

The following section provides an assessment of the objective and associated relevant policies to PPC20:

UFD-O1 – BUILT ENVIRONMENT

The wording for this objective has been amended by inserting a new clause 12. The revised wording is included below:

Development of the built environment (including transport and other infrastructure) and associated land use occurs in an integrated, sustainable and planned manner which enables positive environmental, social, cultural and economic outcomes, including by:

…

12. *strategically planning for growth and development to create responsive and well functioning urban environments that:*
    - *a. support reductions in greenhouse gas emissions and are resilient to the current and future effects of climate change*
    - *b. improve housing choice, quality and affordability*
    - *c. enable a variety of homes that enable Māori to express their cultural traditions and norms;*
    - *d. ensure sufficient development capacity, supported by integrated infrastructure provision, for identified housing and business needs in the short, medium and long term;*
    - *e. improves connectivity within urban area, particularly by active transport and public transport;*
    - *f. take into account the values and aspirations of hapu and iwi for urban development*

PPC20 supports reductions in greenhouse gas emissions and will be resilient to the current and future effects of climate change as per the revised assessment for Objective IM-O5 above.

PPC20 will provide additional development capacity, supported by integrated infrastructure provision which will help to alleviate the pending shortfall for industrial land (as identified in the Economics Assessment).

The Structure Plan has been revised following a detailed masterplanning process to ensure that the Northern Precinct will be well connected and based on best practice urban design principles. While currently public transport options between Hamilton and the airport are limited, the roading infrastructure in place is capable of accommodating public transport to service the Northern Precinct.

Nga Iwi Toopu o Waipa ('NITOW') and Waikato-Tainui iwi have been actively engaged throughout the preparation of the masterplan and PPC20, and will continue to be engaged with throughout the development process to ensure that their aspirations are taken into account.

UFD P11 – ADOPTING FUTURE PROOF LAND USE PATTERN

This policy has been updated to require alternative urban land release to be assessed for consistency against the responsive planning criteria in APP13. In particular, clause 7 notes that particular regard shall be had to the proposed development capacity only where the local authority determines that the proposal is 'significant' by assessing the proposal for consistency with the responsive planning criteria in APP13. The principles of the Future Proof land use pattern also remain a relevant consideration for assessment of alternative land release.

We note that Principal Reason UFD-PR11 states that the matters listed in Criteria A and Criteria B are not ranked. However, collectively these criteria are intended to assist territorial authorities to determine whether a proposed plan change would create significant development capacity. It will be at the discretion of the relevant territorial authority to undertake a comprehensive assessment and give the appropriate weighting to the criteria, depending on the particular circumstance.

The proposal has been assessed against the criteria in APP13 in **Table 2** below. This assessment has found that PPC20 is consistent with nearly all the matters, however there are some limited matters that cannot fully meet.

When considered collectively however, it is considered that PPC20 is generally consistent with APP13, should be considered 'significant', and particular regard shall be had to the proposed development capacity enabled through PPC20.

An updated assessment of the proposal in terms of the development principles in APP11, the updated Future Proof tables in APP12 and the Future Proof principles is also included in **Table 2**.

3.4 PART 5 – 'APPENDICES AND MAPS' ASSESSMENT

Table 2 below provides an assessment of PPC20 against the updated Appendices and Maps Section within the WRPS Proposed Change 1:

TABLE 2: PROPOSED CHANGE ASSESSMENT

RELEVANT SECTIONS	ASSESSMENT
APP11 – DEVELOPMENT PRINCIPLES	
a) Support existing urban areas in preference to creating new ones	The Plan Change will support the logical expansion of an established industrial area which is recognised as a Strategic Industrial Node in the WRPS (Table 35). The proposed rezoning relates to a location earmarked for expansion as opposed to creating a new industrial node.
b) occur in a manner that provides clear delineation between urban areas and rural areas;	The Structure Plan includes setbacks and landscape buffers along the interface between the precinct boundary and the adjacent rural area. This will create a clear delineation between these areas.
c) make use of opportunities for urban intensification and redevelopment to minimise the need for urban development in greenfield areas;	While the expansion will encroach into greenfield areas, this has always been an area earmarked for future industrial expansion across rural land which is already fragmented by subdivision and will be further fragmented when the future Southern Links is constructed. Intensification and redevelopment is not a viable option for meeting industrial demand.
d) not compromise the safe, efficient and effective operation and use of existing and planned infrastructure, including transport infrastructure, and should allow for future infrastructure needs, including maintenance and upgrading, where these can be anticipated;	The Infrastructure Assessment submitted as part of PPC20 confirmed how the site can be serviced by infrastructure and has outlined what upgrades would be required to service the Northern Precinct. An integrated approach will be adopted towards energy and three waters infrastructure to ensure the land release will not compromise the safe, efficient and effective operation of existing and planned infrastructure.
e) connect well with existing and planned development and infrastructure;	
f) identify water requirements necessary to support development and ensure the availability of the volumes required;	Bulk water to Titanium Park is currently supplied under agreement with WDC from their Pukerimu Scheme. The Northern Precinct can be supplied from the existing Titanium Park water network with the intention to ultimately ring-main all precincts together. The Northern Precinct will not be reliant on water from the Waikato River. Opportunities for re-use will be encouraged to achieve the efficient use of water.
g) be planned and designed to achieve the efficient use of water;	
h) be directed away from identified significant mineral resources and their access routes, natural hazard areas, energy and transmission corridors, locations identified as likely renewable energy generation sites and their associated energy resources, regionally significant industry, high class soils, and primary production activities on those high class soils;	The PPC20 area contains high class soils but none of the other listed resources. Refer to an assessment of the high class soils within Northern Precinct within section 2 above.
i) promote compact urban form, design and location to: i. minimise energy and carbon use; ii. minimise the need for private motor vehicle use; iii. maximise opportunities to support and take advantage of public transport in particular by encouraging employment activities in locations that are or can in the future be served efficiently by public transport; iv. encourage walking, cycling and multi-modal transport connections; and v. maximise opportunities for people to live, work and play within their local area;	A master planning process was undertaken to inform the Structure Plan. This includes provision for active modes of transport, while including a road network and upgrades that is also tailored towards providing suitable connections for larger vehicles associated with industrial activity. The proposed road upgrades, and potential future connections to Southern Links will mean there are good opportunities for public transport to service Titanium Park currently and in the future.
j) maintain or enhance landscape values and provide for the protection of historic and cultural heritage;	The Structure Plan has been designed to maintain and enhance views of Pirongia, while landscaping requirements will ensure landscape values are maintained within the precinct. No archaeological features are known to exist within the site.
k) promote positive indigenous biodiversity outcomes and protect significant indigenous vegetation and significant habitats of indigenous fauna. Development which can enhance ecological integrity, such as by improving the maintenance, enhancement or development of ecological corridors, should be encouraged;	PPC20 proposed provisions (including the Structure Plan) that are aimed at avoiding, mitigating, offsetting or compensating the effects on the Long-tailed bat and its habitat. PPC20's provisions are intended to be further strengthened through the plan change process.
l) maintain and enhance public access to and along the coastal marine area, lakes, and rivers;	Not applicable to PPC20.
m) avoid as far as practicable adverse effects on natural hydrological characteristics and processes (including aquifer recharge and flooding patterns), soil stability, water quality and aquatic	Future development of the Northern Precinct will include stormwater management devices to appropriately manage stormwater on site (and not exacerbate flooding or stormwater quality effects in the catchment). The stormwater

ecosystems including through methods such as low impact urban design and development (LIUDD);	treatment under PPC20 represents an improvement to the current stormwater practices on the site.
n) adopt sustainable design technologies, such as the incorporation of energy-efficient (including passive solar) design, low-energy street lighting, rain gardens, renewable energy technologies, rainwater harvesting and grey water recycling techniques where appropriate;	It is anticipated that lot layouts will be created that encourage buildings oriented with north-facing roofs to maximise the ability to use solar power. Stormwater reuse will also be encouraged.
o) not result in incompatible adjacent land uses (including those that may result in reverse sensitivity effects), such as industry, rural activities and existing or planned infrastructure;	Noise standards, setbacks and landscape buffers along the interface between the precinct boundary and adjacent rural land are proposed reduce reverse sensitivity effects between the industrial and rural activities. T he Northern Precinct is also subject to the Airport designation that restricts height limits along the airside boundary of the precinct as well as restricting certain activities from establishing within the higher noise areas. These existing plan provisions are all in place to avoid reverse sensitivity effects for the Airport.
p) be appropriate with respect to current and projected future effects of climate change and be designed to allow adaptation to these changes and to support reductions in greenhouse gas emissions within urban environments;	The proposal supports reductions in greenhouse gas emissions and will be resilient to the likely current and future effects of climate change.
q) consider effects on the unique tangata whenua relationships, values, aspirations, roles and responsibilities with respect to an area. Where appropriate, opportunities to visually recognise tangata whenua connections within an area should be considered;	There has been a long history of engagement with mana whenua regarding activities at and surrounding Hamilton Airport. The applicant has endeavoured to respond to feedback received from mana whenua (including maintaining views of Pirongia and other Maunga) and also investigating and managing effects on ecological values within the site. Outcomes resulting from consultation have been adopted into the master planning process and will be further detailed through the formation of an MoU that has been initiated.
r) support the Vision and Strategy for the Waikato River in the Waikato River catchment;	PPC20 has been found to support The Vision and Strategy for the Waikato River as assessed in Section 7.10 of the AEE.
s) encourage waste minimisation and efficient use of resources (such as through resource-efficient design and construction methods); and	Waste minimisation and efficient use of resources (such as through resource-efficient design and construction methods) can be adopted into future development of the Plan Change area.
t) recognise and maintain or enhance ecosystem services.	The applicant has recognised ecosystem services and will maintain these services.

APP12 – FUTURE PROOF TABLES

Table 35 – Future Proof industrial land allocation **Strategic Industrial Nodes (based on gross developable area)[1]** / **Industrial Land allocation and staging (ha)** / **Total allocation to 2050 (ha)** 2020-2030 / 2031-2050 Pōkeno: 5 / 23 / 53 Tuakau: 26 / 77 / 103 Huntly/Rotowaro/Ohinewai: 77 / - / 77 Horotiu/Te Rapa North/Rotokauri: 189 / 50 / 239 Ruakura/Ruakura East: 172 / 245 / 417 Hamilton Airport/Southern Links: 94 / 46 / 140 Hautapu: 67 / 160 / 227 Totals: 630 / 626 / 1,256 1. Gross Developable Area includes land for building footprint, parking, landscaping, open space, bulk and location requirements and land for infrastructure including roads, stormwater and wastewater facilities.	The WRPS Proposed Change 1 increases the industrial land allocations for the Hamilton Airport Strategic Industrial Node. The operative WRPS has a total allocation of 124ha between 2010 to 2061, much of which has been taken up already by existing development at Titanium Park. The amended land allocation for Hamilton Airport/Southern Links is an additional 140ha to 2050. While the land proposed to be rezoned under PPC20 is within the allocation for the Airport/Southern Links, PPC20 involves bringing forward the 46ha that is currently allocated to the 2031-2050 period. As such, while PPC20 is in accordance with the total allocation in Table 35 it is not in accordance with the timing in Table 35 and needs to be assessed against the Alternative Land Release Criteria.

APP13 – RESPONSIVE PLANNING CRITERIA – OUT-OF-SEQUENCE AND UNANTICIPATED DEVELOPMENTS (FUTURE PROOF LOCAL AUTHORITIES)

Criteria A

a) That the development would add significantly to meeting a demonstrated need or shortfall for housing or business floor space, as identified in a Housing and Business Development Capacity Assessment or in council monitoring.	The Economics Assessment has reviewed the latest Business Capacity Assessment (BCA) for the sub-region and noted that the BCA identified insufficient industrial capacity. The additional 89ha of industrial land proposed to be rezoned by PPC20 (including 46ha currently allocated to the 2031-2050 period in Table 35) will assist in addressing this

	shortfall.
b) That the development contributes to a well-functioning urban environment. Proposals are considered to contribute to a well-functioning urban environment if they: i. have or enable a variety of homes that: meet the needs, in terms of type, price, and location, of different households; and/or enable Māori to express their cultural traditions and norms; and/or have or enable a variety of sites that are suitable for different business sectors in terms of location and site size; and ii. support, and limit as much as possible adverse impacts on, the competitive operation of land and development markets.	While PPC20 does not enable additional housing stock, it does enable industrial growth in an area that is well accessible to future residential growth in Peacocke. It will also contribute to the availability of land for different business sectors within an area that will be easily accessible to current and future residential areas in Hamilton City (including Peacocke). While no subdivision is proposed, the Structure Plan (which has been developed through an extensive master planning process) will enable a variety of sites that are suitable for the industrial sector in the future. The Hamilton industrial land market is highly concentrated in spatial terms, with the 2021 BCA for Future Proof region showing that 96% of the city's remaining vacant industrial land resides in only two locations (Ruakara and Te Rapa). PC20 directly addresses this lack of spatial competition and land availability by providing a large, master-planned industrial growth node to the south of the city (rather than to the north or to the wests as per Te Rapa and Ruakura, respectively). Accordingly, not only will PC20 provide a much needed boost in employment land to meet future worker availability from Peacocke just to the north, but it will also represent a major boost in land market competition relative to the status quo.
c) That the development is consistent with the Future Proof Strategy guiding principles, and growth management directives (as set out in Sections B2, B3, B6, B7, B8, B9 and B11 of the strategy).	PPC20 has been found to be consistent with the Future Proof Strategy guiding principles, and growth management directives (as assessed in the revised Future Proof Assessment in Table 4 below).
d) That the development has good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces, including by way of public or active transport.	The proposed roading upgrades, provision for active modes and the Structure Plan will ensure the Northern Precinct is well connected to the airport and other precincts of the Airport Business zone, as well as residential growth areas (such as Peacocke).
e) In cases where development is being brought forward, whether it can be demonstrated that there is commitment to and capacity available for delivering the development within the advanced timeframe.	Both TPL and RPL are committed to developing the Northern Precinct with the full build out of the 140ha expected to take 15 years.
f) In cases where the development is proposing to replace a planned land use with an unanticipated land us, whether it can be demonstrated that the proposal will not result in a shortfall in residential, commercial or industrial land, with robust data and evidence underpinning this analysis.	The zoning for industrial activities that is proposed under PPC20 is not an unanticipated land use for the Airport location.
g) That the development protects and provides for human health.	PPC20 is seeking rezoning of land from Rural to Airport Business Zone, and will not compromise human health.
h) That the development would contribute to the affordable housing stock within the sub-region, with robust data and evidence underpinning this analysis.	PPC20 is seeking rezoning of land from Rural to Airport Business Zone and will not have any impact on affordable housing stock within the sub-region.
i) That the development does not compromise the efficiency, affordability or benefits of existing and/or proposed infrastructure in the sub-region.	The Infrastructure Assessment submitted as part of PPC20 confirmed how the site can be serviced by infrastructure and has outlined what upgrades would be required to service the Northern Precinct. An integrated approach will be adopted towards energy and three waters infrastructure to ensure the land release will not compromise the efficiency, affordability or benefits of existing and planned infrastructure.
j) That the development can be serviced without undermining committed infrastructure investments made by local authorities or central government (including NZ Transport Agency). Development must be shown to be adequately serviced without undermining committed infrastructure investments made by local authorities or central government to support other growth areas.	The Northern Precinct can be serviced without undermining committed infrastructure investments made by local authorities or NZ Transport Agency. To the contrary, the Structure Plan includes provision for future transport connections to Southern Links.
k) That the development demonstrates efficient use of local authority and central government financial resources, including prudent local authority debt management. This includes demonstration of the extent to which cost neutrality for public finances can be achieved.	The development of the Northern Precinct will not require the financial resources of central government or local authorities because it will be funded (either directly or indirectly) by TPL and RPL.
l) The compatibility of any proposed land use with adjacent land uses including planned land uses.	Proposed setbacks and landscape buffers along the interface between the precinct boundary and adjacent rural land will reduce any reverse sensitivity effects between the industrial and rural activities.
m) That the development would contribute to mode-shift that supports the medium and long-term transport vision for the sub-region being the creation of a rapid and frequent multi-modal transport network and active mode network.	While the Structure Plan will ensure active mode transport links are integrated into development of the Northern Precinct, it is considered that future rapid and multi-modal transport connections can be made to service the precinct and will not be precluded by PPC20. The proposed rezoning also relates to land which is identified as a Strategic Industrial Node in the WRPS.

n) That the development would support reductions in greenhouse gas emissions and would be resilient to the likely current and future effects of climate change, with robust evidence underpinning this assessment.	The Plan Change supports reductions in greenhouse gas emissions by clustering industrial growth around existing industrial areas (a Strategic Industrial Nose) and the Airport, reducing travel distances within the sector, while also enabling active mode transport. It will also result in the creation of employment in close proximity to a large residential growth area and thereby reducing commuter distances. The precinct will be resilient to the likely current and future effects of climate change through appropriate stormwater management.
o) That the development avoids areas identified as wāhi toitū on Map 44.	The area covered by PPC20 is mapped as being wāhi toitū on account of the soil classification. As such this cannot be avoided – refer to the assessment of high class soils in section 2 above.
p) During a review of the Future Proof strategy (including the development of a Future Development Strategy under the National Policy Statement on Urban Development 2020 and its subsequent 3-yearly review), or a comprehensive district plan review, consideration may be given to urban development on areas identified as wāhi toitū. A strong precautionary approach will be taken such that if the land is not needed to fill an identified shortfall of development capacity in the short-medium term, it should not be considered for urban development. Preference will be given to urban development proposals which are not located on areas identified as wāhi toitū.	The Economics Assessment has found that there is an identified shortfall of development capacity in the industrial sector in the short-medium term. As such, industrial expansion can be considered in wāhi toitū areas. Refer to the assessment of high class soils in section 2 above
q) That a precautionary approach be taken when considering development on areas identified as wāhi toiora, such that if the land is not needed in the short-medium term it should not be considered for urban development.	The site is not identified as wāhi toiora.
Criteria B	
a) That the development demonstrates that it would not affect the feasibility, affordability and deliverability of planned growth within urban enablement areas and/or village enablement areas over the short, medium and long term. In the interest of clarity, proposals in areas currently identified for development beyond long term on Map 43 and which are proposed to be brought forward to an earlier timeframe must demonstrate that they do not affect the feasibility, affordability and deliverability of planned growth in the earlier time periods.	The uptake for industrial land in Titanium Park has been far greater than was predicted when the Northern Precinct was initially rezoned as part of preparing the Waipa District Plan. This significant uptake on demand has meant almost all industrial land within Southern, Western and Central Precincts has been sold and developed. As such, PPC20 will not affect the feasibility, affordability or deliverability of any other planned growth within the Titanium Park urban enablement area or anywhere else given the Economics Assessment has found that there is an identified shortfall of development capacity in the industrial sector in the short-medium term...
b) That the development demonstrates that value capture can be implemented and that cost neutrality for public finance can be achieved.	The development of the Northern Precinct will not require the financial resources of central government or local authorities because it will be funded (either directly or indirectly) by TPL and RPL.
c) That the proposed development would not adversely affect the function and vitality of existing rural settlements and/or urban areas.	PPC20 will only enable retail to establish at a scale and in locations that meets the daily needs of local business and workers. Retail will not be of a type or scale that would become a destination and thus avoids competing with nearby centres.
d) That the development would address an identified housing type/tenure/price point need.	Not applicable

3.5 FUTURE PROOF STRATEGY 2022 ASSESSMENT

As required by APP-13, Table 4 below provides an assessment of PPC20 against the Future Proof Strategy guiding principles, and growth management directives (as set out in Sections B2, B3, B6, B7, B9 and B11 of the strategy):

TABLE 4: FUTURE PROOF STRATEGY ASSESSMENT

RELEVANT SECTIONS	ASSESSMENT
Vision and Principles *The Future Proof Strategy has a vision for a sub-region that:* • *Has a diverse and vibrant city centre strongly connected to distinctive, thriving towns and rural communities.* • *Is part of the prosperous, dynamic and nationally significant corridor between Hamilton, Auckland and Tauranga that accommodates growth while protecting what is most important.* • *Is the place of choice for those looking for opportunities to live, work, play, invest and visit.* • *Provides a variety of housing options that are affordable.*	The proposed rezoning is a logical extension of the Airport Business zone and will ensure it retains its individual identity. The Northern Precinct expansion will take advantage of the benefits of industrial activities locating together to become a thriving business park. The revised Structure Plan will enhance connectivity throughout the precinct and provide an appropriate settlement pattern for future industrial growth. The central Hub will reinforce Titanium Park's status as a thriving business park, and provide day to day amenities for workers within the area. The Airport Business zone is strategically located in the southern bounds of the Golden Triangle. As such, demand driven expansion of the Northern Precinct will contribute towards the prosperous, dynamic and nationally significant corridor between Hamilton, Auckland and Tauranga. Comprehensive analysis and assessment of the site has confirmed that the site has limited values in terms of natural

• *Is the place where natural environments, landscapes and heritage are protected and a healthy Waikato River is at the heart of the region's identity.* • *Has productive partnerships with the community.* • *Has affordable, integrated and sustainable infrastructure with a strong focus on a rapid and frequent multi-modal transport network, and enabling three waters services and community facilities* • *Has sustainable resource use.* • *Responds to climate change with urgency, building resilience and supporting the transition to a lower carbon economy including through achieving a more compact urban form and a shift to active modes and public transport.*	environments (with the exception of bat habitat), landscapes and heritage due to its historic use as agricultural farmland. Notwithstanding, the proposal seeks to maintain some existing landscape features (including locating the central Hub on the hill to somewhat maintain the existing identity). A comprehensive approach is taken to the avoidance and management of potential effects on bats. In terms of infrastructure, the rezoning presents opportunities to integrate future infrastructure to service the expansion with the existing infrastructure already in place which services the other precincts. The request is responsive to climate change, noting that appropriate stormwater mitigation will be included for any future development, and through implementing cycle and pedestrian paths into the Structure Plan to encourage active modes of transport.
B2 – Taangata whenua	
• *Develop and maintain enduring, collaborative and mutually respectful relationships with all Future Proof partners to assist in achieving taangata whenua environmental, economic, social and cultural aspirations and in implementing Treaty settlements.* • *Restore and uphold maatauranga (Maaori knowledge) pertaining to the environment, including retention of historical roles of kaitiakitanga, mana whenua, and mana wai within their rohe.* • *Maintain meaningful participation in planning and environmental management processes, taking into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).* • *Recognise taangata whenua spatial priorities, including areas for the restoration and enhancement of the environment.* • *Collaborate to give effect to Te Ture Whaimana – the Vision and Strategy.* • *Promote the importance of tikanga, reo, and other cultural taonga in urban growth and development, including through upholding cultural heritage and identity of areas that are traditional tribal lands.* • *Protect waahi tapu, cultural heritage sites, places and landscapes associated with traditional knowledge of taangata whenua.Support economic growth of iwi assets, in a manner that respects and restores the natural environment, particularly the awa.* • *Support the development of sustainable housing, including affordable housing and papakaainga, for economic, cultural and spiritual wellbeing.* • *Support the development of marae as an important tool for community resilience and reconnection with ancestral land and economic development initiatives, including through affordable connectivity to infrastructure.* • *In decision-making, be cognisant that local authority boundaries do not reflect tribal rohe.* • *Support iwi-led social, cultural and economic development initiatives designed to support iwi/ hapuu members living outside of their rohe.*	There has been a long history of engagement with mana whenua regarding activities at and surrounding Hamilton Airport. Specific to this Plan Change, the applicants have held two separate hui with NITOW – firstly early in the masterplanning process and secondly in the preparation of the Plan Change Request. The applicants have endeavoured to respond to the feedback that was received (including to maintain views of Pirongia) as well as well as investigating the ecological values on the site. A Cultural Impact Assessment was commissioned to support PPC20 and has recommended the development of an MoU and several recommendations that are currently being progress by TPL and RPL. No submissions have been received raising cultural matters.
B3 - Waahi toituu and waahi toiora	
• *Identifying and planning future growth areas to ensure that they avoid waahi toituu areas.* • *Protecting existing waahi toituu areas from urban development.* • *Avoiding areas which are, in the foreseeable future, either infeasible or undesirable for urban development.* • *Safeguarding culturally important sites and enhancing their values*	Future Proof identifies the site as being within a waahi toituu area due to the presence of high class soils. An assessment of the soils within PPC20 has been undertaken in section 2 above. The assessment found that: • The rezoning will provide additional business land that is required to meet demand and give effects to the NPS-UD. • There are no other reasonably practicable or feasible options for providing sufficient development capacity within the same locality or market whilst also resulting in a well-functioning urban environment. • The environmental, social, cultural and economic costs associated with the loss of highly productive soils are outweighed by the benefits.
B6 – Transport	
• *Optimise the use of existing transport infrastructure, by aligning land use and development.* • *Rapid and frequent public transport networks offer a viable and attractive alternative to private vehicles,*	The request will optimise the use of existing transport infrastructure, by optimising connectivity across precincts and to SH3, SH21 and SH1.

expanding the reach of high-quality public transport. • *Plan and protect efficient freight network operations and inter-regional corridors.* • *Connect transport and resident hubs, linking major growth centres by public transport and active modes.* • *Plan and design neighbourhoods to make public transport use, walking and cycling easy and attractive.*	The Airport Business zone (including the Northern Precinct) can also utilise Hamilton Airport for freight purposes, while a potential future connection to the North Island Main Trunk Line to the west could also be made in the future. The promotion of walking and cycling routes and the establishment of Southern Links in the future will further strengthen connectivity to the site from other precincts, the Airport and the Peackocke residential growth area to the north. As such, the proposal has regard to these Growth Management Directives.
B7 – Current and Future Growth Areas	
• *Support compact urban development across the sub-region, focused within the key urban enablement areas set out in table 6 and the Future Proof Current and future urban areas map 7, providing for well-functioning urban environments and enhancing competitive land markets through a range of development opportunities.* • *Support existing urban and village areas in preference to creating new ones.* • *Focus on compact urban form and increased densities enabled in a way that accommodates long-term growth and provides high quality social, cultural, economic and environmental outcomes.* • *Use defined urban enablement areas to encourage a more compact urban form, to integrate land-use with infrastructure and to send clear signals to the community about the preferred settlement pattern and the scale and extent of urban development.* • *Enable low levels of growth within village enablement areas in accordance with district-level land use planning. No additional growth is planned for in other villages beyond what is already identified in district-level land use plans.* • *Strictly limited growth in non-urban areas around the Hamilton periphery.* • *All growth areas at scale are connected to and supported by rapid and frequent public transport networks, as well as effective road and active mode connections* • *Meet the diverse needs of residents of the sub-region through a range of housing types and safe and inclusive urban design.* • *Build upon and strengthen local characteristics to create a sense of place.* • *Provide local employment and educational opportunities, access to green space and community facilities alongside housing, and enable high-density development around access to these opportunities* • *Integrate land use, funding and infrastructure through tools such as structure planning.* • *Development is planned in a way that minimises land use conflicts, including minimising potential for reverse sensitivity issues.*	Only part of the Northern Precinct is identified as an Urban Enablement Area on Map 7. Table 6 applies to residential urban enablement areas and so is not relevant to the proposal. The Plan Change will support the expansion of an established industrial area, as opposed to creating a new industrial centre. Development will be in accordance with the structure plan which has undergone an extensive masterplanning process to ensure high quality social, cultural and environmental outcomes. The proposed expansion is a logical continuation of the Northern Precinct in an area that has been earmarked for industrial expansion and that is identified as a Strategic Industrial Node in the WRPS. Provision has been made for active mode connections between precincts and to residential areas. There may be opportunities for rapid and frequent public transport networks to service the Plan Change area in the future. The Structure Plan includes access points to the site that will act as gateways, which in conjunction with the spine road leading to the Hub, will strengthen Titanium Park's identity and its characteristics to create a sense of place. Proposed setbacks and landscape buffers along the interface between the precinct boundary and adjacent rural land will reduce any reverse sensitivity effects between the industrial and rural activities.
B8 – Growing a Prosperous Economy	
• *Concentrate jobs and services in urban areas accessible by rapid and frequent public transport networks to provide greater choice and accessibility to opportunities, amenities and facilities.* • *Promote an urban form that can be more easily accessed by a variety of modes of transport, including walking, cycling and frequent and rapid public transport options* • *Implement the hierarchy of major commercial centres as identified in table 1 above.* • *Support existing commercial centres.* • *Ensure existing and new centres have a high-quality public realm to attract investment and capture agglomeration benefits.* • *Meet the needs of residential and employment growth through higher density development and land use in centres.* • *Ensure new commercial centres are only developed where they are needed to support new growth areas and meet local needs and are connected to and supported by public transport networks.* • *Recognise, maintain and enhance the Hamilton central city as the primary commercial, civic and social centre of*	While public transport options from the airport to Hamilton are currently limited, the roading infrastructure in place is capable of accommodating public transport options to service the Northern Precinct and other precincts within the Airport Business. The roading infrastructure servicing the site (with the proposed upgrades) is capable of accommodating freight vehicles expected to visit the site. In addition to this, the site's proximity to the North Island Main Trunk Line means a future rail connection to service the site could be established. PPC20 will reinforce and support the airport's role as a significant industrial hub, generating agglomeration benefits that arise when co-locating industrial and business uses with the airport. The expansion has been considered and backed with economic evidence which demonstrates the demand for industrial land supply and will promote and support the ongoing intensification of jobs and economic activity around the airport. PPC20 reinforces the Airport's important role and its strategic significance within the Golden Triangle. PPC20 incorporates setbacks and landscape buffers along the interface between the precinct boundary and adjacent rural land will reduce any reverse sensitivity effects between the industrial and rural activities.

the Future Proof sub-region. • *Manage development within areas outside the Hamilton central city to avoid adverse effects on the function, vitality or amenity of the Hamilton central city.* • *Recognise, maintain and enhance the function of sub-regional centres* • *Strengthen connections between business services and industries within the metro economic corridor to support the efficient movement of people, goods and services to and through the area.* • *Promote and support the ongoing intensification of jobs, education and economic activity along the metro economic corridor.* • *Ensure an adequate supply of future business land occurs in agreed locations to meet long-term needs in a responsive and timely manner, only in areas agreed in the Future Proof Strategy.* • *Ensure business land release is co-ordinated with infrastructure provision in the partner councils' long term plans and 30-year infrastructure plans.* • *Locate future industrial land in suitable areas to avoid sensitivity issues and maximise efficient use of existing and planned infrastructure.* • *Maintain industrially zoned land for industrial activities.* • *Develop partnerships to ensure joined-up cross-boundary planning with Auckland and Matamata-Piako councils.* • *Development is planned in a way that minimises land use conflicts, including minimising potential for reverse sensitivity issues.*	
B9 – Rural Areas	
• *Protect highly productive land through the provision of limited rural lifestyle development around existing towns and villages and encouraging a more compact urban footprint* • *Protect highly productive land in the rural environment for productive uses.* • *Value, maintain and enhance rural amenity and character across the sub-region.* • *Provide a clear definition between urban and rural areas, including through directing urban development to defined urban enablement areas and village enablement areas.* • *Strictly limiting rural-residential development in the vicinity of Hamilton and avoiding the fragmentation of highly productive soils.* • *Development occurs in a way that minimises loss of access to important mineral resources and minimises reverse sensitivity issues for waste management facilities.* • *Development is planned in a way that minimises land use conflicts, including minimising potential for reverse sensitivity issues.* • *Support initiatives to ensure rural communities have easy access to basic services for their wellbeing.*	The rezoning that is sought effectively acts as an expansion of an existing strategic industrial node within the region. While there is already 41ha of Northern Precinct that has a live Airport business Zoning, the Plan Change seeks to expand this to achieve a consolidated form that will achieve a well-functioning urban environment that is sought by Objective 1 of the NPSUD 2020. The Agriculture Assessments contained in Appendix 2 and 3 outlines why the ongoing use of the (current) rural zoned portion site for productive activities will not be economically sustainable in the medium to long term. A full assessment of the productive potential of the existing rural zoned land within the PPC20 area has been undertaken as part of the NPS-HPL assessment in section 2 above.
B11 – Three waters and other infrastructure	
• *Collaborate to give effect to Te Ture Whaimana o Te Awa o Waikato – Vision and Strategy for the Waikato River.* • *Application of water sensitive urban design principles that support and enable population growth and deliver positive environmental and cultural outcomes by taking account of three waters infrastructure investment and operational requirements in assessing and planning development.* • *Ensure environmentally integrated and water sensitive planning and design principles are considered at all scales.* • *Seek responsive solutions that lead to positive environmental outcomes within the catchment.* • *Fully integrate land use, three waters and network infrastructure and utilities planning at all levels.*	An integrated approach to stormwater management will be taken through development of the site. As per the regional guidelines, stormwater runoff from the site will be treated to acceptable standards before being discharged from the site. It is anticipated that appropriate water sensitive urban design principles will be incorporated at all scales (including onsite detention, and precinct wide measures such as swales and rain gardens in the road reserves) into any future development to avoid adverse stormwater quality effects on the Waikato River. The proposal will also not be reliant on the Waikato River for water supply. Wastewater options have also been considered with both short, medium and long-term options being explored to confirm that the expansion area can be adequately serviced through all stages through its development with respect to wastewater.

• *Infrastructure investment must be cognisant of iwi economic and environmental imperatives.* • *Support for affordable infrastructure connectivity to marae.* • *Ensure new infrastructure development takes of account potential future climate change effects.* • *The Auckland and Hamilton airports will continue to be seen as regionally significant infrastructure. An aim should be to protect them from reverse sensitivity impacts while recognising the need to maintain viable airports, including improving public transport links.*	Noting Hamilton Airport will continue to be seen as regionally significant infrastructure, the expansion of industrial land use is not a sensitive activity that could compromise ongoing airport operations. To the contrary, both the airport and the industrial expansion will benefit from being located together, enabling efficiencies including for freight purposes.

4.0
LIMITATIONS

4.1 GENERAL

This report is for the use by Titanium Park Limited & Rukuhia Properties Limited only and should not be used or relied upon by any other person or entity or for any other project.

This report has been prepared for the particular project described to us and its extent is limited to the scope of work agreed between the client and Harrison Grierson Consultants Limited. No responsibility is accepted by Harrison Grierson Consultants Limited or its directors, servants, agents, staff or employees for the accuracy of information provided by third parties and/or the use of any part of this report in any other context or for any other purposes.ppendices

APPENDIX 1
ASSESSMENT OF INDUSTRIAL LAND CAPACITY FOR THE NATIONAL POLICY STATEMENT ON HIGHLY PRODUCTIVE LANE

INSIGHT | ECONOMICS

Final Report: 27 January 2023

Assessment of Industrial Land Capacity for the National Policy Statement on Highly Productive Land

Prepared for:
TPL & RPL

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Contents

1. Introduction

1.1 Context & Purpose of Report

The National Policy Statement on Highly Productive Land (NPS HPL) came into force on 17 October 2022 and aims to protect our most productive land for land-based production, both now and in the future. It requires Councils to map highly productive land (HPL), and closely manage the subdivision, use and development of it by avoiding inappropriate use and development.

Section 3.6 of the NPS HPL allows Tier 1 and 2 territorial authorities[1] to allow the rezoning of Highly Productive Land ("HPL) if three criteria are met. They are that:

(a) the urban rezoning is required to provide sufficient development capacity to meet demand for housing or business land to give effect to the National Policy Statement on Urban Development 2020; and

(b) there are no other reasonably practicable and feasible options for providing at least sufficient development capacity within the same locality and market while achieving a well-functioning urban environment; and

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

This report assesses whether the proposed rezoning of the Northern Precinct is required to provide sufficient capacity as per clauses (a) and (c) above.

1.2 Key Findings of this Report

The key findings of this report are that:

- Our economic assessment for PC20 concluded that local industrial land demand would exceed supply by a significant margin across all three NPS-UD timeframes. This means that the 130ha of industrial land within the Northern Precinct (which PPC20 is proposing) is required to provide sufficient development capacity.

- The latest business capacity assessment (BCA) prepared for the Future Proof sub-region in June 2021 reaches the same conclusion, noting that industrial land demand will exceed supply significantly in most locations in and around Hamilton (i.e. in the airport's effective market).

- However, the shortfalls identified in both assessments are likely to significantly understate the true extent of the problem, with the latest employment data and real estate research revealing an unprecedented uptick in industrial employment, and hence floorspace demand.

[1] Under the National Policy Statement on Urban Development (NPS-UD)

- Accordingly, we conclude that there is a clear and pressing need for PC20 to help meet short- to medium-term NPS-UD obligations to provide at least sufficient capacity at all times.

- This report also compares the likely economic impacts of the proposed rezoning relative to the most likely rural productive use absent it, which is maize cropping. We show that maize production would sustain only 3 FTE jobs, generate about $240,000 in wages/salaries annually, and add about $420,000 to annual GDP.

- By comparison, industrial uses enabled by PC20 would sustain more than 2,200 FTE jobs, generate about $154 million in wages/salaries, and add about $279 million to regional GDP annually. In other words, economic activity enabled by PC20 would be worth several hundred times more than the rural production that would otherwise occur there.

- In addition, PC20 would secure a range of other significant and enduring economic benefits, which make it a superior use of the land for the purposes of section 3.6(1)(c) of the NPS HPL.

- Overall, we believe that the economic benefits of rezoning the 90ha of rural zoned land within the Northern Precinct to industrial will far exceed the benefits of retaining it in rural productive use. This satisfies the economic component of 3.6(1)(c) of the HPL.

1.3 Structure of Report

The remainder of this report is structured as follows:

- **Section 3** summarises the findings our economic assessment on the need for additional capacity, which accompanied the plan change application;

- **Section 4** reviews and critiques the methodology and findings of the latest BCA prepared under the NPS-UD; and

- **Section 5** summarises recent data and research on industrial land demand and considers the implications for the proposal.

2. Findings of Our Previous Assessment

2.1 Introduction

Earlier this year, we provided a detailed economic assessment that accompanied the PC20 application, which included an assessment of industrial land supply and demand over all three NPS-UD timeframes. This section summarises the approach and findings of that prior assessment.

2.2 Approach to the Analysis

Although the site is in the Waipa district, several recent strategies and reports concluded that the airport effectively forms part of the Hamilton City property market. We agree, so our assessment of the need for the proposal was based on the city's likely future needs given projected industrial land demand.

Once the relevant study area was determined, we next assessed the likely demand for industrial land by converting projected industrial employment into corresponding estimates of industrial floorspace, which were then translated into estimates of the underlying future demand for industrial land.

Finally, these demand estimates were reconciled with likely supply, once the impacts of various constraints such as infrastructure were incorporated, to assess the need for PC20.

2.3 Findings

Our analysis found that the city was likely to face industrial land deficits of nine hectares over the short-medium term, and 156 hectares over the long term. Accordingly, we concluded that there is a pressing need to identify and rezone additional supply as quickly as possible to meet NPS-UD obligations and to ensure the efficient ongoing operation of the local industrial land market, which PC20 recognises and responds to.

3. Review of 2021 Capacity Assessment

3.1 Introduction

The latest "official" information on industrial land supply and demand is contained in the most recent Business Capacity Assessment (BCA) for the Future Proof sub-region, which is dated 30 June 2021. It contains detailed information and analysis on the:

- demand for business land and floorspace by location and sector,
- capacity enabled by current planning provisions and other strategic planning documents, again by location and sector; and
- sufficiency of capacity to meet demand by location and sector over all three timeframes.

This section summarises and critiques the methodology and findings of that report.

3.2 Findings on Industrial Land Sufficiency

The BCA notes that much of Hamilton City's previous industrial floorspace capacity has been absorbed since the last assessment in 2017, with remaining capacity being unevenly distributed.[2] In fact, 96% of the city's vacant industrial land resides in only 2 areas (Te Rapa and Ruakura).[3] Consequently, the assessment concludes that there will be insufficient capacity across all industrial nodes over the long term, except Ruakura. Figure 1 provides the details.

Figure 1: Hamilton City Long Term Industrial Sufficiency Summary (ha)

	Demand Growth + Margin (ha)			Estimated Land Availability (ha)			Sufficiency Measure		
Name	Short Term (+20%)	Medium Term (+20%)	Long Term (+15%)	Short Term	Medium Term	Long Term	Short Term	Medium Term	Long Term
Te Rapa	51.4	177.0	328.7	99.3	99.3	278.0		Insufficient	Insufficient
Chartwell	0.5	1.7	4.8	-	-	-	Insufficient	Insufficient	Insufficient
Frankton	0.8	25.8	92.3	21.1	21.1	21.1		Insufficient	Insufficient
CBD	5.2	21.0	64.5	-	-	-	Insufficient	Insufficient	Insufficient
Ruakura	0.3	6.0	22.0	145.8	212.6	336.6			
Other	4.5	34.2	108.2	4.1	4.1	4.1	Insufficient	Insufficient	Insufficient
Total	**62.7**	**265.8**	**620.6**	**270.3**	**337.0**	**639.7**			

The report goes on to state that localised industrial land demand exceeds available capacity by the greatest margin across all business land types, especially in Hamilton City.[4] Accordingly, it suggests that, where significant localised industrial land shortfalls exist, "demand apportioned to specific reporting areas could easily be met in other parts of the TA or the wider sub-region."[5]

In other words, there is a degree of flexibility in the matching of industrial land demand to locations. That proposition then leads to the following conclusion about the ability for other areas to help address shortfalls:

[2] Page 75
[3] Page 84
[4] Page 89
[5] Ibid.

> "It makes sense to look at demand and capacity as somewhat trans-locational and see the sub-region as a reasonably well-connected network of nodes. In most cases areas where there are insufficiencies will have adjacent areas with ample capacity which are easy to access or make sense from a co-location point of view." [6]

We agree, and consider this conclusion particularly relevant for PC20, which is less than three kilometres from where area expected to experience the largest industrial land deficits – Hamilton City.

3.3 Critique of BCA's Methodology and Findings

While we acknowledge the significant body of work informing the BCA and agree with its overall conclusions on industrial land sufficiency, we consider it to significantly understate the likely magnitude of this shortfall. There are several reasons, as briefly explained below.

3.3.1 Market Supply vs Vacant Land

Unlike residential land, whose ability to meet demand is assessed by explicitly modelling the feasibility of development on a parcel-by-parcel basis, the BCA simply assumes that all vacant industrial land will be feasible to develop, and will be developed, over the next 30 years. This is an extreme and highly unlikely assumption. In practice, significant tracts of land won't be feasible to develop and/or won't be developed regardless, because of several factors that limit market supply, particularly over the short to medium term. They include:

- *Developer intentions* - some landowners have no clear intention to develop their land, particularly over the short- to medium-term, nor to sell to others that may have clearer development intentions and capabilities.

- *Land banking and drip-feeding* – other landowners may intend to develop in future, but are currently withholding supply to capitalise on inevitable land price inflation, while some are drip-feeding supply to maintain prices and hence maximise returns.

- *Constraints* – the BCA appears to consider only infrastructure as a potential constraint, thereby overlooking several other factors that affect may also affect the developability of land, such as reverse sensitivity, contamination, difficult access, and/or awkward topography.

- *Operational capacity* – some landowners face operational capacity constraints, which limit the number of new sections/dwellings that they can supply per annum.

- *Financing* – similarly, some landowners face capital/financing constraints that also limit their ability to supply.

We also note that the BCA implicitly treats all sources of capacity as the same, which can mask subtle yet important differences across sites and locations. For example, some industrial land users may need very large sites, or to be located near specific customers and/or suppliers. Others require a high stud

[6] Page 90

and/or a large yard capable of handling regular truck movements. Many will also seek a freehold site, and therefore be deterred by leasehold opportunities, such as those at Ruakura.

However, the BCA naturally can't address these fine-grained considerations. Instead, it simply provides an aggregated assessment of supply and demand, where all plots of land are treated as perfectly substitutable. In doing so, it masks the specific site and location requirements of many industrial land users and therefore overstates the adequacy of the current land inventory

3.3.2 Reliance on Old Information

The BCA uses a multi-criteria analysis (MCA) to compare the suitability and desirability of different industrial land nodes across the sub-region to assess whether vacant land resides in areas that are likely to be developed. Notwithstanding our earlier reservations, namely that this tells us nothing about the feasibility or likely uptake of said land, the MCA itself is based on sector views garnered nearly five years ago in January 2018.

Clearly, we are in a different market now, both from a macroeconomic perspective, and also in terms of the property market cycle, so relying on old such information won't help choose where and when to best add new capacity to meet future demand.

For example, the sector feedback and views embedded in the BCA predate the Covid-19 pandemic, which wrought unprecedented economic turmoil and caused construction costs to balloon. The impacts of those cost spikes on development viability have since been compounded by the recent rapid recovery of interest rates, which are another key piece of the development feasibility puzzle. However, these effects postdate and hence elude the BCA.

3.3.3 Inclusion of Indicative Future Capacity from Waikato 2070

On page 75 of the BCA in a discussion about its limitations, the authors disclose their implicit assumption that most of the land earmarked for investigation under the Waikato 2070 strategy could become capacity into the future. However, they immediately qualify that by noting there is no guarantee that the areas under investigation will be re-zoned or result in capacity, but this important caveat is not captured in the broader narrative of the report.

3.3.4 Impacts of Other Policy Statements

The BCA also does not appear to incorporate the impacts of other national policy statements that have recently been enacted or updated, and which significantly curtail future development opportunities. Specifically, it does not mention the NPS on Freshwater, and it was published prior to the NPS HPL, so the impacts of both naturally are not reflected in BCA's assessment of industrial development capacity either.

3.3.5 Exclusion of the Airport Business Zone

Page 35 of the BCA states that the airport business zone has been included, but it does not appear in any of the subsequent maps, figures, or tables. This makes it difficult to assess whether or how it has adequately recognised the strategic importance of the airport in meeting future industrial land needs.

3.4 Assumed Development Intensity

The BCA adopts what it calls "realistic industrial supply" estimates by assuming a floor are ratio (FAR) of 38% for industrial uses based on recent development outcomes across the sub-region. It notes that this is significantly lower than the FAR enabled by planning rules, and thus reduces capacity. We acknowledge this, but the latest property-level data for Hamilton City (from Core Logic) reveals a much lower FAR for industrial buildings developed since 2010, as tabulated below. This directly reduces the development capacity of vacant land identified in the BCA.

Table 1: Industrial Building Floor Area Ratios for the Broader Hamilton City Market (built since 2010)

Industrial Land Uses by Core Logic Classification	**Land Area ha**	**GFA m²**	**FAR**
Industrial, Food Processing and Food Storage, Provincial	1	2,840	40.0%
Industrial, Food Processing and Food Storage, Suburban	1	2,910	28.2%
Industrial, Heavy Manufacture, suburban	22	19,020	8.6%
Industrial, Light Manufacture, provincial	2	6,560	29.1%
Industrial, Light Manufacture, suburban	7	33,930	48.2%
Industrial, Other/Mixed, Provincial	0	870	27.9%
Industrial, Other/Mixed, suburban	4	15,180	40.4%
Industrial, Service, Provincial	3	9,870	37.7%
Industrial, Service, Suburban	13	54,650	42.6%
Industrial, Warehouse, Province	33	10,750	3.2%
Industrial, Warehouse, Suburban	19	88,690	46.7%
All Industrial Land Uses	**105**	**245,260**	**23.3%**

3.5 Summary and Conclusion

The latest BCA identifies significant shortfalls in future industrial land capacity across the sub-region, particularly Hamilton City, and notes that these could be offset by increased supply in nearby locations. However, the report appears to substantially understate the extent of the problem. Consequently, we believe that the results of the HBA should be treated with a degree of caution.

4. Recent Industrial Supply/Demand Data

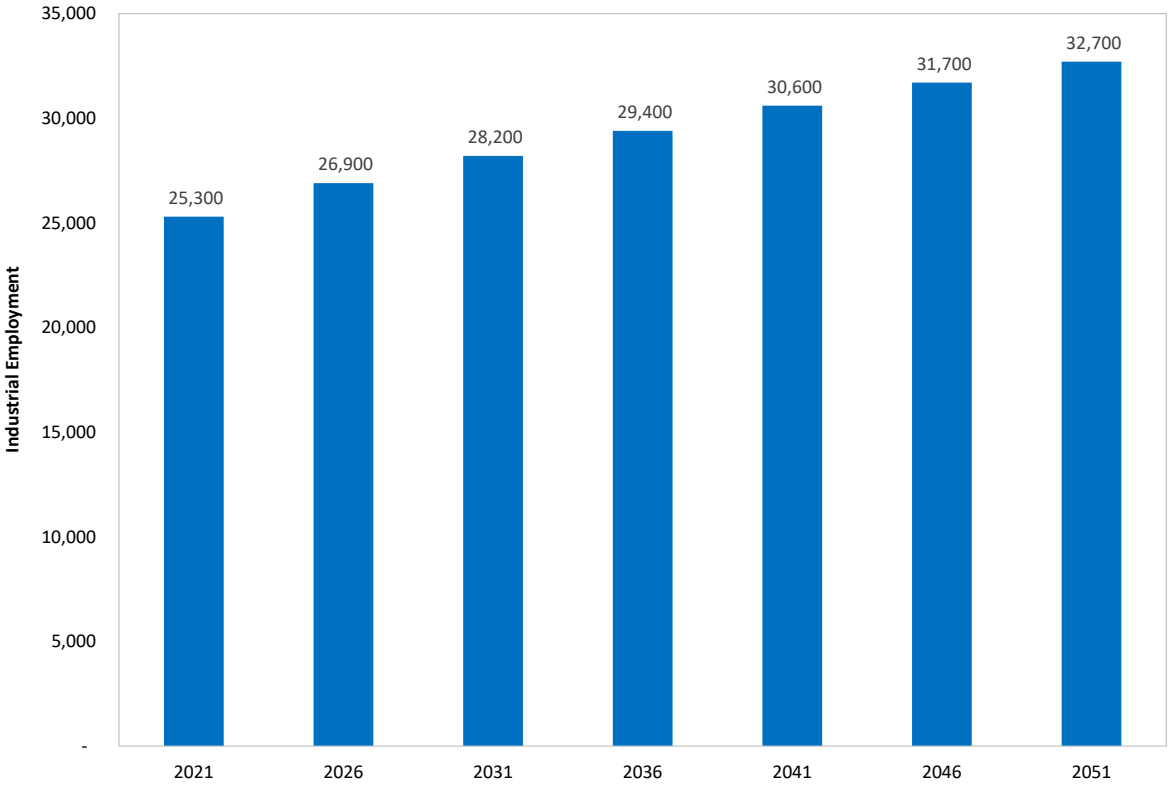
4.1 Introduction

As noted in the previous section, the BCA is now slightly out of date. In fact, its estimates of future industrial land demand are based on employment from February 2020, which is now nearly three years' old. Fortunately, more recent employment data are now available, which provide an updated snapshot of likely future demand. These are discussed below, along with the findings of recent real estate research reports, to see how the market has evolved since the BCA was completed.

4.2 Industrial Employment

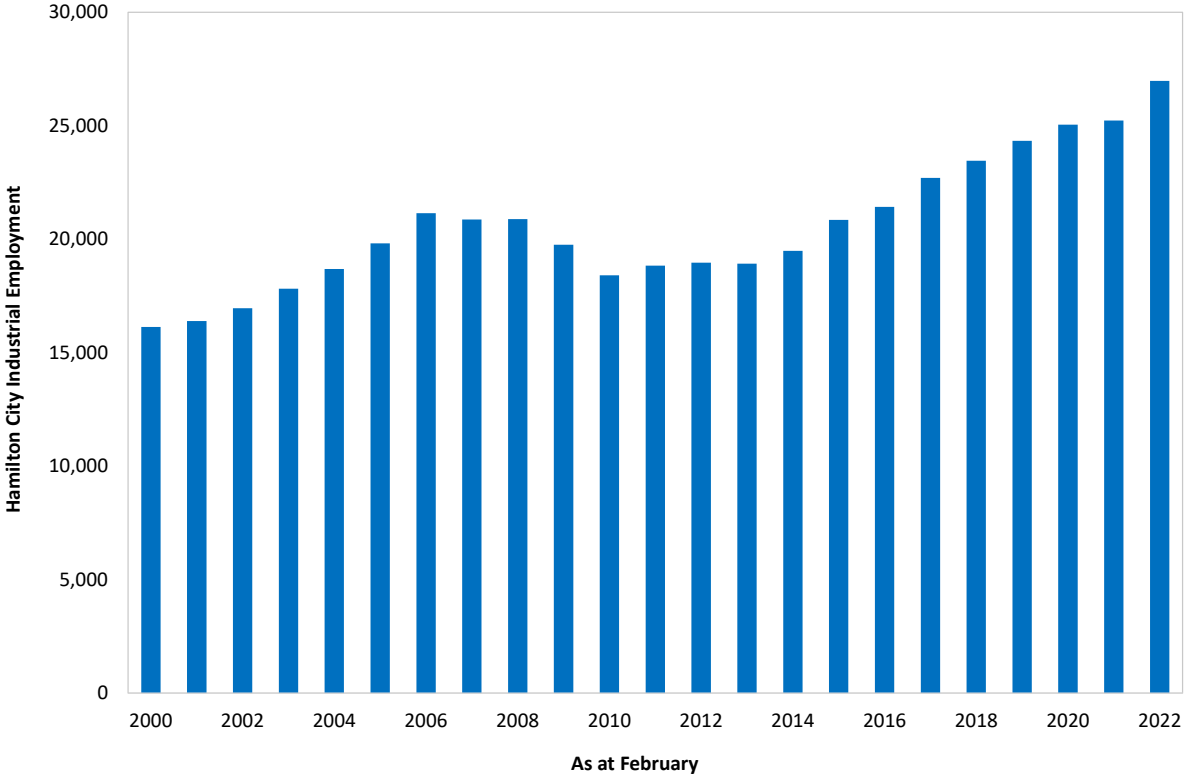
As discussed earlier, the industrial land demand projections in our report for PC20 were based on projected industrial employment. Specifically, figure 12 from page 29 of our assessment included the following projection of Hamilton City industrial employment, from which industrial floorspace and land demand are derived.

Figure 2: Projected Industrial Employment (from page 29 of our Economic Assessment)



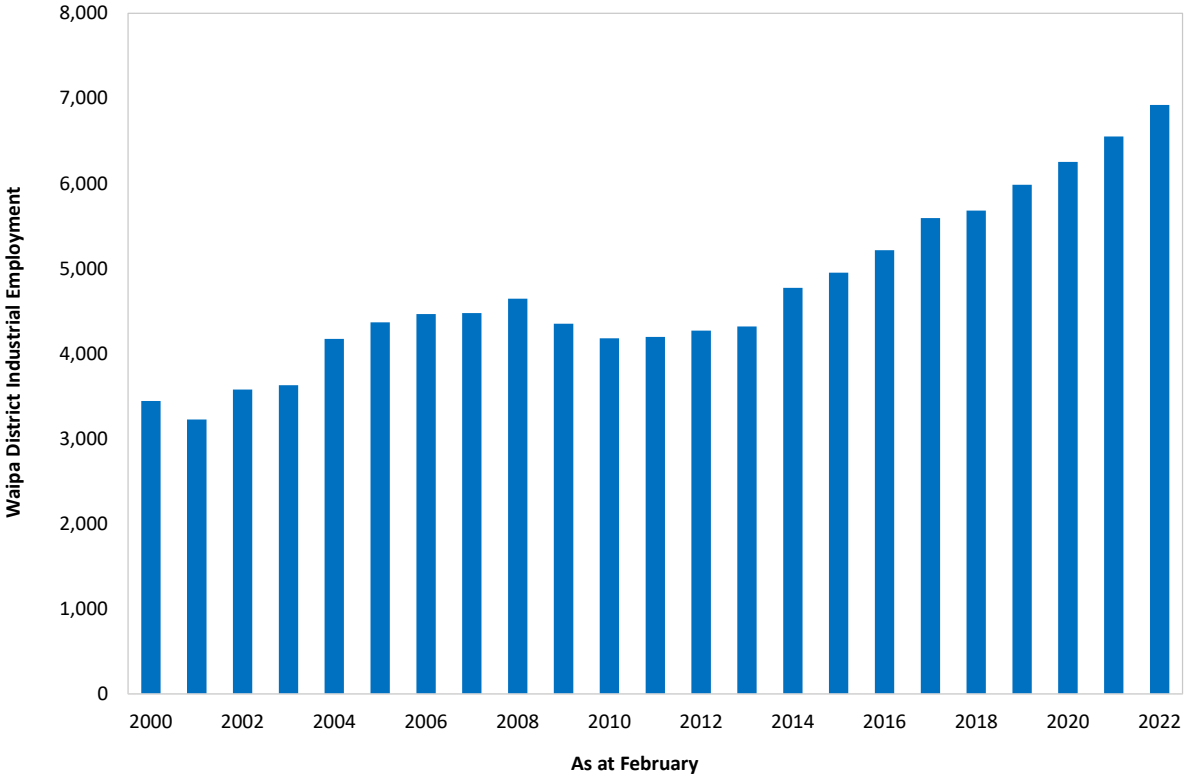
To summarise: we expected city industrial employment to increase from 25,300 in 2021 to reach 26,900 by 2026, an increase of 1,600 jobs. However, the latest employment data show that our 2026 target was surpassed by early 2022 due to an unparalleled surge in industrial activity since the pandemic. This is demonstrated in the figure below, which plots the city's industrial employment since 2000. The uptick in 2022 is evident, and represents the largest annual percentage change in the city's industrial employment over the last 22 years.

Figure 3: **Hamilton City** Industrial Employment



A similar trend has occurred in Waipa, too, as shown in the corresponding industrial employment chart. It is also experiencing significant, sustained growth in industrial employment that is unlikely to be fully reflected in the BCA's demand estimates, which further reinforces the need for PC20.

Figure 4: **Waipa District** Industrial Employment



4.3 Recent Real Estate Research Report

We now summarise the findings of recent real estate research on industrial demand, not just for the sub-region, but for the upper north island regional economy in which the site falls.

4.3.1 Occupier Demand

A major driver in the recent uptick in industrial employment (and thus floorspace demand) is the rapid growth of online shopping and the associated need for modern, high-stud, large footprint warehousing space. For example, according to a 2021 Bayleys report, online shopping during the first quarter of 2021 was up 27% on the first quarter of 2020, and up 50% on the first quarter of 2019. As a result, online sales accounted for 11% of all retail shopping in New Zealand last year, which is almost double its share from only a few years earlier.

This increased online shopping directly translates to an increased need for warehouse and distribution space, which is nearly always located in light industrial zones. Coupled with increased stockpiling of goods to meet increased demand associated with the Covid-19 pandemic[7], there has been significant growth in demand for warehouse space. This is noted by Colliers, who describe a particularly sharp increase in industrial warehouse average net face rents since 2020.

A further consequence of the rise in online shopping is increased demand on logistics partners to distribute goods, with Bayleys noting that logistics partners are expanding across the north island to meet demand.

In addition, Colliers cite the rapid emergence of demand from the datacentre sector as creating additional impetus for the recent growth in industrial land demand. At the same time, the sub-region's construction sector continues to grow apace, with most construction businesses also located in light industrial zoned areas.

Hamilton's position within the golden triangle also plays an important role. Containing more than half of the nation's population and generating the majority of its GDP, the Golden Triangle is home to the country's two biggest sea ports and its largest airport[8]. It is widely recognised as the engine room of the national economy.

4.3.2 Investor Demand

Not only is occupier demand for industrial areas running hot, but so too is investor demand. There are several factors at play. First, New Zealand has relatively high property yields compared to other parts of the Asia Pacific region. And, within the "commercial" property sector, industrial property generally has the highest overall returns. As a result, investor demand is strong.

A recent article entitled *"Industrial property: the property's sector's new black?[9]"* points to several other factors underpinning strong investor demand. First, industrial property has proven largely resilient in the face of economic ups and downs. Second, tenants tend to be stable, with leases frequently lasting seven years or more. Third, investing in industrial property is becoming more

[7] https://www.stuff.co.nz/business/124968669/industrial-property-the-propertys-sectors-new-black

[8] The Golden Triangle Logistics, Bayleys, 2019

[9] https://www.stuff.co.nz/business/124968669/industrial-property-the-propertys-sectors-new-black

accessible, with the lending environment increasingly comparable to residential investment, and with syndicates now also emerging to enable investment at lower entry points.

Finally, there has recently been a recent flight from residential property investment, following proposed legislative changes that would remove tax relief against interest costs on new residential property investment. Coupled with extensions to the bright-line test, residential property investment has become less attractive. This was noted by Bayleys, who describe an influx of new buyers in the industrial market chasing yield in response to the new regulations[10]. According to their research, this has put further pressure on the market and led to historically low vacancy rates in many areas.

[10] Bayleys Auckland Industrial Market Update 2021

5. Cost Benefit Analysis

This section considers the economic costs and benefits of the proposed rezoning relative to the most likely form of rural production absent it to help inform the broader planning assessment under section 3.6(1)(c) of the NPS HPL

5.1 Impacts on GDP, Jobs, Incomes

5.1.1 Industrial Uses Under PC20

Our economic assessment for PC20 estimated the one-off impacts of constructing the various buildings expected to occupy the northern precinct once fully developed. Those estimates are reproduced below, and represent only the one-off impacts of establishing each activity, not the annual impacts of their ongoing operations./

Table 2: One-Off Regional Economic Impacts of Construction

Regional Impacts	Direct	Flow-on	Total
GDP $m	$46m	$84m	$130m
Employment (people-years)	510	930	1,440
Household Incomes $m	$30m	$40m	$70m

To summarise: Including flow-on effects, we estimate that development of the additional GFA enabled by the proposed expansion could:

- Generate a one-time boost in regional GDP of $130 million;
- Create employment for 1,440 people-years[11]; and
- Boost household incomes by $70 million.

To estimate the corresponding annual impacts once operational, we assumed that 30% of the land would be required for infrastructure, roads, and reserves, which leaves 63 hectares of land for industrial and other business uses. This was converted to an estimate of likely future employment using data in the latest BCA, which included measures of employment per hectare of land by activity. The table below shows the employment figures per hectare for the most relevant activities in the BCA and applies some estimated weights to derive an average for the northern precinct once built out.

Table 3: Estimated Land per Employee (from 2021 BCA)

Land Uses	Land/Employee	Assumed Share
Offices	25	5%
Warehouse	417	30%
Factory	345	30%
Yard-Based	200	5%
Other Industrial	150	30%
Weighted Average	**285**	100%

[11] One person-year means one person employed for a full year. Hence, 100 people-years could mean 100 people employed for one year, 50 people employed for 2 years, and so on.

Table xxx shows that the assumed mix of industrial and business activities in the northern precinct will sustain about 1 employee per 285 square metres of land. With 63 hectares of developable land assumed to be available, this translates to total employment for 2,210 FTEs.

To estimate the corresponding wages/salaries and annual GDP, we reviewed Statistics New Zealand's latest input output tables, which summarise the national economy's overall structure and reveal the employment and GDP per dollar of output. The table below summarises the key information for a handful of industries that we consider to be the most likely future uses of the land under the PC20 scenario.

Table 4: Average Output, GDP, and Wages **per Employee** from National IO Tables

Industrial Sectors	**Output**	**GDP**	**Wages**
Construction	$405,400	$124,000	$67,000
Manufacturing	$462,300	$124,300	$69,400
Transport, Postal and Warehousing	$294,100	$133,500	$73,000
Wholesale Trade	$262,800	$124,000	$69,700
Industrial Average	**$356,150**	**$126,450**	**$69,775**

Applying these per employee estimates to the 2,210 workers projected to fill the northern precinct upon full build-out suggests that the land could have the following annual economic impacts if used for industrial purposes:

- Output/revenue of $787 million;
- Employment for 2,210 FTEs;
- Wages/salaries of $154 million; and
- GDP of $279 million.

5.1.2 Rural Production

AgFirst have reviewed the site's rural productive potential and concluded that the blocks that comprise the site are too small to be financially viable livestock operations, and they lack suitable infrastructure. In addition, the proximity of the sites to the airport and rural residential areas renders them unsuitable for horticultural because of the need for regular spraying, and the potential to attract birds which are a risk for the airport.

Further, AgFirst note that neither block is large enough to justify the infrastructure needed for horticulture (packhouses, chillers etc) and there is limited infrastructure of that ilk available nearby. Finally, the sites would require irrigation to be successful in any horticulture or commercial vegetable operation, and this is not guaranteed with surface water being fully allocated, and groundwater yields often not matching demand requirements. Accordingly, AgFirst concluded that ongoing maize production is the most likely use of the land absent the proposed rezoning.

We reviewed a range of information sources to determine the likely jobs, incomes, and GDP sustained by the land if used for maize production. Our search led to a maize grain calculator by Pioneer[12], which is a major agricultural supplier. According to their workings, each hectare of land used for maize generates about $6,000 of revenue per annum, and nearly $2,000 of earnings before interest, taxes, depreciation, and amortisation (EBITDA).[13]

To estimate the corresponding jobs and GDP, we revisited the literature and found various datapoints. For example, a recent BERL report suggested that the total labour input for maize silage farms in NZ was 0.027 FTE/ha.[14] This is a very close match with a 2013 study of the rural productive potential of various greenfield sites in and around Auckland, which produced an employment estimate for various rural uses of 0.029 FTE/ha.[15] For simplicity, we took the average employment estimate across the two studies of 0.028 FTE/ha. Absent any better information, we assumed an average wage of $80,000 per FTE, which is likely to be too high but which we adopt to remain as conservative as possible.

Applying these per hectare estimates to the 90 hectares proposed for rezoning suggests that the land could have the following annual economic impacts if used for maize production:

- Output/revenue of $540,000;
- Employment for 3 FTEs;
- Wages/salaries of $240,000; and
- GDP of $420,000.

5.1.3 Comparison

The following table compares the jobs, incomes, and GDP of the two options as calculated above. Clearly, the proposed industrial rezoning is a far superior use of the land in terms of sustaining meaningful economic activity.

Table 5: Comparison of Annual Activity by Land Use

Metrics	Rural	PC20	Ratio
Employees	3	2,210	737
Output	$540,000	$787,100,000	1,458
Wages/Salaries	$240,000	$154,200,000	643
GDP	$420,000	$279,500,000	665

[12] https://www.pioneer.co.nz/product-range/maize-for-grain/maize-grain-calculator

[13] EBITDA is a standard measure of financial performance, which can be combined with the wages and salaries paid to directly infer the level of GDP sustained. We leverage that relationship here to estimate ongoing contributions to GDP for maize.

[14] https://www.uwg.co.nz/content/documents/2019%20September%206%20AFIC%20Arable%20Production%20Final.pdf

[15] https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/unitary-plan/history-unitary-plan/documentssection32reportproposedaup/appendix-3-2-14.pdf

5.2 Other Economic Benefits of PC20

Compared to ongoing rural production, PC20 will also enable and sustain a range of other economic benefits, including:

- Enabling greater critical mass to establish around the airport over time, which will help achieve agglomeration benefits. These are a type of economic efficiency that arises through the co-location of economic activities, which helps reduce transport costs and lift the average productivity of firms (for example, through the sharing of labour, assets, and ideas);

- Maximising infrastructure efficiency by spreading the costs of bulk network upgrades over a greater land area and/or a larger number of lots;

- Creating synergies with planned investments in roading and wastewater capacity, particularly the Southern Links, while ensuring a planned and integrated approach to land use and infrastructure provision;

- Enabling the site's locational benefits to be maximised, including its multimodal potential (connecting road and rail with air);

- Providing an easily accessible employment node to meet employment growth arising from the adjacent Peacocke growth cell; and

- Providing certainty to encourage investment in the airport.

6. Summary and Conclusion

Our PC20 assessment and the latest HBA for the sub-region both show that extra industrial land will be needed to meet future demand, particularly in and around Hamilton City. Recently-released data support this and reveal much stronger demand than anticipated, by us and the in latest HBA. Accordingly, we consider that the proposal is needed to meet short- to medium-term NPSUD obligations, as per clause 3.6(1)(a) of the NPS HPL.

In terms of the overall economic costs and benefits of the proposal relative to rural production, as per 3.6(1)(c) of the NPS HPL, the proposal will create significant one-off economic stimulus during construction and then sustain thousands of full time jobs and generate more than $150 million in household wages and salaries.

If used for rural production, however, the PC20 land will sustain full time work for only three people, and have trivial impacts on regional GDP, wages, and salaries. At the same time, PC20 enables a wide range of other long-term economic benefits to be realised.

Accordingly, the overall long-term economic benefits of PC20 far outweigh those of rural production.

APPENDIX 2
TITANIUM PARK LIMITED (PLAN CHANGE 20) NPS-HPL ASSESSMENT (AGRICULTURE ASSESSMENT)

AGFIRST

Independent
Agriculture
& Horticulture
Consultant
Network

Titanium Park Ltd (Plan Change 20) NPS-HPL Assessment

Prepared for
Titanium Park Ltd

Prepared by Jeremy Hunt
December 2022

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1.0 EXECUTIVE SUMMARY

Titanium Park Limited (TPL) and Rukuhia Properties Limited (RPL) have jointly made a request for a plan change (Proposed Plan Change 20 (PPC20)) to the Waipa District Plan to extend the Airport Business Zone. AgFirst Waikato (2016) Ltd has been engaged by TPL to provide an assessment that assesses PPC20 against the National Policy Statement – Highly Productive Land (NPS-HPL). The TPL land that is subject to the NPS_HPL consists of an area of approximately 62.9 ha (the Site). TPL wish to rezone this land from Rural to Industrial as part of PPC20.

The Site is used to grow maize silage and maize grain between September/October through till March/April. Over the winter, annual ryegrass is grown and harvested for silage. Pasture silage is harvested from permanent pasture on areas that are unsuitable for growing maize. With rapidly rising input costs, the returns for marginal yields will be reduced, and consideration will need to be given regarding the optimum land use for the Site. When discussing the long-term productivity of the site, with expenses and input costs rapidly rising, the current system may not be economically viable beyond 30 years. Based on direct observations over many years, AgFirst is of the view that significant areas of this site are moderately to severely impacted by summer dry.

AgFirst has had the Site mapped by Hanmore Land Management using an appropriate scale and methodology to provide a breakdown of the soils across the Site. Most of the Site has been classified as LUC 2s. This indicates that the soils are in the of high-quality category and highly versatile, with this classification being suitable for most productive agricultural systems. The slope of the Site is relatively flat land with some rolling to strongly rolling to the south and east of the Site. This area has been captured by the LUC 2e and LUC 3e polygons. The majority of the farm consists of soils that are free draining, however due to the characteristics of these loamy and sandy soils, they are very prone to summer droughts. Additionally, there are areas within the Site with moderate wetness limitations (LUC 3w), that would make these areas unsuitable for many crops and horticultural systems. These characteristics have contributed to below average cropping yields, when compared to the Waikato region.

With regard to land use potential, there are land use restrictions on what this Site can be used for, such as conversion of this land to dairy, dairy support and commercial vegetable production. For consent to be granted, the enterprise must demonstrate that the proposed land use does not have any more impact on the catchment than during the baseline year.

Overall, while the land and soils within the TPL Site are categorised as high-quality under the NPS-HPL (LUC 2 and LUC 3), the practical likelihood of any sustained existing or intensive agricultural operation would be restricted due to:

- Surrounding land uses not being in land-based primary production
  - Airport, motorway, the adjacent business zoned land, Peacockes Rd interchange
- Soil conditions
  - Summer dry, causing reduced yields
  - Requirement for freshwater irrigation for any intensification or land use change into horticulture or commercial vegetable operations
- Lack of expansion or improvement options
  - Due to national regulations restricting intensification into various land uses
  - Due to physical boundaries and amalgamation opportunities
- Alternative industrial options within the Waipa district
  - Most alternative options have a greater proportion of highly productive land and less restrictions for expansion and growth with regards to productive capacity.

We have provided a commentary on alternative rezoning opportunities within the same locality as prescribed by section 3.6(1)(b) of the NPS-HPL. To do this AgFirst has assessed the productive use of land (and the vicinity) that has either been identified by WDC as potential industrial growth cells or is a logical expansion of an existing growth cell within the district. Given the constraints identified for the HPL Site, and a comparison against other growth cells, AgFirst believes that the re-zoning of the TPL Site meets the requirements of the NPS-HPL Clause 3.6 (1)(b) and (c), where land surrounding other identified growth cells within the district have greater productive capacity and potentially higher productive land than the rezoning proposal at the Site.

It is AgFirst's opinion that allowing the PPC20 to proceed from rural to industrial zone will have a less material impact of the district's productive capacity than developing additional greenfield sites that have fewer productive constraints.

With regards to loss of productive capacity, AgFirst does not consider that the loss of the well below average yields from this site will have a significant loss on the district's production, and the conversion of the land into industrial zone would not cause any fragmentation or further disruption of additional highly productive land.

2.0 BACKGROUND

Titanium Park Limited (TPL) and Rukuhia Properties Limited (RPL) have jointly made a request for a plan change (Proposed Plan Change 20 (PPC20)) to the Waipa District Plan to extend the Airport Business Zone. AgFirst Waikato (2016) Ltd has been engaged by TPL to provide an assessment that assesses PPC20 against the National Policy Statement – Highly Productive Land (NPS-HPL). This relates to an assessment on whether it is considered PPC20 meets the circumstances in which urban rezoning may be undertaken as set out in Section 3.6 of the NPS-HPL. AgFirst is a suitably qualified agribusiness consultancy that has a wealth of experience in assessments relating to productive capacity, primary production and soil versatility. The RPL site has been assessed in a separate report.

41 ha of the TPL land is already zoned Airport Business Zone under the Waipa District Plan (WDP) and is therefore not subject to the NPS-HPL (shown in red in Figure 1). TPL wish to rezone the remaining Rural zoned land to Industrial (see blue overlay on Figure 1), which is approximately 62.9 ha and it is this portion of the site that is subject to this assessment (the Site). Adjoining the Site to the east and south is the Airport Business Zone, to the north the Lowe Road / Peacockes Road approved designation and to the west RPL, which has previously had a land use change from rural production into research and development (shown in green in Figure 1).

FIGURE 1: PLAN CHANGE SITE

3.0 PROPERTY SUMMARY AND EXISTING LAND USE

The Site highlighted in Blue in Figure 1 shows a parcel of land that extends over several titles, owned/or to be owned by TPL. The Site is currently used to grow maize silage and maize grain between September/October through till March/April. Over the winter annual ryegrass is grown and harvested for silage. Pasture silage is harvested from permanent pasture on areas that are unsuitable for growing maize. The property was used as a dairy operation up until 2019, when the dairy shed and infrastructure were decommissioned.

The following financial review has been based on the recent (2022) management report for the Waikato Regional Airport and a sensitivity analysis to provide a comparative assessment to regional gross margins for maize and pasture silage. The production information is based on the wider land holding, including the 41 ha that has already been zoned Airport Business Zone and which is not subject to this assessment or the NPS-HPL.

MAIZE SILAGE

Yield for 2021-2022 season: 18 tDM/ha

SENSITIVITY ANALYSIS Gross margin per hectare ($/ha)						
		Maize silage yield (tDM/ha)				
c/kgDM standing		**18**	**19**	**20**	**21**	**22**
	28	$1,747	$2,027	$2,307	$2,587	$2,867
	30	$2,107	$2,407	$2,707	$3,007	$3,307
	32	$2,467	$2,787	$3,107	$3,427	$3,747

The maize silage was sold at a standing cost of 32 c/kgDM.
Providing a gross margin of $2,467 per ha from which standard overheads (rates, repairs and maintenance, interest etc) must be deducted.

MAIZE GRAIN

Yield for 2021-2022 season: 11 tDM/ha

SENSITIVITY ANALYSIS Gross margin per hectare ($/ha)					
		Maize grain yield (tDM/ha)			
Grain price ($/tDM)		**10**	**11**	**12**	**14**
	580	$1,553	$2,055	$2,557	$3,560
	600	$1,753	$2,275	$2,797	$3,840
	610	$1,853	$2,385	$2,917	$3,980
	620	$1,953	$2,495	$3,037	$4,120

The maize grain was sold at a standing cost of $610 per tonne dry (14% moisture).
Providing a gross margin of $2,385 per ha.

Annual Pasture Silage

Yield for 2021-2022 season: A first cut was taken over the maize silage area in July with a yield of 2.0 tDM/ha. A second cut was taken over the entire maize area (silage and grain) in September with yield of 1.5 tDM/ha. This has provided a total annual pasture silage yield of 2.7 tDM/ha (averaged over maize silage and maize grain areas).

SENSITIVITY ANALYSIS Gross margin per hectare ($/ha)						
		Annual ryegrass yield (tDM/ha)				
c/kgDM standing		**1.5**	**2.0**	**2.5**	**2.7**	**3.0**
	27	$5	$140	$275	$329	$410
	27.6	$14	$152	$290	$345	$428
	28	$20	$160	$300	$356	$440

The annual pasture silage was sold at a standing cost of 27 c/kgDM in July and 28 c/kgDM in September (with a weighted average of 27.6 c/kgDM).
Providing a total gross margin of $345 per ha over the combined two cuts of silage.

Pasture Silage

Annual DM yield for 2021-2022 season: 6.7 tDM/ha (27 silage bales per ha @ 248 kgDM per bale).

SENSITIVITY ANALYSIS Gross margin per hectare ($/ha)						
		Annual ryegrass yield (bales/ha)				
$ per bale		**25**	**27**	**30**	**35**	**40**
	25	$511	$561	$636	$761	$886
	35	$761	$831	$936	$1,111	$1,286
	45	$1,011	$1,101	$1,236	$1,461	$1,686

The pasture silage was purchased off the owner by the contractor at $35 per bale (14 c/kgDM), with the intention to on sell these at market price (between $100 - $150 per bale). The contractor has paid for the fertiliser and all cropping and harvesting costs. This provides a gross margin of $831 per ha for the pasture silage. Due to the escalation in fertiliser costs, the price of replacing the nutrient is estimated at 20c/kgDM per hectare from this enterprise.

The total income from the TPL Site from the various operations has been presented in the table below. This is expressed as earnings before interest, taxes, depreciation, and amortisation (EBITDA).

TITANIUM PARK LTD (62.9 ha)	$
Cropping net income	
- 30 ha maize silage/annual ryegrass @ $3,209/ha	$96,270
- 21 ha maize grain/annual ryegrass @ $3,127/ha	$65,667
- 11.9 ha permanent pasture silage @ $831/ha	$9,675
Other expenses (rates/R&M) - ESTIMATE	-$20,000
EBITDA	$151,612
EDITDA/hectare	$2,410

4.0 REGULATORY FRAMEWORK

4.1 Waipa District Plan

The property falls into the Waipa District and is subject to the WDP. As such, the WDP protects against the removal of high-class soils that can be used for primary production[1]. Under the WDC plan, High class soils are defined as "soils of land use capability classes I and II (excluding peat soils), and soils of land use capability class IIIe1 and IIIe5 classified as allophanic soils using the New Zealand soil classification".

4.2 Waikato Regional Policy Statement

The relevant objective and policy from the RPS are:
LF-O5 – High class soils "The value of high class soils for primary production is recognised and high class soils are protected from inappropriate subdivision, use or development."

LF-P11 – High class soils "Avoid a decline in the availability of high class soils for primary production due to inappropriate subdivision, use or development"

The objective and policy place an emphasis on protecting highly productive land from 'inappropriate subdivision, use or development'. We note that the rezoning that is sought under PPC20 effectively acts as an expansion of an existing strategic industrial node within the region. There is already 40 ha of Northern Precinct (which totals 130 ha) that has a live Airport Business zoning and PPC20 seeks to expand this to achieve a consolidated form that will achieve a well-functioning urban environment that is sought by Objective 1 of the NPSUD 2020. In this context, the rezoning that PPC20 is seeking to achieve will not result in 'inappropriate subdivision, use or development.

The RPS includes the following definitions[2]:
high class soils "*those soils in Land Use Capability Classes I and II (excluding peat soils) and soils in Land Use Capability Class IIIe1 and IIIe5, classified as Allophanic Soils, using the New Zealand Soil Classification."*

Primary production: *"means the commercial production of raw material and basic foods, and which relies on the productive capacity of soil or water resources of the region. This includes the cultivation of land, animal husbandry/farming, horticulture, aquaculture, fishing, forestry, or viticulture. It does not include hobby farms, rural residential blocks, or land used for mineral extraction."*

[1] WDP Policy - Protect the rural soil resource (4.3.1.4)
[2] https://eplan.waikatoregion.govt.nz/eplan/#Rules/0/916/1/0/0

4.3 National Policy Statement

In September 2022, the Ministry for the Environment (MFE) and the Ministry for Primary Industries (MPI) released the NPS-HPL. The single objective of the NPS-HPL is "*Highly productive land is protected for use in land-based primary production, both now and for future generations*."

Land-based primary production means "*production, from agricultural, pastoral, horticultural, or forestry activities, that is reliant on the soil resource of the land"*.

Productive capacity, in relation to land, means "*the ability of the land to support land-based primary production over the long term, based on an assessment of:*

a. *physical characteristics (such as soil type, properties, and versatility); and*
b. *legal constraints (such as consent notices, local authority covenants, and easements); and*
c. *the size and shape of existing and proposed land parcels".*

Although PPC20 was lodged with Waipa District Council before the commencement of the NPS-HPL Policy 5 of the NPS-HPL has relevance and reads: "*The urban rezoning of highly productive land is avoided, except as provided in this National Policy Statement"*. Clause 3.6 is the relevant clause as it provides Tier 1 and 2 territorial authorities may allow urban rezoning of highly productive land in accordance with the matters contained within it.

In summary the NPS-HPL aligns with the WDP and the Waikato Regional Policy Statement, where it identifies LUC Class 1, 2 and 3 (as mapped by the New Zealand Land Resource Inventory or by any more detailed mapping that uses the Land Use Capability classification) as being the most versatile land, with the fewest limitations on its use, and therefore highly productive land.

As noted above Clause 3.6 sets out the circumstances in which urban rezoning may be undertaken and is detailed below:

3.6 Restricting urban rezoning of highly productive land

1) *Tier 1 and 2 territorial authorities may allow urban rezoning of highly productive land only if:*
   a) *the urban rezoning is required to provide sufficient development capacity to meet demand for housing or business land to give effect to the National Policy Statement on Urban Development 2020; and*
   b) *there are no other reasonably practicable and feasible options for providing at least sufficient development capacity within the same locality and market while achieving a well-functioning urban environment; and*
   c) *the environmental, social, cultural and economic benefits of rezoning outweigh the long-term environmental, social, cultural and economic costs associated with the loss of highly productive land for land-based primary production, taking into account both tangible and intangible values.*

2) *In order to meet the requirements of subclause (1)(b), the territorial authority must consider a range of reasonably practicable options for providing the required development capacity, including:*
   a) *greater intensification in existing urban areas; and*
   b) *rezoning of land that is not highly productive land as urban; and*

c) *rezoning different highly productive land that has a relatively lower productive capacity.*

3) *In subclause (1)(b), development capacity is within the same locality and market if it:*
   a) *is in or close to a location where a demand for additional development capacity has been identified through a Housing and Business Assessment (or some equivalent document) in accordance with the National Policy Statement on Urban Development 2020; and*
   b) *is for a market for the types of dwelling or business land that is in demand (as determined by a Housing and Business Assessment in accordance with the National Policy Statement on Urban Development 2020).*

4) *Territorial authorities that are not Tier 1 or 2 may allow urban rezoning of highly productive land only if:*
   a) *the urban zoning is required to provide sufficient development capacity to meet expected demand for housing or business land in the district; and*
   b) *there are no other reasonably practicable and feasible options for providing the required development capacity; and*
   c) *the environmental, social, cultural and economic benefits of rezoning outweigh the environmental, social, cultural and economic costs associated with the loss of highly productive land for land-based primary production, taking into account both tangible and intangible values.*

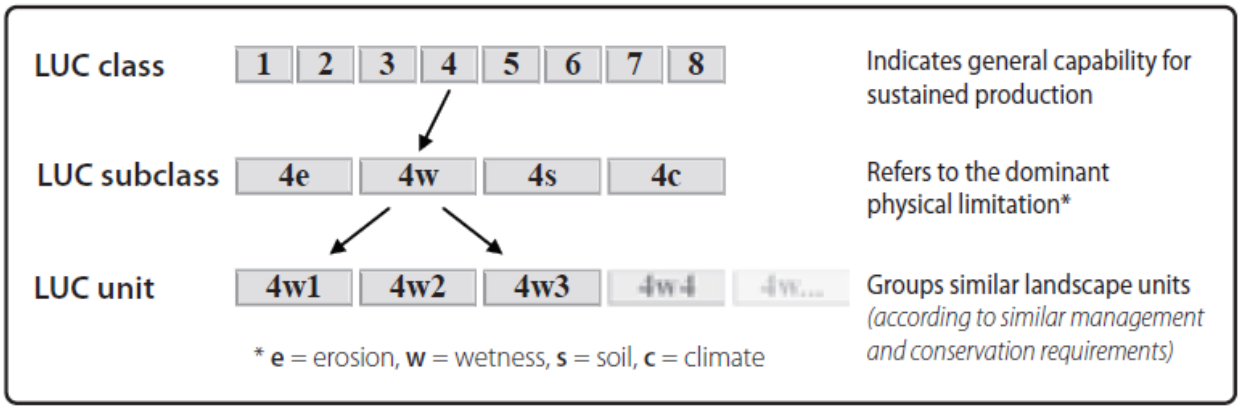
5) *Territorial authorities must take measures to ensure that the spatial extent of any urban zone covering highly productive land is the minimum necessary to provide the required development capacity while achieving a well-functioning urban environment.*

AgFirst will address (in part) 3.6 subclause (1)(c) and (2)(b) and (c) in this report by assessing the productive capacity of the PPC20 and comparing this with additional localities surrounding the Waipa District growth cells that would be deemed to be a 'other reasonably practicable and feasible options'.

5.0 LAND USE CAPABILITY CLASSIFICATION

The LUC Classification system has been used in New Zealand to help achieve sustainable land development and management on farms. The LUC classification categorises land areas or polygons into classes, subclasses, and units according to the land's capability to sustain productive use. This is summarised in Figure 2 below.

FIGURE 2: COMPONENTS OF THE LAND USE CAPABILITY CLASSIFICATION[3]



AgFirst has engaged Ian Hanmore – Land Management[4] to map the Site in accordance with the NPS-HPL. LUC mapping was carried out in accordance with the methods described in the 3rd Edition of the Land Use Capability Survey Handbook (Lynn et al 2009). This process involves making a land resource inventory (LRI) of the property in which soil types, soil parent materials, land slopes, erosion type and severity and land cover are recorded. Whenever any of these land features change a new unit is made. The mapping was completed to a scale of 1:6,000, which is suited to paddock and farm sized soil assessments.

Specific field work activities include digging and describing soil profiles on each landform with supporting holes dug or profiles observed on bank/drain cuttings to establishing soil boundaries, measuring slopes with a clinometer, and gathering any other data that may be of assistance in assessing the suitability of the land for primary production such as erosion, susceptibility of the land to flooding, winter wetness and/or cold, high temperatures, exposure to salt winds, aspect, and accessibility.

This information was then used to determine the specific LUC units, as described in the Land Use Capability Extended Legend for the Waikato Region in the New Zealand Land Resource Inventory Worksheets (National water and soil conservation organisation) for the area. At times when mapping at a scale finer than that used in the worksheets of 1:63,360, new LUC units are recorded and are noted with an * in the LUC description table. Under the NPS-HPS, highly productive land has been defined as LUC classification of 1, 2 and 3 soils.

[3] Lynn, I.H, Manderson, A.K, Page, M.J, Harmsworth, G.R, Eyles, G.O, Douglas, G.B, Mackay, A.D, Newsome, P.J.F. (2009). Land Use Capability Survey Handbook – a New Zealand handbook for the classification of land 3rd ed. Hamilton, AgResearch; Lincoln, Landcare Research; Lower Hutt, New Zealand. GNS Science.

[4] www.hlm.co.nz/about - MAppSc

6.0 ASSESSMENT RESULTS

This Section presents the results and outcomes from the LUC and soil assessment based on the Hanmore Land Management survey and the New Zealand soils resources and database.

6.1 Land Use Capability Assessment

AgFirst has had the Site re-mapped using an appropriate scale and methodology as discussed in Section 5 to provide a breakdown of the Site. The LUC classifications for the Site are presented in Table 1 and in Figure 3. Below is a summary of the LUC classifications present on the Site.

Most of the Site has been classified as LUC 2s 1. This indicates that the soils are in the of high-quality category and highly versatile, with this classification being suitable for most productive agricultural systems. The slope of the Site is relatively flat land with some rolling to strongly rolling to the south and east of the Site. This area has been captured by the LUC 3e polygon. A contour map of the Site using the Waikato Regional Council (WRC) 1 metre Lidar data has been presented in Figure 4. The majority of the farm consists of soils that are free draining, however due to the characteristics of these loamy and sandy soils, they are very prone to summer droughts. Additionally, there are areas within the Site with significant wetness limitations, that would make these areas unsuitable for many crops and horticultural systems.

LUC 2s 1

- Horotiu sandy loam – Te Kowhai silt loam complex
- Flat to gently undulating plains and terraces comprising a mosaic of well drained yellow-brown loams and imperfectly drained gley soils.
- Land use suitability: Intensive grazing, intensive cropping, cereal cropping, horticulture cropping, orcharding, production forestry

LUC 2e 2

- Hamilton clay loam
- Undulating to rolling slopes on brown granular loams and clays over various lithologies excluding basalt with a slight erosion hazard when cultivated. Contour cultivation recommended
- Land use suitability: Intensive grazing, intensive cropping, horticulture cropping, orcharding, viticulture, production forestry

LUC 3e 3

- Hamilton clay loam
- Rolling slopes on brown granular loams and clays over various lithologies excluding basalt, with a slight to moderate erosion hazard when cultivated. Contour cultivation required.
- Land use suitability: Intensive grazing, cereal cropping, horticulture cropping, orcharding, viticulture, production forestry

LUC 3w 4

- Te Kowhai silt loam
- Low laying areas on low river terraces and plains with gleyed soils which have a continuing moderate wetness limitation after drainage.
- Drainage required; Stop banks required in some places
- Land use suitability: Limited cropping, grazing

TABLE 1: LAND USE CAPABILITY CLASSIFICATION

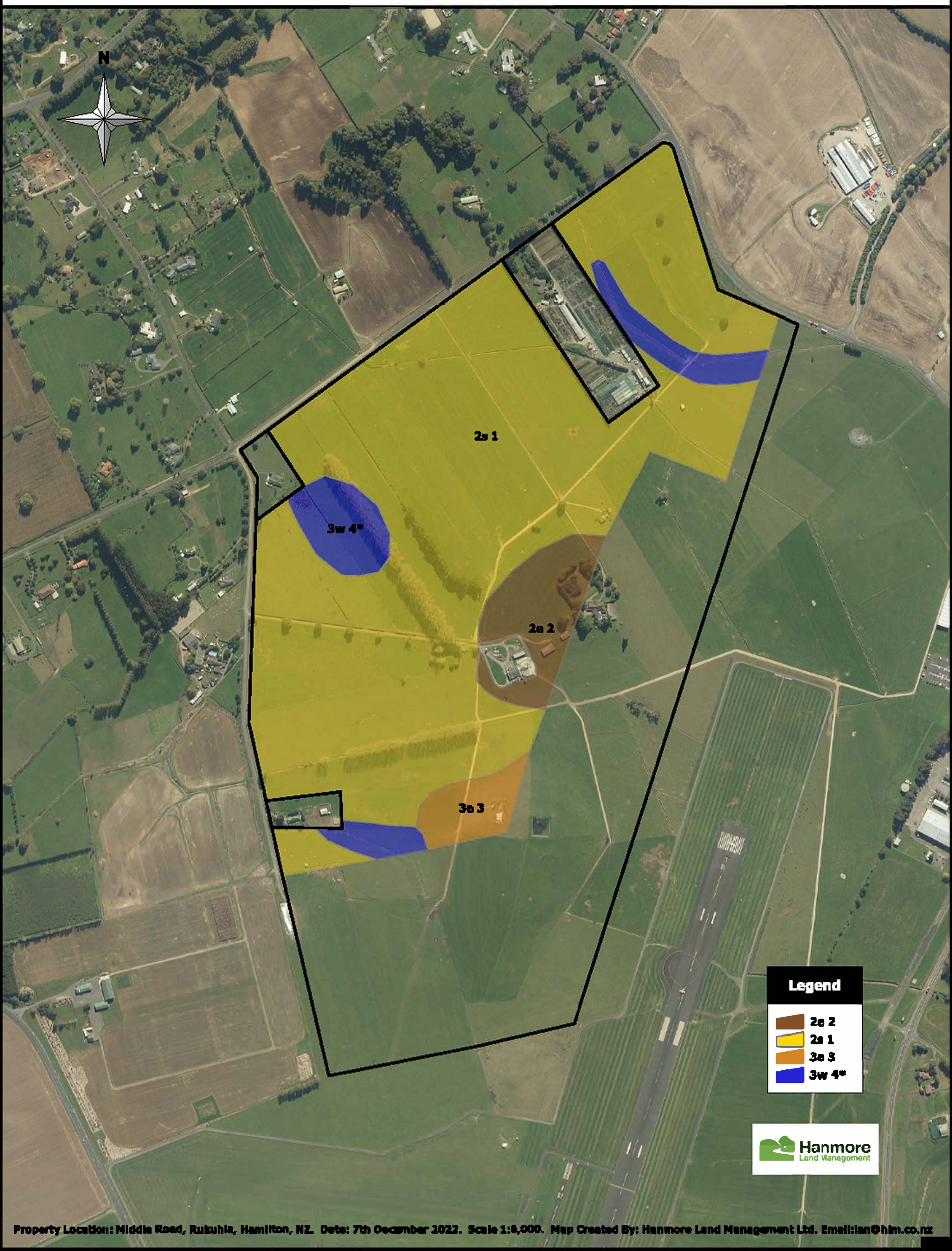
Hanmore Land Management Ltd
260c Awaroa River Road
Abbey Caves, Whangarei 0110
P:021 201 3441
info@hlm.co.nz
www.hanmorelandmanagement.co.nz.

Resource information / Luc unit	Total area (ha)	Parent material	Dominant soil type	Slope	Land Cover	Erosion degree & severity		Landuse suitability	Stock carrying capacity (su/ha)	Management Requirements
						Actual	Potential			
2e 2 Undulating to rolling slopes on brown granular loams and clays over various lithologies excluding basalt with a slight erosion hazard when cultivated.	3.9	Hamilton ash over rhyolitic terrace alluvium and greywacke.	Hamilton clay loam	B, B/C	Maize	Nil	Slight sheet and rill when cultivated.	Intensive grazing Intensive cropping Horticulture cropping Orcharding Viticulture Production forestry	Average: 16 Top: 18 Potential: 22	• Contour cultivation recommended
2s 1 Flat to gently undulating plains and terraces comprimising a mosaic of well drained yellow-brown loams and imperfectly drained gley soils.	53.8	Rhyolite alluvium with admixed andesite ash	Horotiu sandy loam – Te Kowhai silt loam complex	A	Maize	Nil	Nil	Intensive grazing Intensive cropping Cereal cropping Horticulture cropping Orcharding Production forestry	Average: 14 Top: 18 Potential: 22	
3e 3 Rolling slopes on brown granular loams and clays over various lithologies excluding basalt, with a slight to moderate erosion hazard when cultivated.	2.0	Hamilton ash over pumiceous alluvium. Ignimbrite, sandstone, siltstone, limestone, and grey wacke.	Hamilton clay loam	C	Maize	Nil	Slight to moderate sheet and rill when cultivated.	Intensive grazing, Cereal cropping, Horticultural cropping. Orcharding Viticulture Production forestry.	Average: 15 Top: 18 Potential: 22	• Contour cultivation required.
3w 4* Low laying areas on low river terraces and plains with gleyed soils which have a continuing moderate wetness limitation after drainage.	5.2	Alluvium	Te Kowhai silt loam	A	Maize	Nil	Nil	Limited cropping Grazing	Data not available	• Drainage required. • Stop banks required in some places

LUC descriptions taken from field work and the Land Use Capability Extended Legend for the Waikato Region.
*Note: LUC unit with a * indicates a new unit for this property and one that is not present in the extended legend.*

FIGURE 3:
TPL LUC CLASSIFICATION MAP

Titanium Park Limited - PC20
Land Use Capability Assessment



Property Location: Middle Road, Rukuhia, Hamilton, NZ. Date: 7th December 2022. Scale 1:8,000. Map Created By: Hanmore Land Management Ltd. Email:ian@hlm.co.nz

FIGURE 4: TPL CONTOUR MAP

7.0 LAND USE POTENTIAL

The Site, according to the LUC Map is largely on versatile soils and classified as LUC 2 and LUC 3 land. In theory this means that the site has potential for a wide range of agricultural and horticultural activities. However, in practice, some of the soil characteristics outlined in Section 6.1 reduces the overall versatility of the Site.

As discussed in Section 3, the current land use is mixed arable, with maize silage, maize grain, annual rye grass silage and pasture silage harvested. The yields from the Site do not demonstrate that the land is highly productive, with below average yields harvested over the 2021-2022 season. With rapidly rising input costs, the returns for marginal yields will be reduced, and consideration will need to be given regarding the optimum land use for the Site. When discussing the long-term productivity of the site, with expenses and input costs rapidly rising, the current system may not be economically viable beyond 30 years.

In terms of potential for pasture growth, dry matter production is estimated at 13 tDM/ha. With less than 7tDM/ha taken of the year-round pastoral areas as silage. Estimated stock carrying capacity is 16 – 18 SU/ha. A system that allows stock numbers to be reduced in response to summer dry is required to provide the flexibility to accommodate soil moisture conditions.

Based on direct observations over many years, AgFirst is of the view that significant areas of this site are moderately to severely impacted by summer dry. In terms of maize yields this would be estimated to be impacted two years out of five.

As there are large areas of free draining soils within the Site, while this helps over the winter and wet periods, these soils are also prone to drying out very quickly over summer and stressing the plants. Thus, that is why the maize silage yields are lower than average for the region. For any higher value cropping or horticultural system, freshwater irrigation would be recommended/required.

Climate change will have a direct influence across the Waikato and beyond. Figure 5 and 6 have been generated using the NIWA Future Climate predictive tool.

The two midpoint representative concentration pathways for greenhouse gas in the atmosphere of 4.5 and 6.0 have been used to generate the reports, with data presented through until 2050.

The light free draining nature of the soils across much of the site do reach wilting point earlier than other soils in the Waikato. It is reasonable to predict that this site will have greater adverse summer impacts than other soils in the region.

FIGURE 5: HAMILTON SUMMER TEMPERATURES PREDICTED BY NIWA FUTURE CLIMATE

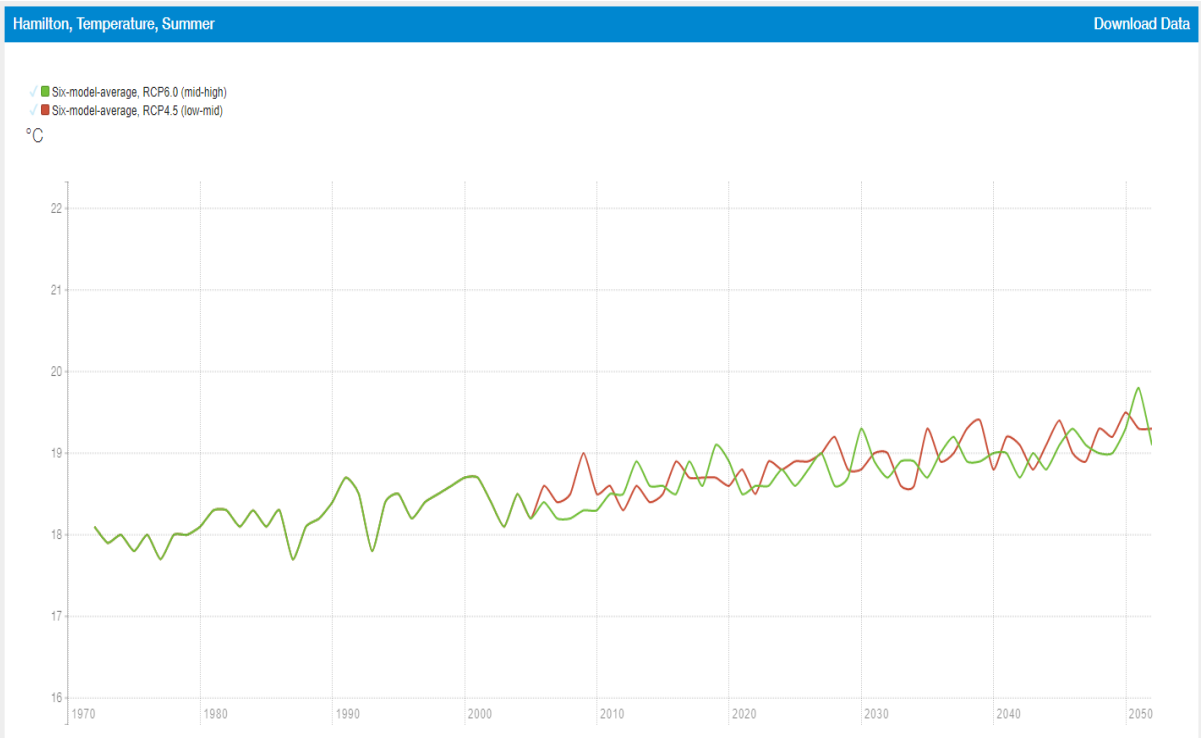
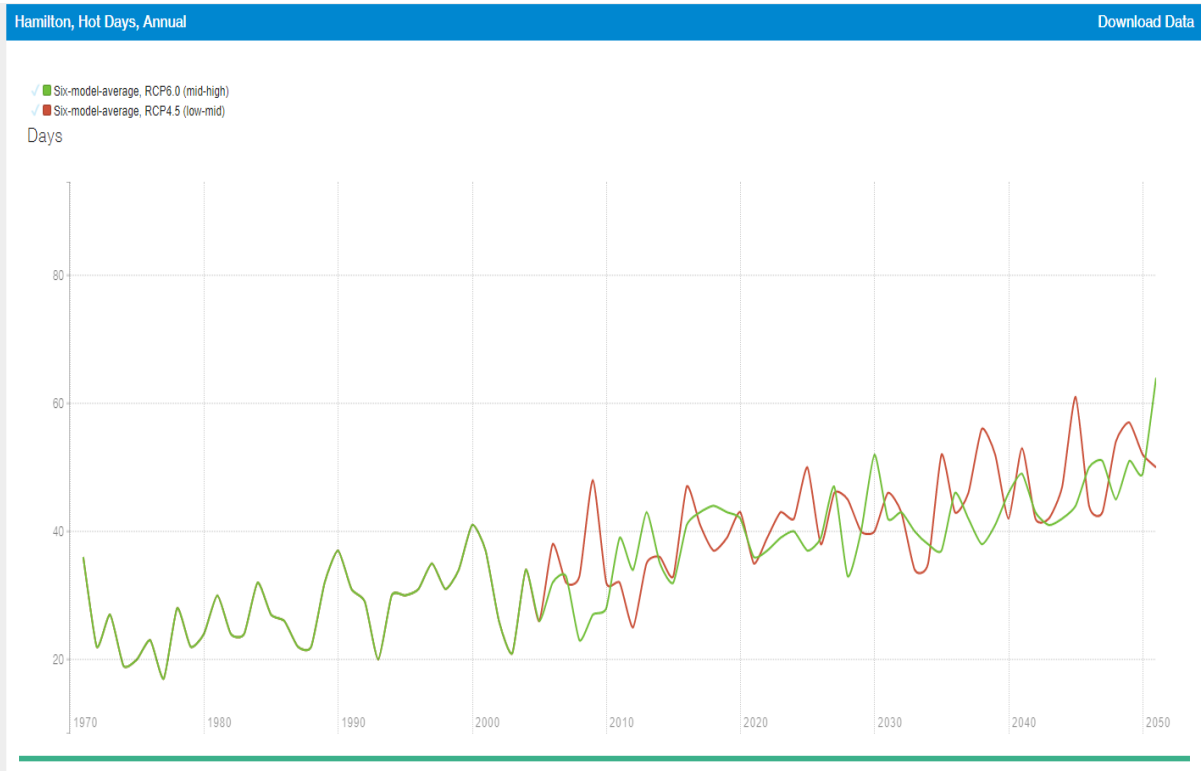


FIGURE 6: HAMILTON HOT DAYS



Based on the National Environmental Standards for Freshwater (NES-F) and Proposed Waikato Regional Plan Change 1 (PC1), there are land use restrictions on what this Site can be used for. The following would be considered either a discretionary activity or non-complying activity:

» Conversions of land on farm to dairy farm land (NES-F)
» Use of land as dairy support land (NES-F)
» Any change in the use of land to commercial vegetable production (PC1)

Therefore, a land use change consent would be required to convert land use, pending the baseline land use at the time of the reference period. For consent to be granted, the enterprise must demonstrate that the proposed land use does not have any more impact on the catchment than during the baseline year.

We note that care also must be given to what type of rural production could be established next to an operational airport. For example, certain crops have the potential to attract high levels of bird activity, especially if plants are left unharvested if the harvesting period is missed for a period of time. Increased bird activity next to the airport would increase the risk of bird strike and create an aeronautical safety hazard, which would likely rule those crops / rural production out as a viable alternative.

8.0 ASSESSMENT OF ALTERNATIVE GROWTH CELLS IN WAIPA

This section provides an analysis of the other industrial growth cells within the Waipa District in response to the requirements of s3.6(1)(b) of the NPS-HPL.

AgFirst has assessed the productive use of the subject land that has been identified by WDC as potential industrial growth cells to determine whether there are any other reasonably practicable and feasible options for providing additional development capacity (i.e. are there already identified growth cells that are not on highly productive land or lower productive capacity).

To do this we have identified the opportunities that exist within the Waipa District (being the same locality and market as the PPC20) that have either already been identified as a future growth area within the Waipa District Plan, or logical expansions to existing industrial nodes within the Waipa District. For the latter, we identified a number of industrial growth nodes within the WDP that either have been developed or have a live industrial zoning and assessed any undeveloped rural land that surrounds these areas that would be a reasonable and practicable alternative option to PPC20.

This comparative assessment has taken into account a range of characteristics, which are relevant to the relative productive potential including:

- Size of growth cell
- Current and surrounding land use
- NZLRI LUC classification, soil characteristics and drainage
- Environmental constraints and risk
- Economic limitations arising from small, fragmented portions of land and its productive potential
- Land use limitations

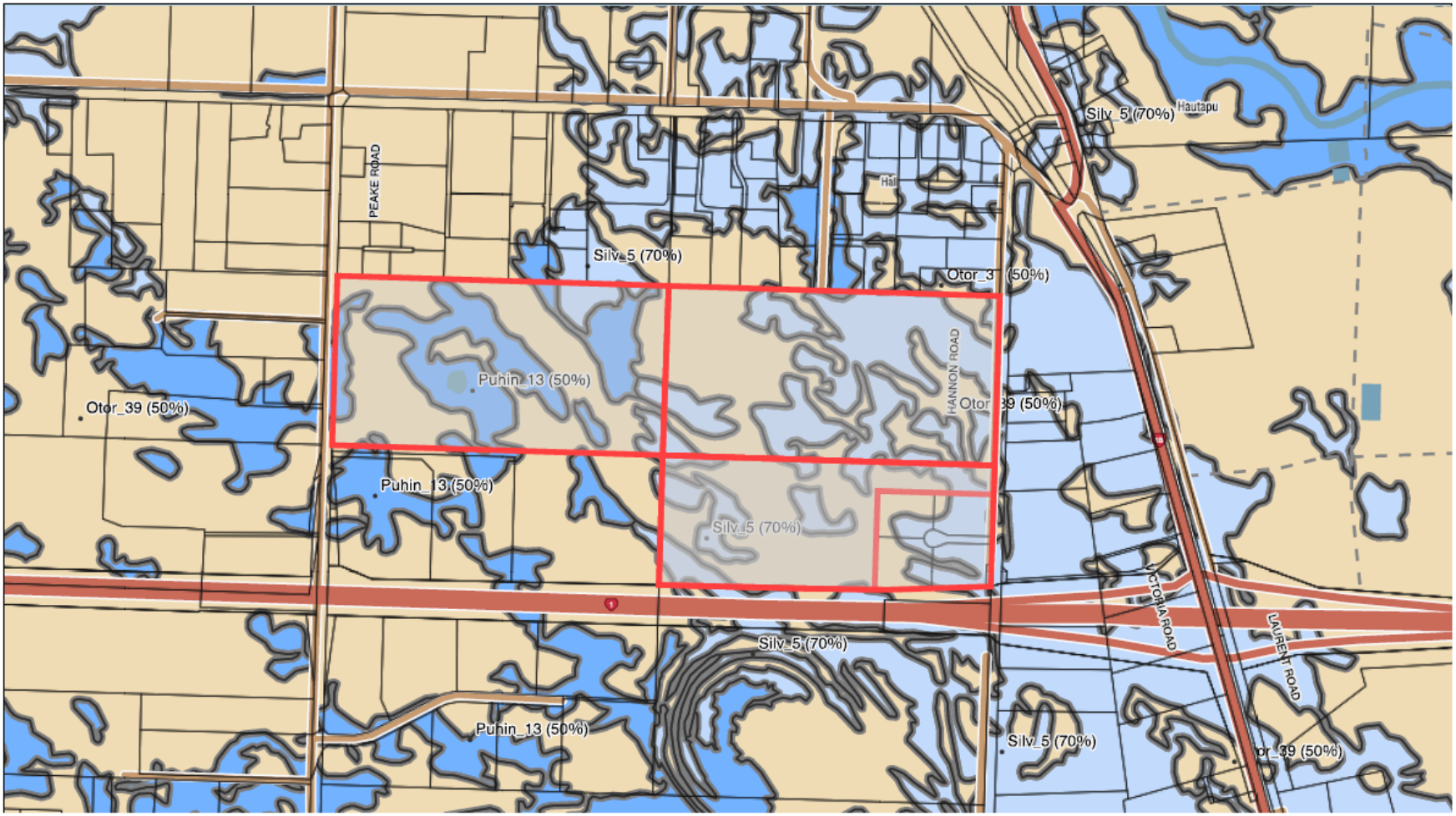
8.1 Growth Cell C8 – Hautapu West

This site is zoned as Hautapu Industrial Structure Plan Area. There is limited potential for expansion of industrial activity in this area, as the surrounding areas to the north and east already zoned industrial, with the south bounded by the Waikato Expressway. Land immediately to the west is a mix of fragmented rural lifestyle blocks, including a plant nursery. If this industrial zone were to expand, the only viable areas would be to the west.

The soils in the vicinity are largely free draining allophanic soils, imperfectly drained brown soils and poor draining gley soils (S-Map Figure 7) which are all relatively flat. The productive potential based on the soils and LUC of this growth cell and its vicinity is high, with only LUC 1 and LUC 2 soils present. The productive capacity of this area also presents better access to supporting primary industries, with established vegetable production a nursery and dairy farms in the vicinity of the Site.

Growth cell size	55.4 ha
Current land use	Industrial zone – previous drystock grazing
Current planning zone	Hautapu Industrial Structure Plan Area
Surrounding land use	Specialised Dairy Industrial Area & Rural Zone. Plant nursery, rural lifestyle blocks and dairy farm to the east
NZLRI LUC classification	LUC 1 and LUC 2 Figure 8)
Soil characteristics	Class ▲ / Description / Area Poorly drained 9ha Imperfectly drained 20ha Moderately well drained 9ha Well drained 18ha Unclassified Land 0ha
Environmental constraints	N/A
Economic limitations	Motorway to the south and industrial area to the west
Land use potential	Industrial use, potential horticultural or commercial vegetable operation with adjacent plant nursery and asparagus operations
Comparison to PPC20	The vicinity of Growth Cell – C8 has a higher productive capacity compared to PPC20. With higher quality soils (LUC 1 and LUC 2) and established productive systems offering higher versatility and land use.

FIGURE 7: GROWTH CELL – C8 S-MAP SOILS



S-MAPONLINE

Manaaki Whenua
Landcare Research

Scale: 1:10,000

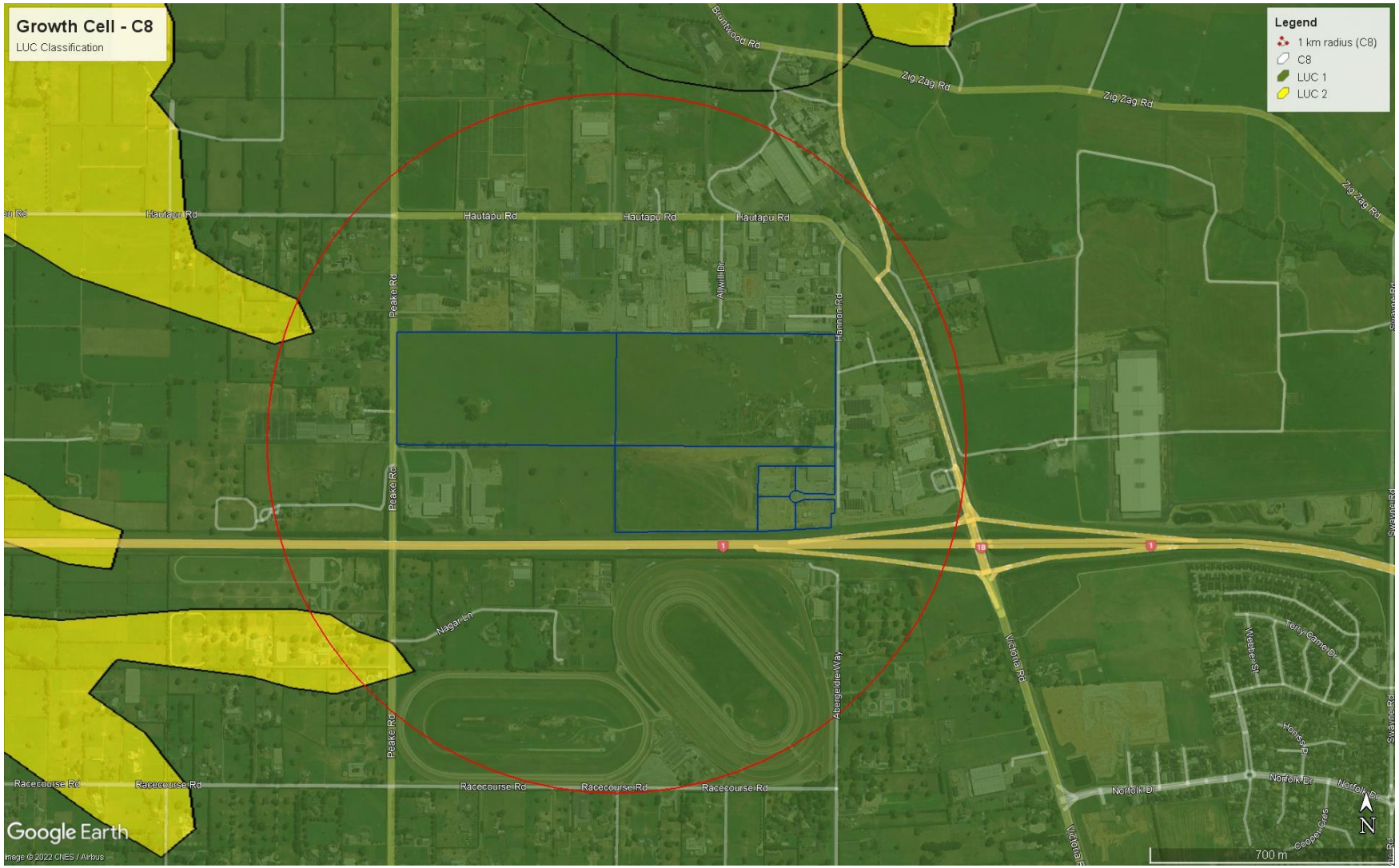
0 100 200 300 400m

The information depicted in this map has been derived from numerous sources. It may not be complete, correct or up to date. This map is licensed by Landcare Research on an "as is" and "as available" basis and without any warranty of any kind, either express or implied.

Landcare Research shall not be liable on any legal basis (including without limitation negligence) and expressly excludes all liability for loss or damage howsoever and whenever caused to a user of this map.

Printed: 12:32:14 PM Wed, 7 Dec 2022

FIGURE 8: GROWTH CELL – C8 LUC MAP



8.2 Growth Cell C9 – Hautapu West

This site is zoned as Hautapu Industrial Structure Plan Area. There is potential land available for industrial expansion in this area to the north and west. Land immediately to the west is a mix of fragmented rural lifestyle blocks, including a plant nursery. Land to the north is a mixture of arable, production vegetable (asparagus), the Monarch Farms horse stud (owned by Sir Patrick and Lady Hogan) and large lot residential lifestyle. The areas to the east are already zoned industrial, with the south bounded by the Waikato Expressway.

The soils in the vicinity are largely free draining allophanic soils, imperfectly drained brown soils and poor draining gley soils (S-Map Figure 9) which are all relatively flat. The productive potential based on the soils and LUC of this growth cell and its vicinity is high, with only LUC 1 and LUC 2 soils present. The productive capacity of this area also presents better access to supporting primary industries, with established commercial vegetable production, a nursery, a high performance horse stud and dairy farms in the vicinity of the Site .

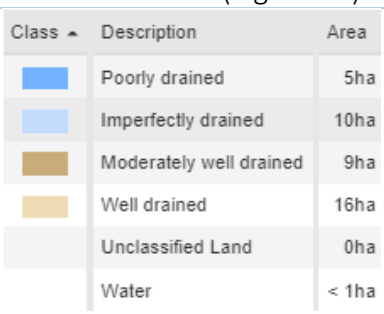
Growth cell size	35.0 ha
Current land use	Industrial zone – previous drystock grazing
Current planning zone	Hautapu Industrial Structure Plan Area
Surrounding land use	Specialised Dairy Industrial Area & Rural Zone. Plant nursery, rural lifestyle blocks and dairy farm to the east, commercial vegetable farm, mixed arable and horse stud to the north and northwest.
NZLRI LUC classification	LUC 1 and LUC 2 (Figure 10)
Soil characteristics	
Environmental constraints	N/A
Economic limitations	Size constraints of individual lots, motorway to the south and industrial area to the west
Land use potential	Industrial use, potential horticultural or commercial vegetable operation with adjacent plant nursery and asparagus operations
Comparison to PPC20	The vicinity of Growth Cell – C9 has a much higher productive capacity compared to PPC20. With higher quality soils (LUC 1 and LUC 2) and established productive systems offering higher versatility and land use. There are also very few physical constraints to the north (adjoining farms)

FIGURE 9: GROWTH CELL – C9 S-MAP SOILS

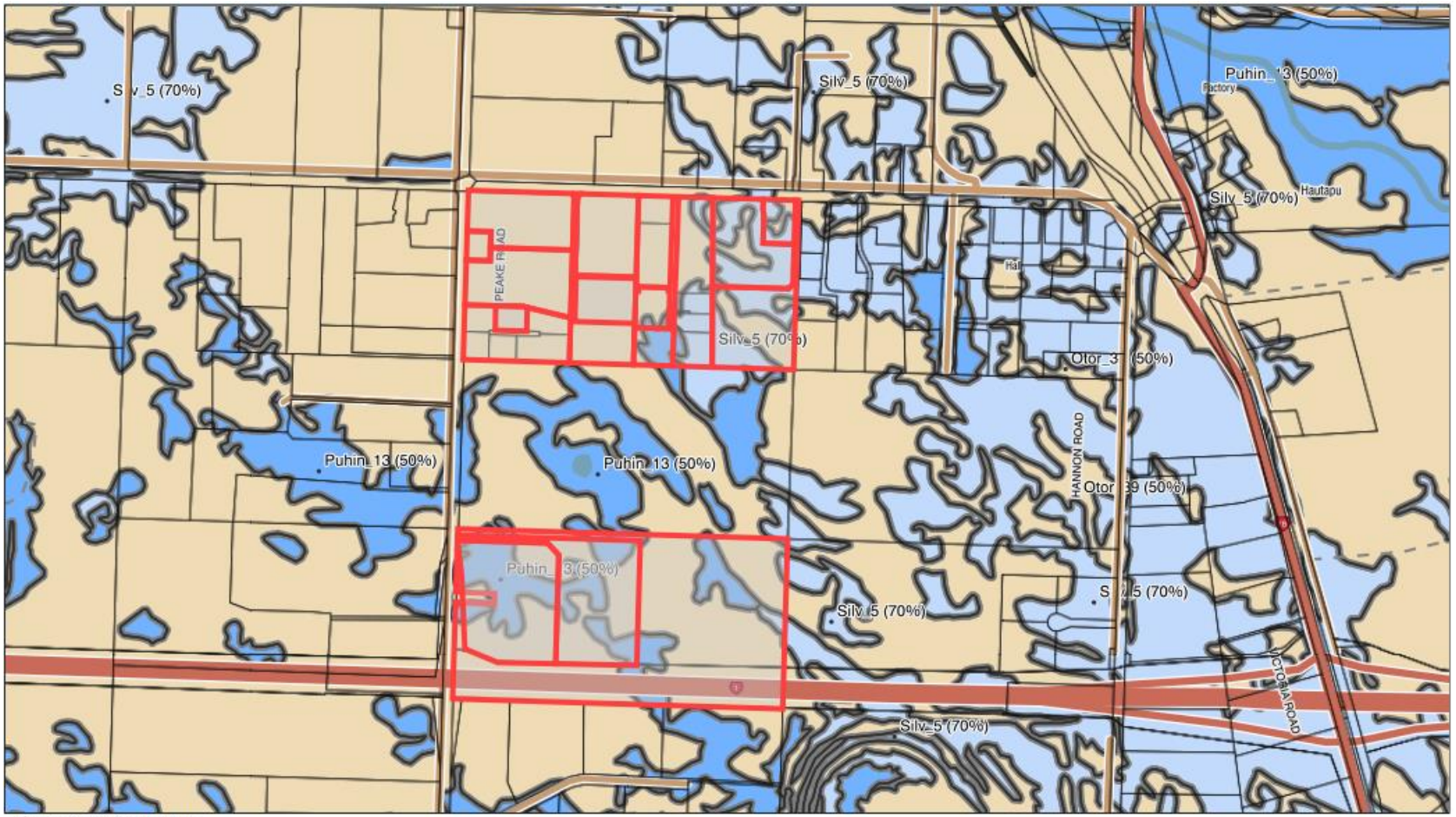


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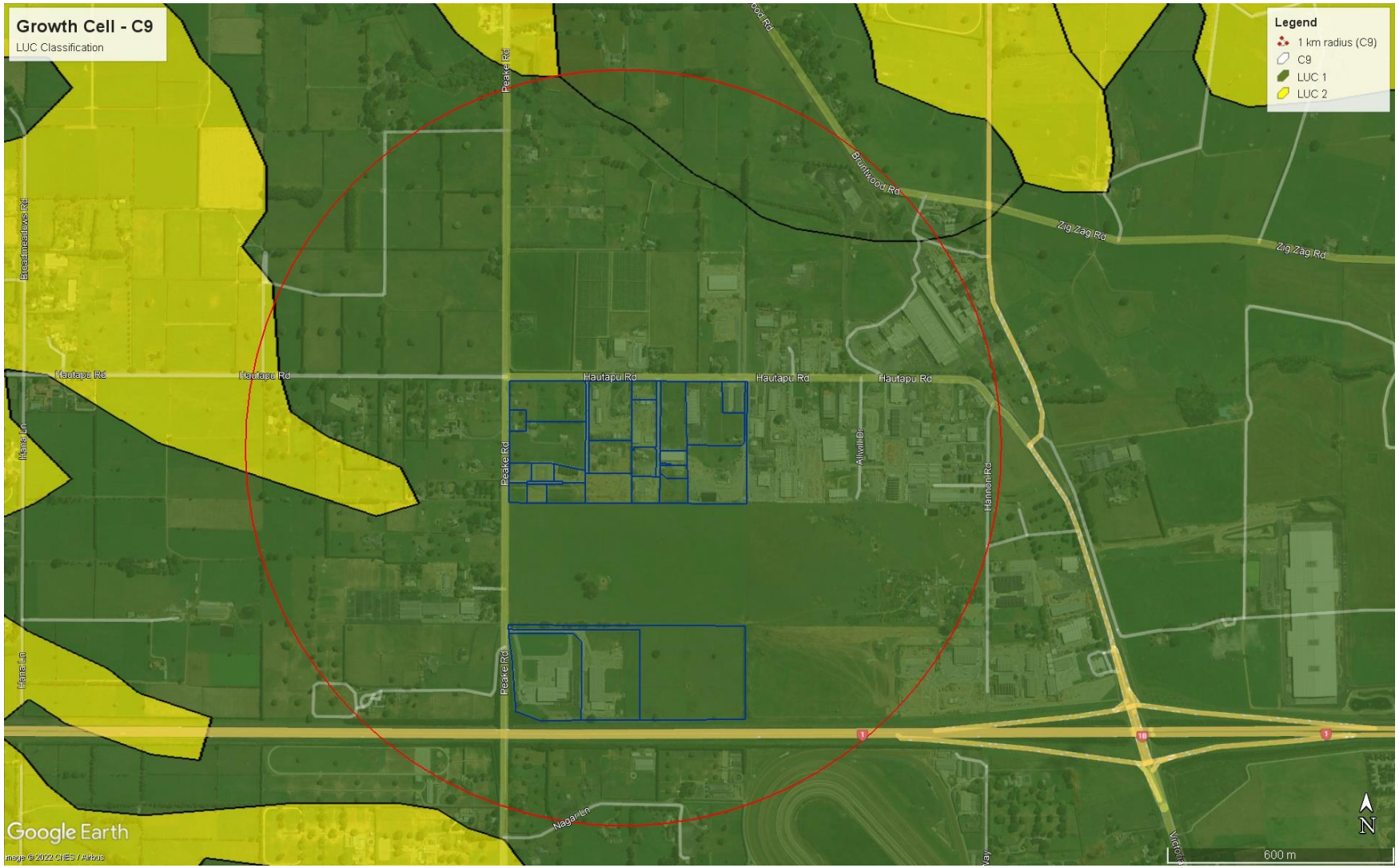
FIGURE 10: GROWTH CELL – C9 LUC MAP



8.3 Growth Cell C10 – Hautapu East

Growth Cell C10 consists of a mixture of rural (green outline on Figure 12) and industrial (Blue outline on Figure 12) zoned land. There is potential land available for industrial expansion in this area (beyond the Bardowie Industrial Precinct) to the north and east, and to the west of Bruntwood Road. The current land use to the north are dairy farms, with maize and drystock blocks to the east and a horse stud to the northwest. This area is identified as a development area beyond 2035 within Appendix S1 – Future Growth Cells within the Waipa District Plan.

The majority of the soils in this vicinity are free draining allophanic soils, imperfectly drained brown soils and poor draining gley soils (S-Map Figure 11) which are all relatively flat. The dominant LUC classification for Growth cell C10 is LUC 1, with some bands of LUC 2 soils covering the dairy farm to the north. The productive potential based on the soils and LUC of this growth cell and its vicinity is high, with only LUC 1 and LUC 2 soils present. The productive capacity of this area also presents better access to supporting primary industries, with established commercial vegetable production, a nursery, a high performance horse stud and dairy farms in the vicinity of the Site

Outside the already zoned industrial area to the southwest, there are very few primary production constraints, which means the land has very high versatility. The dairy farm is currently operational and is adjoining other dairy farms, while the maize and drystock areas to the southeast are currently utilised by the Hautapu Fonterra dairy factory for wastewater irrigation.

This growth cell also provides less land use restrictions (ability to farm more intensively as a dairy support or dairy grazing operation without requiring resource consent), which provides more agricultural opportunity and diversity.

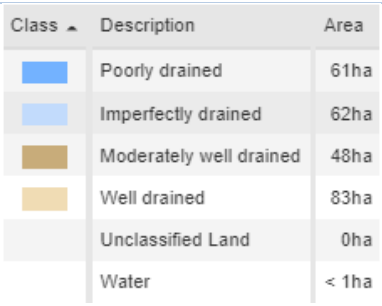
Growth cell size	250.0 ha
Current land use	Dairy farm, maize and arable crops, drystock and industrial
Current planning zone	Rural Zone & Bardowie Industrial Precinct Structural Plan Area
Surrounding land use	Rural Zone Dairy farm to the north and east, industrial, horse stud and dairy farms to the west, residential to the south
NZLRI LUC classification	LUC 1 & LUC 2 (Figure 12)
Soil characteristics	
Environmental constraints	Wastewater irrigation for the Hautapu dairy factory
Economic limitations	Land is reliant on receiving wastewater irrigation as part of the Fonterra Hautapu wastewater irrigation scheme
Land use potential	Industrial use, dairy farming, arable cropping, potential horticultural or commercial vegetable operation with nearby facilities, drystock
Comparison to PPC20	The vicinity of Growth Cell – C10 has similar or higher quality soils (LUC 1 and LUC 2) and established productive systems offering higher versatility and land use. There are also very few physical constraints with large parcel areas and less fragmented land, unconstrained land use to the north and east with the adjoining parcels being primary production and highly productive soils over the entire area. Therefore, this site would be considered to have a much greater long term productive capacity than the PPC20 site.

FIGURE 11: GROWTH CELL – C10 S-MAP SOILS

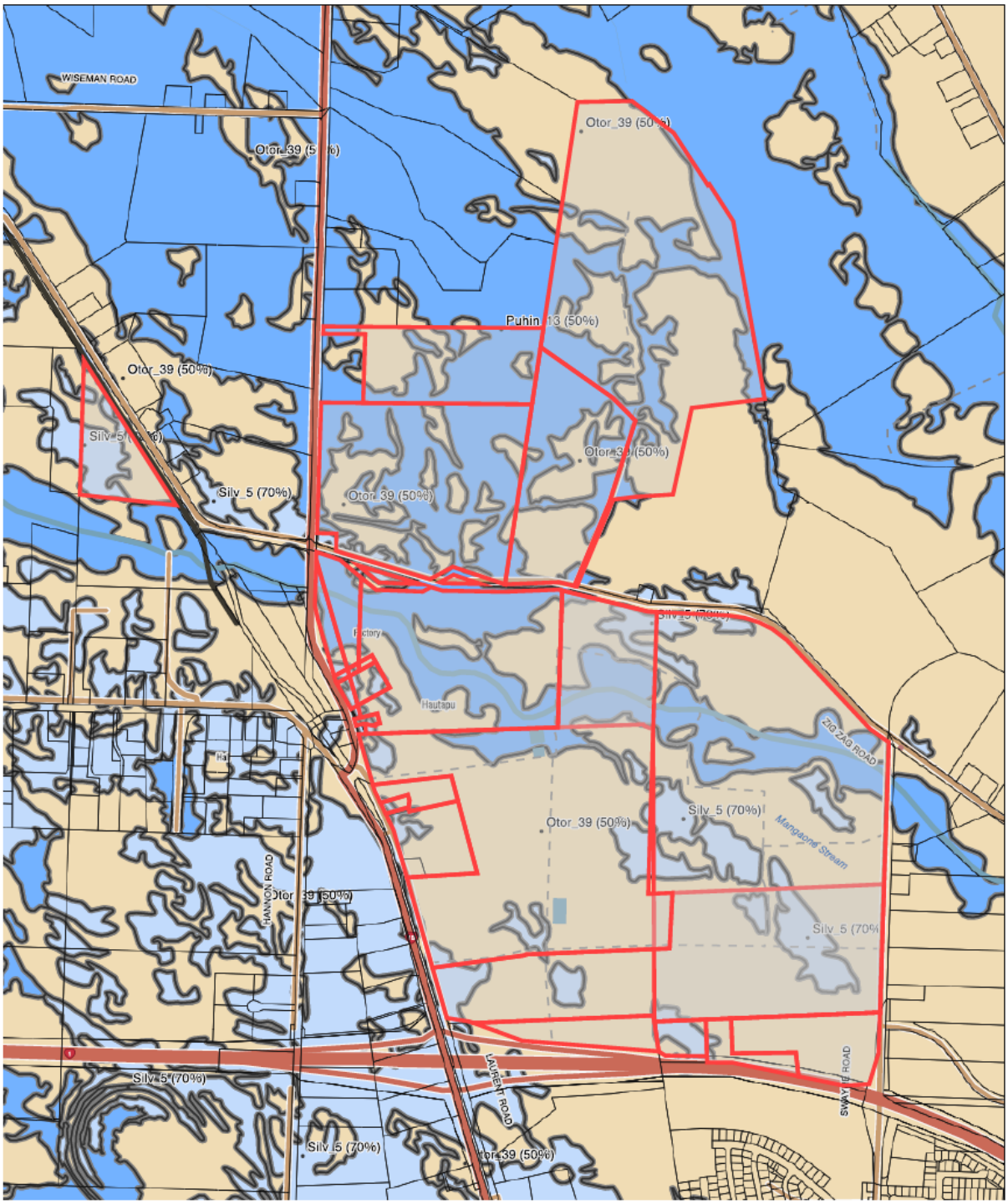


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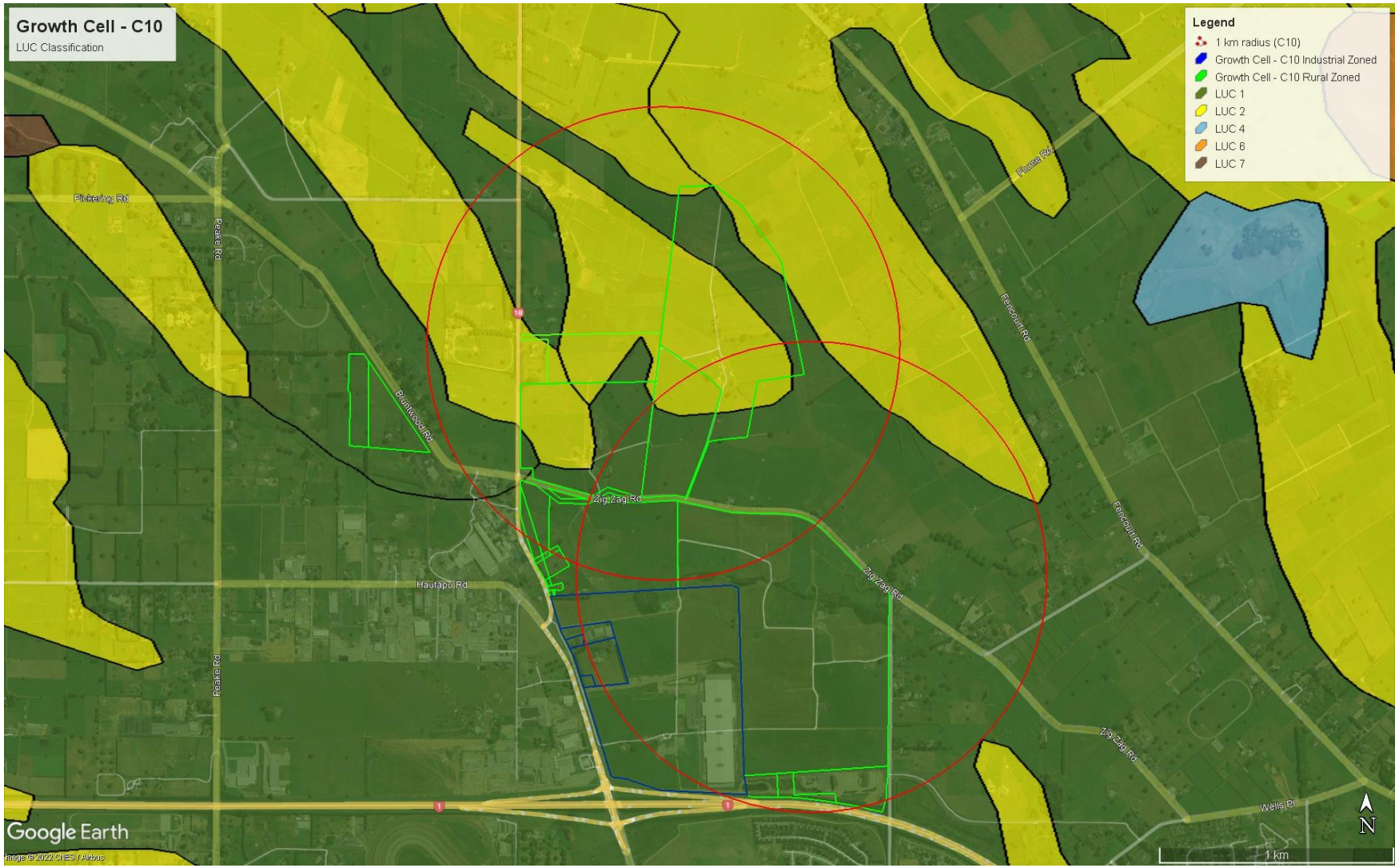
FIGURE 12: GROWTH CELL – C10 LUC MAP



8.4 Growth Cell Bond Road – North Te Awamutu

This site is zoned as Bond Rd Industrial Structure Plan Area. There is rural zoned land potentially available for industrial expansion in this area to the north-northwest and southwest. Land immediately to the south-southeast is zoned industrial, with land to the east and northeast zoned residential. The rural zoned land is a mixture of arable (maize), dairy and drystock farms. There is a river that borders the industrial zone to the west and south that may cause expansion difficulties.

The soils are largely poor draining gley soils and imperfectly drained brown soils (S-Map Figure 13) which are all relatively flat to rolling and LUC 2. The productive potential based on the soils of this growth cell and its vicinity is high, with LUC 2 immediately surrounding Bond Road Growth Cell, with LUC 4 soils present further away. The productive capacity of this area also presents better excellent access to supporting primary industries, with an established dairy farm and drystock operation to the north, including a large intensive dairy farm with herd home.

Growth cell size	17.6 ha
Current land use	Industrial zone – previous arable (maize)
Current planning zone	Bond Rd Industrial Structure Plan Area
Surrounding land use	Residential (east), Industrial (south) and Rural Zone (north, west and southwest). Arable, dairy farm and drystock farming operations.
NZLRI LUC classification	LUC 2 (Figure 14)
Soil characteristics	Class ▲ Description Area Poorly drained 10ha Imperfectly drained 7ha Moderately well drained 1ha Well drained 1ha Unclassified Land 0ha
Environmental constraints	River to the west and south
Economic limitations	Residential immediately to the east
Land use potential	Industrial use, arable, drystock, dairy support, dairy
Comparison to PPC20	The vicinity of Growth Cell – Bond Rd has a similar or slightly higher productive capacity compared to PPC20. With similar quality soils (LUC 2), but more established productive systems in the vicinity offering higher versatility and land use. While there are limitations to the south, east and west with zoning and development, there are fewer physical constraints to the adjoining farms to the north.

FIGURE 13: GROWTH CELL – BOND ROAD S-MAP SOILS

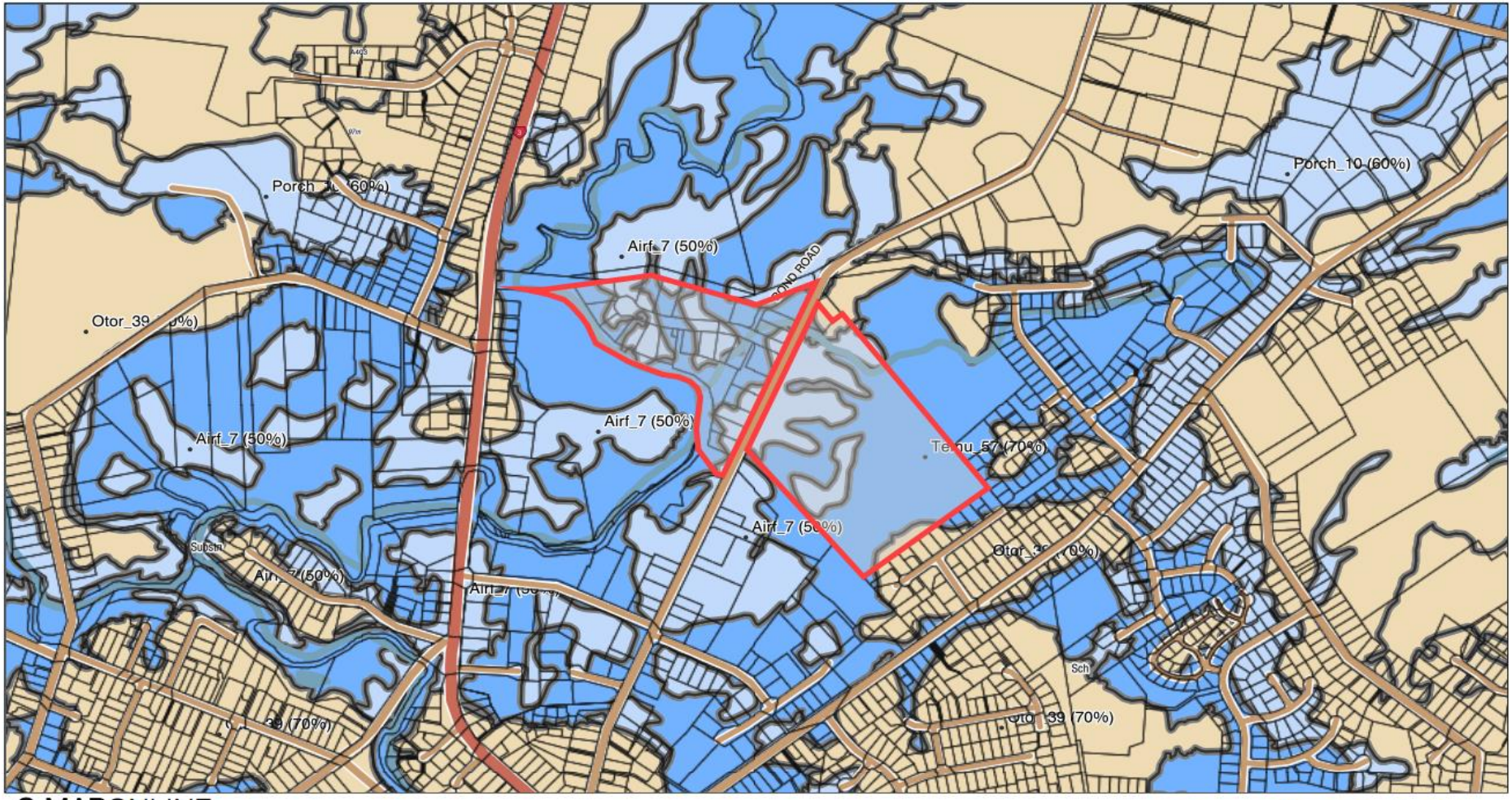


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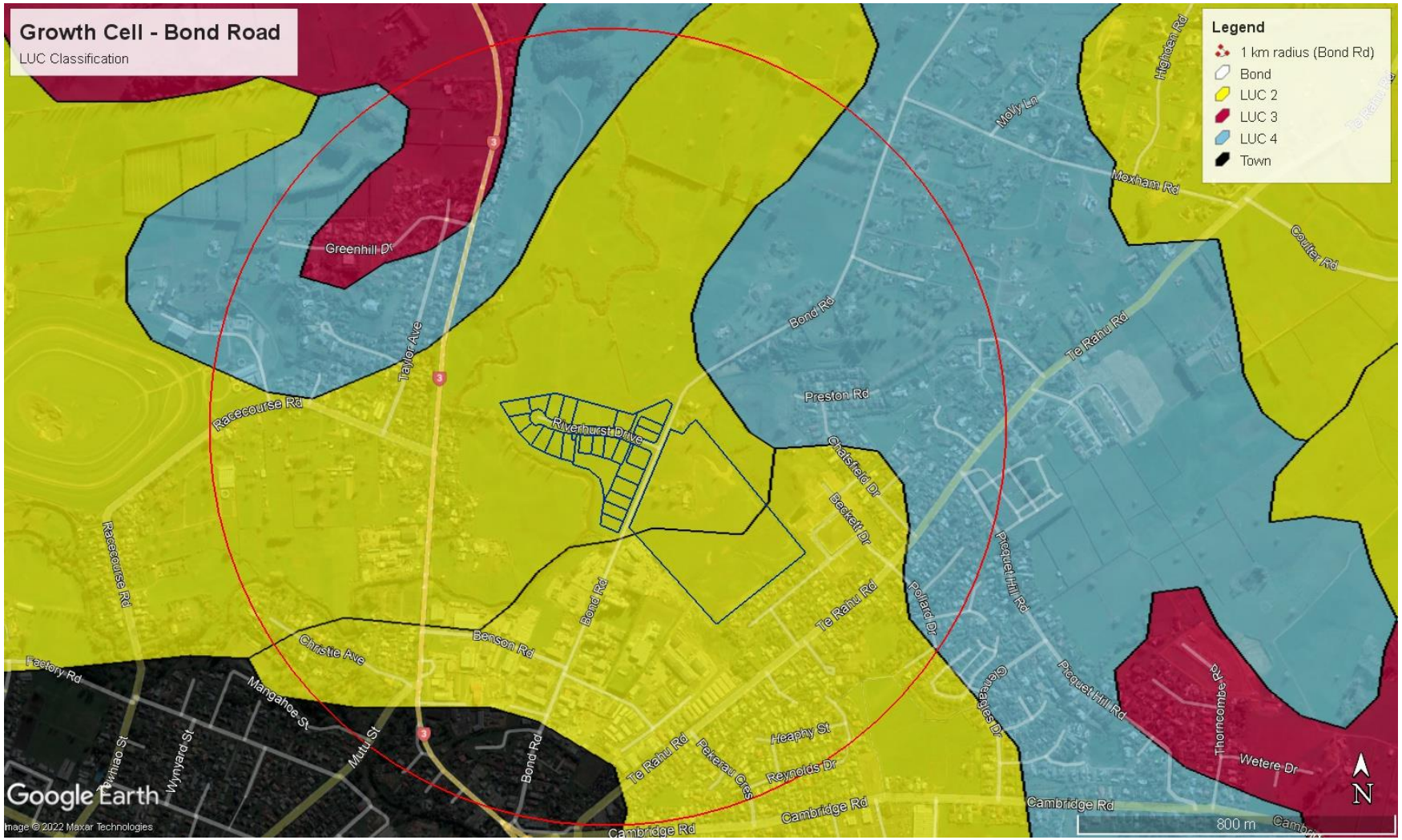
FIGURE 14: GROWTH CELL – BOND ROAD LUC MAP



8.5 Growth Cell Paterangi – North Te Awamutu

Growth Cell Paterangi consists of a mixture of rural (green outline on Figure 15) and industrial (Blue outline on Figure 15) zoned land. There is potential rural land available for industrial expansion in this area (beyond the Industrial Structure Plan Area) to the north, east and west. The rural zoned area is partially identified as a development area between now and 2035 within Appendix S1 – Future Growth Cells within the Waipa District Plan.

This Site provides access to the Te Awamutu wastewater treatment plant, with the settling ponds and wetlands adjacent to the west. The block is currently used as a dairy farm, as with the adjoining land to the north, east and west – all zoned rural. There is established industrial operations to the southeast. A river borders much of the Growth Cell to the west.

The soils in this vicinity are a dominated by free draining allophanic soils to the north, and a mixture of poor draining gley soils and imperfectly drained brown soils to the south (S-Map Figure 15) which are rolling to strongly rolling to the north and all relatively flat to the south. The dominant LUC classification for the Paterangi Growth Cell is LUC 2, while the soils to the north are less versatile, consisting of LUC 3 and LUC 4. The productive potential based on the soils and LUC of this growth cell and its vicinity is relatively high.

Outside the already zoned industrial area to the southeast, there are very few primary production constraints, which means the land has a relatively high versatility. The dairy farm is adjoining other dairy farms further, which offer expansion and amalgamation options for the future.

This growth cell also provides less land use restrictions (ability to farm more intensively as a dairy farm, dairy support or dairy grazing operation without requiring resource consent), which provides more agricultural opportunity and diversity.

The productive potential of this block is slightly better to that of the TPL towards the south, where the land is dominated by LUC 2, while the soils to the north are less versatile, consisting of LUC 3 and LUC 4. This site also presents better access to supporting primary industries, with established dairy farms surrounding the growth cell to the north, east and west.

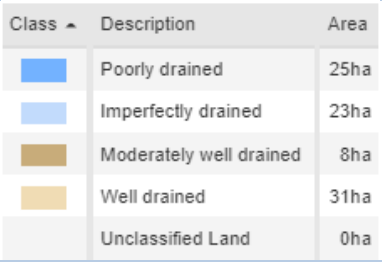
Growth cell size	85.8 ha
Current land use	Dairy farm
Current planning zone	Industrial Structure Plan Area and Rural Zone
Surrounding land use	Industrial (south and southeast) and Rural Zone (north, west and east).
NZLRI LUC classification	LUC 2, LUC 3, LUC 4 (Figure 16)
Soil characteristics	
Environmental constraints	River to the west and south, Wastewater treatment plant and wetlands to the west
Economic limitations	Wastewater treatment plant to the west
Land use potential	Industrial use, arable, drystock, dairy support, dairy
Comparison to PPC20	The vicinity of Growth Cell – Paterangi has similar and lower quality soils (LUC 2, LUC 3 and LUC 4) and established productive systems offering moderate versatility and land use. There are very few physical constraints with large parcel areas and less fragmented land, unconstrained land use to the north, east and west and east with the adjoining parcels being primary production and highly productive soils over much of the areas. Therefore, this site would be considered to have a slightly higher long term productive capacity than the PPC20 site.

FIGURE 15: GROWTH CELL – PATERANGI S-MAP SOILS

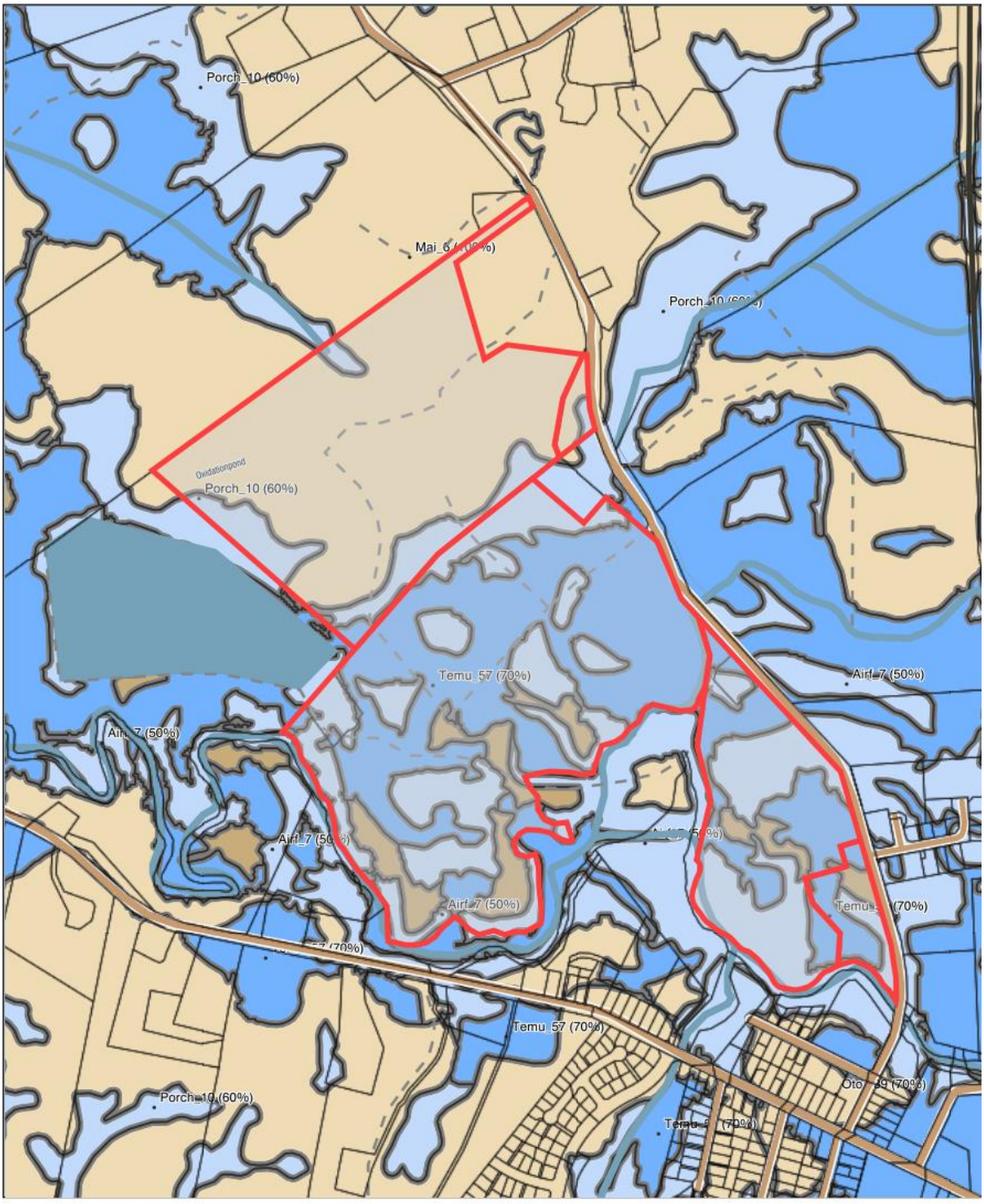


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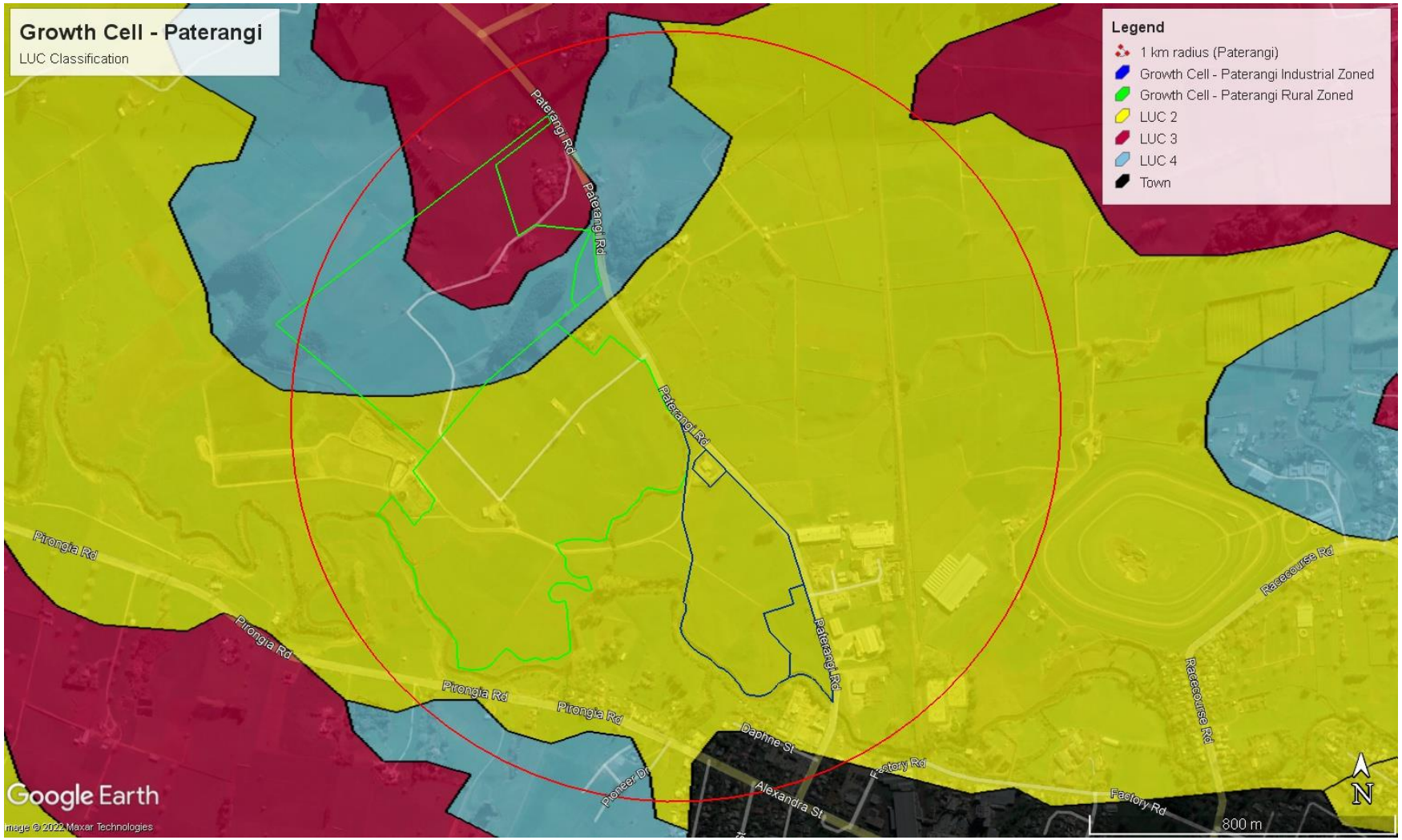
FIGURE 16: GROWTH CELL – PATERANGI LUC MAP



9.0 SUMMARY

Overall, while the land and soils within the TPL Site are categorised as high-quality under the NPS-HPL (LUC 2 and LUC 3), the practical likelihood of any sustained existing or intensive agricultural operation would be restricted due to:

- Surrounding land uses not being in land-based primary production
  - Airport, motorway, the adjacent business zoned land, Peacockes Rd interchange
- Soil conditions
  - Summer dry, causing reduced yields
  - Requirement for freshwater irrigation for any intensification or land use change into horticulture or commercial vegetable operations
- Lack of expansion or improvement options
  - Due to national regulations restricting intensification into various land uses
  - Due to physical boundaries and amalgamation opportunities
- Alternative industrial options within the Waipa district
  - Most alternative options have a greater proportion of highly productive land and less restrictions for expansion and growth with regards to productive capacity.

Given the constraints identified above, and a comparison against other growth cells within the Waipa District that have higher proportions of highly productive land, AgFirst believes that the re-zoning of the TPL Site meets the requirements of Clause 3.6 (1)(b) and (c).

With rapidly rising input costs, the returns for marginal yields will be reduced, and consideration will need to be given regarding the optimum land use for the Site. When discussing the long term productivity of the site, the current system would not be economically viable beyond 30 years.

It is AgFirst opinion that by allowing the proposed plan change to proceed from rural to industrial zone, it will have a less material impact of the district's productive capacity than developing additional greenfield sites with fewer constraints.

With regards to loss of productive capacity, AgFirst does not consider that the loss of the well below average yields from this Site will have a significant loss on the district's production, and the conversion of the land into industrial zone would not cause any fragmentation or further disruption of additional highly productive land.

Contact

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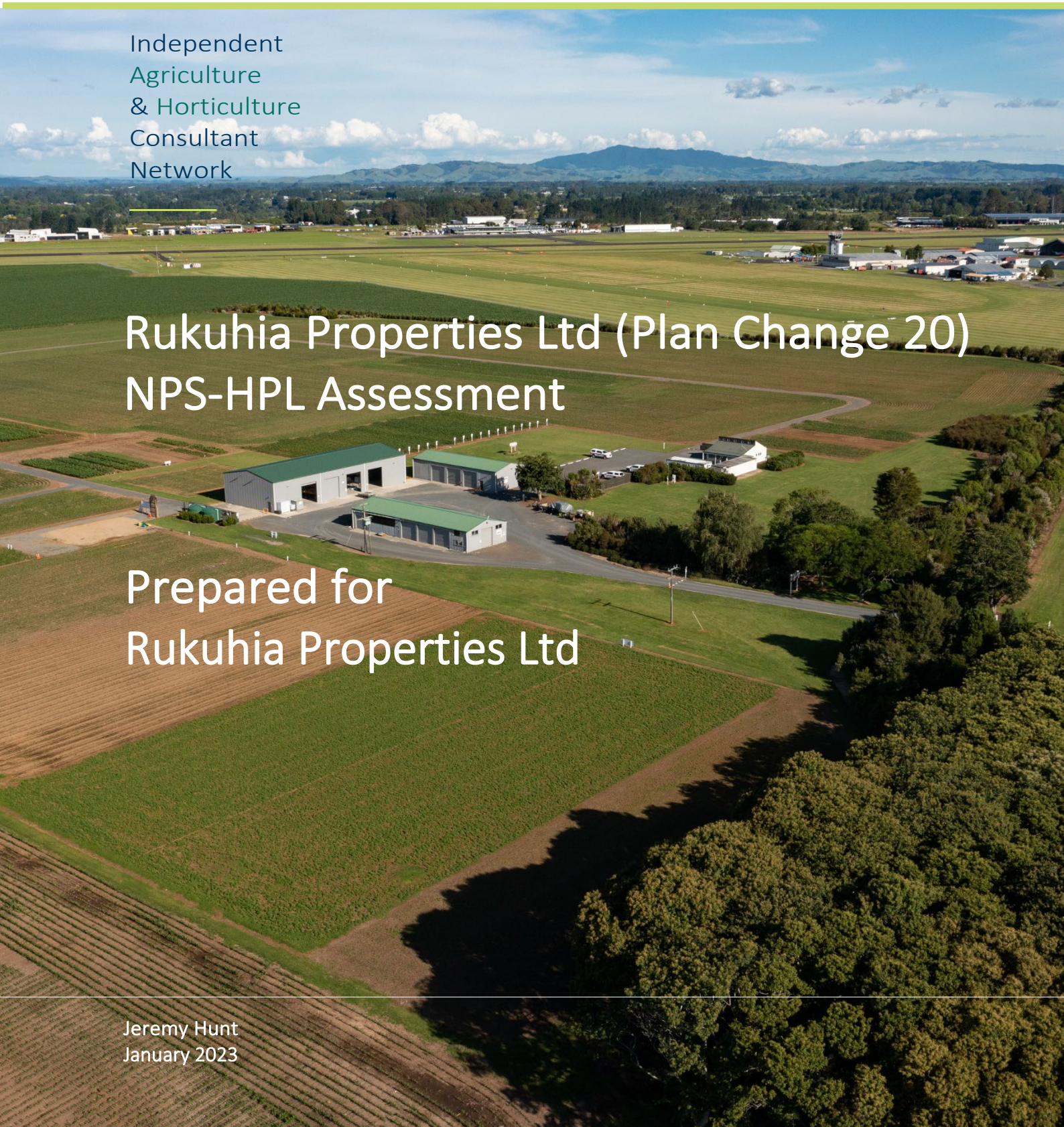
APPENDIX 3
RUKUHIA PROPERTIES LIMITED (PLAN CHANGE 20) NPS-HPL ASSESSMENT (AGRICULTURE ASSESSMENT)

AGFIRST

Independent
Agriculture
& Horticulture
Consultant
Network



Rukuhia Properties Ltd (Plan Change 20) NPS-HPL Assessment

Prepared for
Rukuhia Properties Ltd

Jeremy Hunt
January 2023

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

Titanium Park Limited (TPL) and Rukuhia Properties Limited (RPL) have jointly made a request for a plan change (Proposed Plan Change 20 (PPC20)) to the Waipa District Plan to extend the Airport Business Zone. AgFirst Waikato (2016) Ltd has been engaged by RPL to provide an assessment that assesses PPC20 against the National Policy Statement – Highly Productive Land (NPS-HPL).

The RPL land that is subject to the NPS-HPL consists of an area of approximately 28.5 ha (the Site). RPL wish to rezone this land from Rural to Industrial as part of PPC20.

The Site is used as a research and development (R&D) facility by Genetic Technologies (Pioneer) and has an implemented resource consent to expand the current R&D facility, which will result in a reduction of the cropping area to three maize trial plots being 5.9 ha, 3.0 ha and 0.8 ha, providing a total of 9.7 ha of cropping land. Therefore, the Site is already significantly impacted by fragmentation and size with regards to future land use potential.

Up until the development of the expanded R&D facility, the Site and cropping grounds is focused on R&D for their arable seed products; therefore, any commercial returns take second priority. Historically, only 20.5 ha of the 28.5 ha block is harvested for sale with the balance of the land being used for tracks, races, buildings or trial areas.

The Site has massive soil variability (as evidenced by aerial pictures taken during the maize growing season and yield maps). Significant areas were once part of a research apple orchard, and the removal of trees has resulted in substantial soil disturbance in patches.

Planting of the commercial maize takes place after all the research trials have been planted using specialised trial planting equipment. The later planting date, plus the lack of water holding capacity of the soils means maize grown on this block is very prone to drought stress and yields are typically much lower than those in the district. Winter crops are less impacted. In the 2022 season, the maize silage yielded 13.5 tDM/ha which is well below the district average while the annual ryegrass yielded 5.5 tDM/ha.

The yields generated from the Site do not demonstrate that the land is highly productive, with well below average yields harvested over the recent seasons. With rapidly rising input costs, the returns for marginal yields will be reduced, and consideration will need to be given regarding the optimum land use for the Site. When discussing the long-term productivity of the site, with the expansion of the consented R&D facility, it is highly unlikely that land-based primary production will be an economically viable land use beyond 30 years.

AgFirst has had the Site mapped by Hanmore Land Management using an appropriate scale and methodology to provide a breakdown of the soils across the Site. Most of the Site has been classified as LUC 1s1 and LUC 2w3. This indicates that the soils are in the of high-quality category and highly versatile, with this classification being suitable for most productive agricultural systems. The slope of the Site is relatively flat to gently undulating land The LUC 1s1 soils are free draining, however due to the characteristics of these sandy soils, they are very prone to summer droughts. Production is expected to reduce over time as the area becomes hotter and drier due to climate change. The LUC 2w3 soils are Te Kowhai silt loams that have a wetness limitation and are poorly drained.

With regard to land use potential, there are land use restrictions on what this Site can be used for, such as conversion of this land to dairy, dairy support and commercial vegetable production. For consent to be granted, the enterprise must demonstrate that the proposed land use does not have any more impact on the catchment than during the baseline year.

Overall, while the land and soils within the RPL Site are categorised as high-quality under the NPS-HPL (LUC 1 and LUC 2), the practical likelihood of any sustained existing or intensive agricultural operation would be restricted due to:

- The productive capacity of the Site as a result of the R&D facility
    - Due to the consented R&D expansion leaving less than 10 ha of HPL for cropping
    - Compromised yields due to R&D trials
- Surrounding land uses not being in land-based primary production
    - Airport, motorway, the adjacent business zoned land, Peacockes Rd interchange, Stage Highway 3
- Soil conditions
    - Summer dry, causing reduced yields
    - Requirement for freshwater irrigation for any intensification or land use change into horticulture or commercial vegetable operations
- Lack of expansion or improvement options
    - Due to national regulations restricting intensification into various land uses
    - Due to physical boundaries and amalgamation opportunities

We have provided a commentary on alternative rezoning opportunities within the same locality as prescribed by section 3.6(1)(b) of the NPS-HPL. To do this AgFirst has assessed the productive use of land (and the vicinity) that has either been identified by WDC as potential industrial growth cells or is a logical expansion of an existing growth cell within the district. Most alternative options have a greater proportion of highly productive land and less restrictions for expansion and growth with regards to productive capacity.

Given the constraints identified for the RPL Site, and a comparison against other growth cells, AgFirst believes that the re-zoning of the RPL Site meets the requirements of the NPS-HPL Clause 3.6 (1)(b) and (c), where land surrounding other identified growth cells within the district have greater productive capacity and potentially higher productive land than the rezoning proposal at the Site.

It is AgFirst's opinion that allowing the PPC20 to proceed from rural to industrial zone will have a less material impact of the district's productive capacity than developing additional greenfield sites that have fewer productive constraints.

Considering that the productive nature of the RPL Site is already significantly compromised due to the R&D Consent, AgFirst does not consider that the loss of the well below average yields from this Site will have a significant loss on the district's production, and the conversion of the land into industrial zone would not cause any fragmentation or further disruption of additional highly productive land

2.0 BACKGROUND

Titanium Park Limited (TPL) and Rukuhia Properties Limited (RPL) have jointly made a request for a plan change (Proposed Plan Change 20 (PPC20)) to the Waipa District Plan to extend the Airport Business Zone. AgFirst Waikato (2016) Ltd has been engaged by RPL to provide an assessment that assesses PPC20 against the National Policy Statement – Highly Productive Land (NPS-HPL). This relates to an assessment on whether it is considered PPC20 meets the circumstances in which urban rezoning may be undertaken as set out in Section 3.6 of the NPS-HPL. AgFirst is a suitably qualified agribusiness consultancy that has a wealth of experience in assessments relating to productive capacity, primary production and soil versatility. The TPL site has been assessed in a separate report.

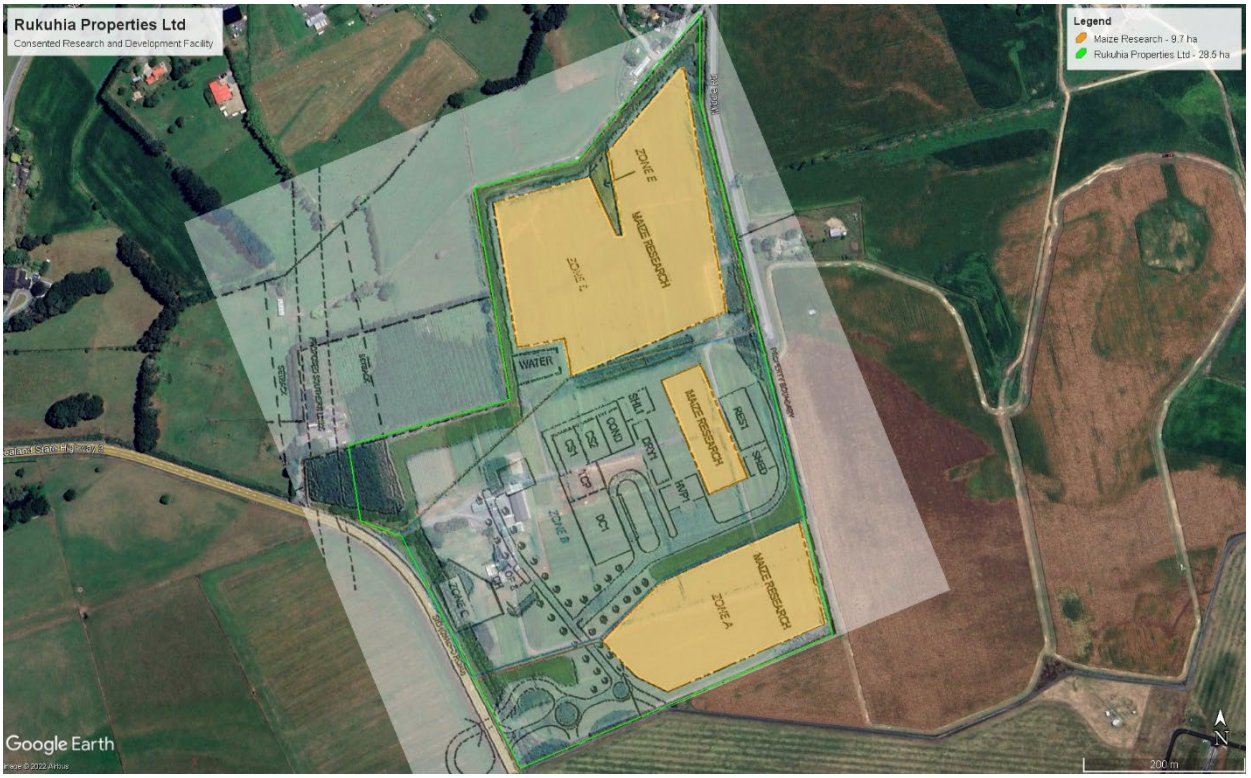
RPL wish to rezone the Rural zoned land to Industrial (see green overlay on Figure 1), which is approximately 28.5 ha and it is this site that is subject to this assessment (the Site). Adjoining the Site to the east and south is Titanium Park and the Airport Business Zone, to the north some rural residential lifestyle blocks and the Southern Links designation and to the west is State Highway 3 and further rural zoned land.

FIGURE 1: PLAN CHANGE SITE

3.0 PROPERTY SUMMARY AND EXISTING LAND USE

The Site highlighted in Green in Figure 1 shows a parcel of land that extends over several titles, owned by RPL. The Site is used as a research and development (R&D) facility by Genetic Technologies (Pioneer). In 2014, the Site obtained a resource consent to establish the R&D facility, which will include additional aspects that are yet to be constructed; including a loading area, conditioned and cool stores, distribution centre, dryer, harvest processing, offices, equipment storage, shelling room, treatment and conditioning plant. The maize trial plots consist of three plots being 5.9 ha, 3.0 ha and 0.8 ha, providing a total of 9.7 ha of cropping land. This is presented in Figure 2.

FIGURE 2: CONSENTED RESEARCH AND DEVELOPMENT FACILITY



The Site and cropping grounds is operated by Pioneer and is focused on R&D for their arable seed products; therefore, any commercial returns take second priority. Historically, only 20.5 ha of the 28.5 ha block is harvested for sale with the balance of the land being used for tracks, races, buildings or trial areas which are not sold.

The Site has massive soil variability (as evidenced by aerial pictures taken during the maize growing season and yield maps). Significant areas were once part of a research apple orchard, and the removal of trees has resulted in substantial soil disturbance in patches.

Planting of the commercial maize takes place after all the research trials have been planted using specialised trial planting equipment. The later planting date, plus the lack of water holding capacity of the soils means maize grown on this block is very prone to drought stress and yields are typically much lower than those in the district, such as the TPL Site which (as a comparison) has heavier soils and can plant their maize crop 4-6 weeks earlier. Last season the maize silage yielded 13.5 tDM/ha and the annual ryegrass yielded 5.5 tDM/ha.

The following financial review has been based on the recent (2022) information provided by Pioneer and a sensitivity analysis to provide a comparative assessment to regional gross margins for maize and pasture silage. The production information is based on the current 20.5 effective ha, under the management of R&D.

Maize Silage

Yield for 2021-2022 season: 13.5 tDM/ha.

SENSITIVITY ANALYSIS Gross margin per hectare ($/ha)						
		Maize silage yield (tDM/ha)				
c/kgDM standing		**13.5**	**15**	**16**	**17**	**18**
	28	$487	$907	$1,187	$1,467	$1,747
	30	$757	$1,207	$1,507	$1,807	$2,107
	32	$1,027	$1,507	$1,827	$2,147	$2,467

The maize silage was sold at a standing cost of 30 c/kgDM.
Providing a gross margin of $757 per ha from which standard overheads (rates, repairs and maintenance, interest etc) must be deducted.

Annual Pasture Silage

Yield for 2021-2022 season: 5.5 tDM/ha.

SENSITIVITY ANALYSIS Gross margin per hectare ($/ha)						
		Annual ryegrass yield (tDM/ha)				
c/kgDM standing		**4.5**	**5**	**5.5**	**6**	**6.5**
	25	$725	$850	$975	$1,100	$1,225
	27	$815	$950	$1,085	$1,220	$1,355
	29	$905	$1,050	$1,195	$1,340	$1,485

The annual pasture silage was sold at a standing cost of 27 c/kgDM.
Providing a total gross margin of $1,085 per ha over the combined cuts of silage.

The total income from the RPL Site from the various operations has been presented in the table below. This is expressed as earnings before interest, taxes, depreciation, and amortisation (EBITDA).

Pioneer Rukuhia (28.5 ha)	$
Cropping net income	
- 20.5 ha maize silage/annual ryegrass @ $1,437/ha	$29,459
Rates	-$5,774
Other expenses (track R&M, fencing)	-$1,000
EBITDA	$22,685
EBITDA/ha	$796

4.0 REGULATORY FRAMEWORK

4.1 Waipa District Plan

The property falls into the Waipa District and is subject to the WDP. As such, the WDP protects against the removal of high-class soils that can be used for primary production[1]. Under the WDC plan, High class soils are defined as "soils of land use capability classes I and II (excluding peat soils), and soils of land use capability class IIIe1 and IIIe5 classified as allophanic soils using the New Zealand soil classification".

4.2 Waikato Regional Policy Statement

The relevant objective and policy from the RPS are:
LF-O5 – High class soils "The value of high class soils for primary production is recognised and high class soils are protected from inappropriate subdivision, use or development."

LF-P11 – High class soils "Avoid a decline in the availability of high class soils for primary production due to inappropriate subdivision, use or development"

The objective and policy place an emphasis on protecting highly productive land from 'inappropriate subdivision, use or development'. We note that the rezoning that is sought under PPC20 effectively acts as an expansion of an existing strategic industrial node within the region. There is already 40 ha of Northern Precinct (which totals 130 ha) that has a live Airport Business zoning and PPC20 seeks to expand this to achieve a consolidated form that will achieve a well-functioning urban environment that is sought by Objective 1 of the NPSUD 2020. In this context, the rezoning that PPC20 is seeking to achieve will not result in 'inappropriate subdivision, use or development.

The RPS includes the following definitions[2]:
high class soils "*those soils in Land Use Capability Classes I and II (excluding peat soils) and soils in Land Use Capability Class IIIe1 and IIIe5, classified as Allophanic Soils, using the New Zealand Soil Classification."*

Primary production: *"means the commercial production of raw material and basic foods, and which relies on the productive capacity of soil or water resources of the region. This includes the cultivation of land, animal husbandry/farming, horticulture, aquaculture, fishing, forestry, or viticulture. It does not include hobby farms, rural residential blocks, or land used for mineral extraction."*

[1] WDP Policy - Protect the rural soil resource (4.3.1.4)
[2] https://eplan.waikatoregion.govt.nz/eplan/#Rules/0/916/1/0/0

4.3 National Policy Statement

In September 2022, the Ministry for the Environment (MFE) and the Ministry for Primary Industries (MPI) released the NPS-HPL. The single objective of the NPS-HPL is "*Highly productive land is protected for use in land-based primary production, both now and for future generations*."

Land-based primary production means "*production, from agricultural, pastoral, horticultural, or forestry activities, that is reliant on the soil resource of the land"*.

Productive capacity, in relation to land, means "*the ability of the land to support land-based primary production over the long term, based on an assessment of:*

a. *physical characteristics (such as soil type, properties, and versatility); and*
b. *legal constraints (such as consent notices, local authority covenants, and easements); and*
c. *the size and shape of existing and proposed land parcels".*

Although PPC20 was lodged with Waipa District Council before the commencement of the NPS-HPL Policy 5 of the NPS-HPL has relevance and reads: "*The urban rezoning of highly productive land is avoided, except as provided in this National Policy Statement"*. Clause 3.6 is the relevant clause as it provides Tier 1 and 2 territorial authorities may allow urban rezoning of highly productive land in accordance with the matters contained within it.

In summary the NPS-HPL aligns with the WDP and the Waikato Regional Policy Statement, where it identifies LUC Class 1, 2 and 3 (as mapped by the New Zealand Land Resource Inventory or by any more detailed mapping that uses the Land Use Capability classification) as being the most versatile land, with the fewest limitations on its use, and therefore highly productive land.

As noted above Clause 3.6 sets out the circumstances in which urban rezoning may be undertaken and is detailed below:

3.6 Restricting urban rezoning of highly productive land

1) *Tier 1 and 2 territorial authorities may allow urban rezoning of highly productive land only if:*
   a) *the urban rezoning is required to provide sufficient development capacity to meet demand for housing or business land to give effect to the National Policy Statement on Urban Development 2020; and*
   b) *there are no other reasonably practicable and feasible options for providing at least sufficient development capacity within the same locality and market while achieving a well-functioning urban environment; and*
   c) *the environmental, social, cultural and economic benefits of rezoning outweigh the long-term environmental, social, cultural and economic costs associated with the loss of highly productive land for land-based primary production, taking into account both tangible and intangible values.*
2) *In order to meet the requirements of subclause (1)(b), the territorial authority must consider a range of reasonably practicable options for providing the required development capacity, including:*
   a) *greater intensification in existing urban areas; and*
   b) *rezoning of land that is not highly productive land as urban; and*
   c) *rezoning different highly productive land that has a relatively lower productive capacity.*

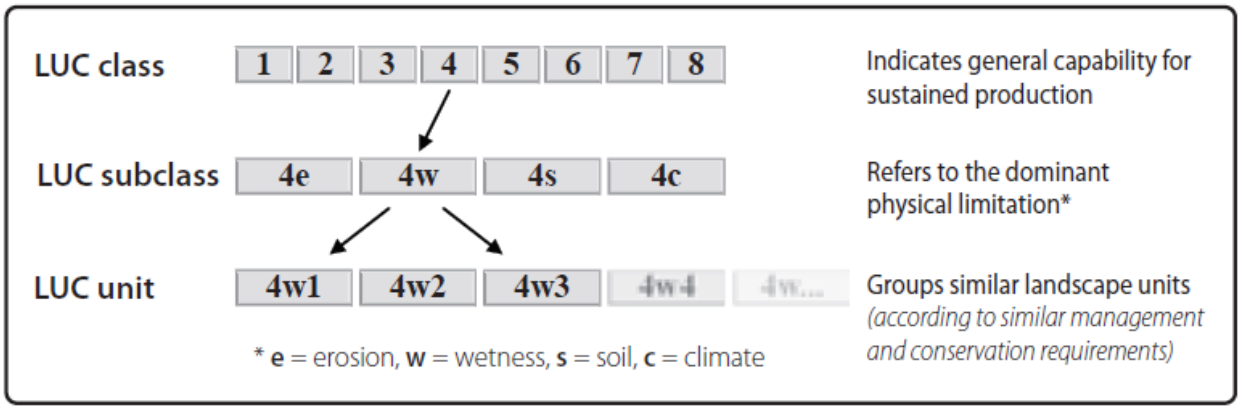
3) *In subclause (1)(b), development capacity is within the same locality and market if it:*
   a) *is in or close to a location where a demand for additional development capacity has been identified through a Housing and Business Assessment (or some equivalent document) in accordance with the National Policy Statement on Urban Development 2020; and*
   b) *is for a market for the types of dwelling or business land that is in demand (as determined by a Housing and Business Assessment in accordance with the National Policy Statement on Urban Development 2020).*
4) *Territorial authorities that are not Tier 1 or 2 may allow urban rezoning of highly productive land only if:*
   a) *the urban zoning is required to provide sufficient development capacity to meet expected demand for housing or business land in the district; and*
   b) *there are no other reasonably practicable and feasible options for providing the required development capacity; and*
   c) *the environmental, social, cultural and economic benefits of rezoning outweigh the environmental, social, cultural and economic costs associated with the loss of highly productive land for land-based primary production, taking into account both tangible and intangible values.*
5) *Territorial authorities must take measures to ensure that the spatial extent of any urban zone covering highly productive land is the minimum necessary to provide the required development capacity while achieving a well-functioning urban environment.*

AgFirst will address (in part) 3.6 subclause (1)(c) and (2)(b) and (c) in this report by assessing the productive capacity of the PPC20 and comparing this with additional localities surrounding the Waipa District growth cells that would be deemed to be a 'other reasonably practicable and feasible options'.

5.0 LAND USE CAPABILITY CLASSIFICATION

The LUC Classification system has been used in New Zealand to help achieve sustainable land development and management on farms. The LUC classification categorises land areas or polygons into classes, subclasses, and units according to the land's capability to sustain productive use. This is summarised in Figure 3 below.

FIGURE 3: COMPONENTS OF THE LAND USE CAPABILITY CLASSIFICATION[3]



AgFirst engaged Ian Hanmore – Land Management[4] to map the Site in accordance with the NPS-HPL. LUC mapping was carried out in accordance with the methods described in the 3rd Edition of the Land Use Capability Survey Handbook (Lynn et al 2009). This process involves making a land resource inventory (LRI) of the property in which soil types, soil parent materials, land slopes, erosion type and severity and land cover are recorded. Whenever any of these land features change a new unit is made. The mapping was completed to a scale of 1:6,000, which is suited to paddock and farm sized soil assessments.

Specific field work activities include digging and describing soil profiles on each landform with supporting holes dug or profiles observed on bank/drain cuttings to establishing soil boundaries, measuring slopes with a clinometer, and gathering any other data that may be of assistance in assessing the suitability of the land for primary production such as erosion, susceptibility of the land to flooding, winter wetness and/or cold, high temperatures, exposure to salt winds, aspect, and accessibility.

This information was then used to determine the specific LUC units, as described in the Land Use Capability Extended Legend for the Waikato Region in the New Zealand Land Resource Inventory Worksheets (National water and soil conservation organisation) for the area. At times when mapping at a scale finer than that used in the worksheets of 1:63,360, new LUC units are recorded and are noted with an * in the LUC description table. Under the NPS-HPS, highly productive land has been defined as LUC classification of 1, 2 and 3 soils.

[3] Lynn, I.H, Manderson, A.K, Page, M.J, Harmsworth, G.R, Eyles, G.O, Douglas, G.B, Mackay, A.D, Newsome, P.J.F. (2009). Land Use Capability Survey Handbook – a New Zealand handbook for the classification of land 3rd ed. Hamilton, AgResearch; Lincoln, Landcare Research; Lower Hutt, New Zealand. GNS Science.

[4] www.hlm.co.nz/about - MAppSc

6.0 ASSESSMENT RESULTS

This Section presents the results and outcomes from the LUC and soil assessment based on the Hanmore Land Management survey and the New Zealand soils resources and database.

6.1 Land Use Capability Assessment

AgFirst had the Site re-mapped using an appropriate scale and methodology as discussed in Section 5 to provide a breakdown of the Site. The LUC classifications for the Site are presented in Table 1 and in Figure 3. Below is a summary of the LUC classifications present on the Site.

Most of the Site has been classified as LUC 1s 1 and LUC 2w3. This indicates that the soils are in the of high-quality category and highly versatile, with this classification being suitable for most productive agricultural systems. The slope of the Site is relatively flat to gently undulating land The LUC 1s1 soils are free draining, however, due to the characteristics of these sandy soils, they are very prone to summer droughts. The LUC 2w3 soils are Te Kowhai silt loams that have a slight wetness limitation and are poorly drained.

LUC 1s 1

- Horotiu sandy loam
- Well drained terraces and plains near sea level with a negligible erosion hazard when cultivated
- Land use suitability: Intensive grazing, intensive cropping, cereal cropping, horticulture cropping, production forestry

LUC 2w 3

- Te Kowhai silt loam
- Low river terraces and plains with gleyed soils which have a continuing slight wetness limitation after drainage
- Stopbanks and drainage required in some places
- Land use suitability: Intensive cropping, Intensive grazing, Production forestry

LUC 2s 1

- Horotiu sandy loam – Te Kowhai silt loam complex
- Flat to gently undulating plains and terraces comprising a mosaic of well drained yellow-brown loams and imperfectly drained gley soils.
- Land use suitability: Intensive grazing, intensive cropping, cereal cropping, horticulture cropping, orcharding, production forestry

TABLE 1: LAND USE CAPABILITY CLASSIFICATION

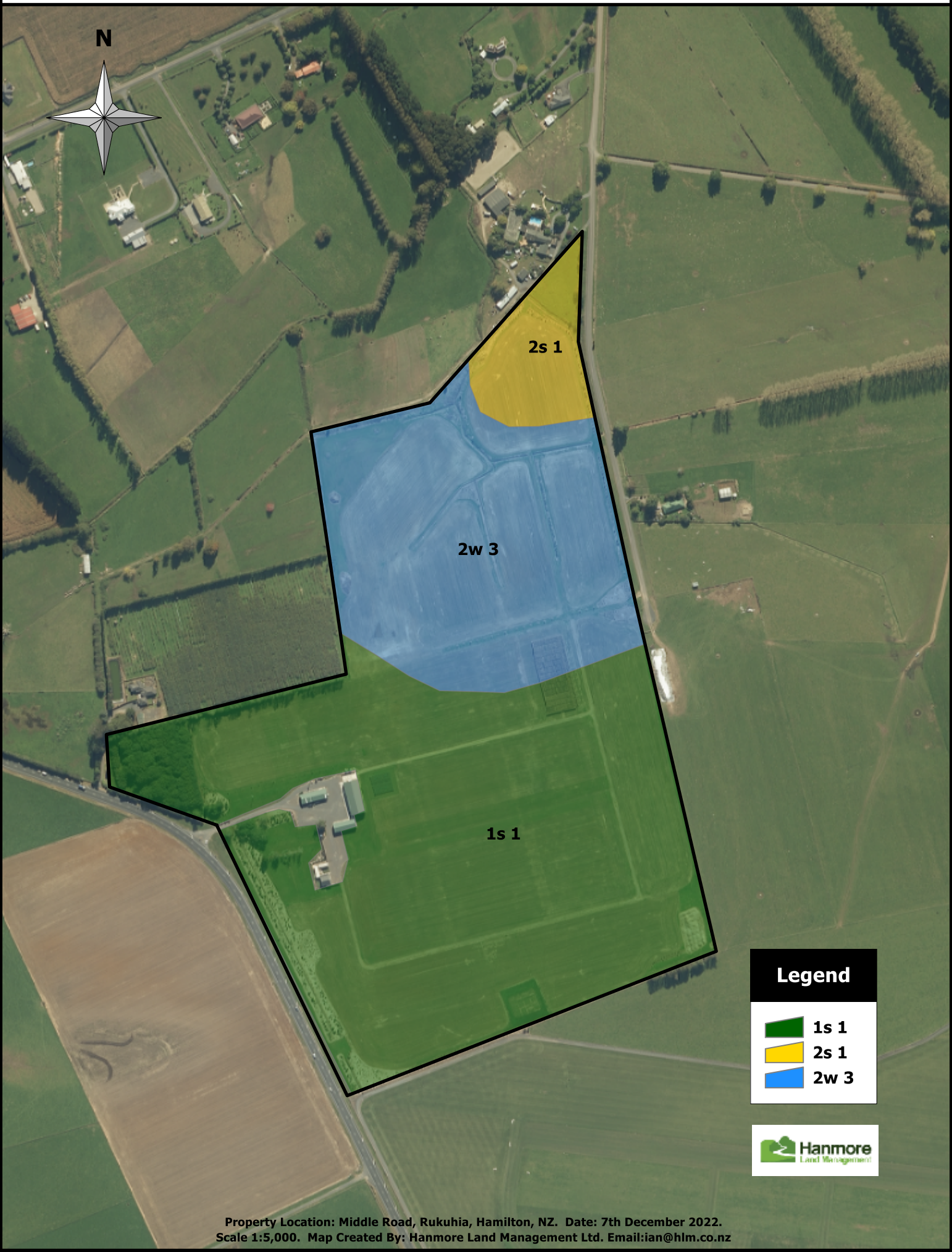
Hanmore Land Management Ltd
260c Awaroa River Road
Abbey Caves, Whangarei 0110
P:021 201 3441
info@hlm.co.nz
www.hanmorelandmanagement.co.nz.

Resource information / Luc unit	Total area (ha)	Parent material	Dominant soil type	Slope	Land Cover	Erosion degree & severity		Landuse suitability	Stock carrying capacity (su/ha)	Management Requirements
						Actual	Potential			
1s 1 Well drained terraces and plains near sea level with a negligible erosion hazard when cultivated.	18.2	Rhyolite alluvium with admixed andesite ash	Horotiu sandy loam	A	Maize	Nil	Nil	Intensive grazing. Intensive cropping. Cereal cropping. Horticulture. Production forestry	Average: 18 Top: 27 Potential: 30	
2w 3 Low river terraces and plains with gleyed soils which have a continuing slight wetness limitation after drainage.	8.8	Alluvium	Te Kowhai silt loam	A	Maize .	Nil	Nil	Intensive cropping Intensive grazing Production forestry	Average: 18 Top: 25 Potential: 30	• Stopbanks and drainage required in some places
2s 1 Flat to gently undulating plains and terraces comprimising a mosaic of well drained yellow-brown loams and imperfectly drained gley soils.	1.6	Rhyolite alluvium with admixed andesite ash	Horotiu sandy loam – Te Kowhai silt loam complex	A	Maize	Nil	Nil	Intensive grazing Intensive cropping Cereal cropping Horticulture cropping Orcharding Production forestry	Average: 14 Top: 18 Potential: 22	

LUC descriptions taken from field work and the Land Use Capability Extended Legend for the Waikato Region.

Figure 3

Rukuhia Properties Limited - PC20
Land Use Capability Assessment



Property Location: Middle Road, Rukuhia, Hamilton, NZ. Date: 7th December 2022.
Scale 1:5,000. Map Created By: Hanmore Land Management Ltd. Email:ian@hlm.co.nz

7.0 LAND USE POTENTIAL

The Site, according to the LUC Map is on versatile soils and classified as LUC 1 and LUC 2 land. In theory this means that the site has potential for a wide range of agricultural and horticultural activities. However, in practice, limitations created by the R&D facility and some of the soil characteristics outlined in Section 6.1 reduces the overall versatility of the Site.

As discussed in Section 3, the current land use is arable cropping, with maize silage and annual ryegrass grown for R&D purposes. The yields and productive capacity from the Site are significantly compromised due to trials that are undertaken. Because much of the Site is able to be used for the R&D development, the highly productive land remaining for land-based primary production is effectively reduced to 9.7 ha. Therefore, the land use potential is significantly impacted by fragmentation and its small size.

Furthermore, based on the yields generated from the Site, the productive capacity does not demonstrate that the land is highly productive, with well below average yields harvested over the recent seasons. With rapidly rising input costs, the returns for marginal yields will be reduced, and consideration will need to be given regarding the optimum land use for the Site. When discussing the long-term productivity of the site, it is highly unlikely that land-based primary production will be an economically viable land use beyond 30 years.

Based on direct observations over many years, AgFirst is of the view that significant areas of this site are moderately to severely impacted by summer dry. In terms of maize yields this would be estimated to be impacted two years out of five.

There are large areas of free draining sandy soils within the Site, and while this helps over the winter and wet periods, these soils are also prone to drying out very quickly over summer and stress the plants. This further contributes to the below average yields, particularly when the maize crop is planted late when soil conditions may already be causing moisture stress. For any higher value cropping or horticultural system, freshwater irrigation would be recommended/required.

Climate change will have a direct influence across the Waikato and beyond. Figure 5 and 6 have been generated using the NIWA Future Climate predictive tool. The two midpoint representative concentration pathways for greenhouse gas in the atmosphere of 4.5 and 6.0 have been used to generate the reports, with data presented through until 2050.

The light free draining nature of the soils across much of the site do reach wilting point earlier than other soils in the Waikato. It is reasonable to predict that this site will have greater adverse summer impacts than other soils in the region.

FIGURE 5: HAMILTON SUMMER TEMPERATURES PREDICTED BY NIWA FUTURE CLIMATE

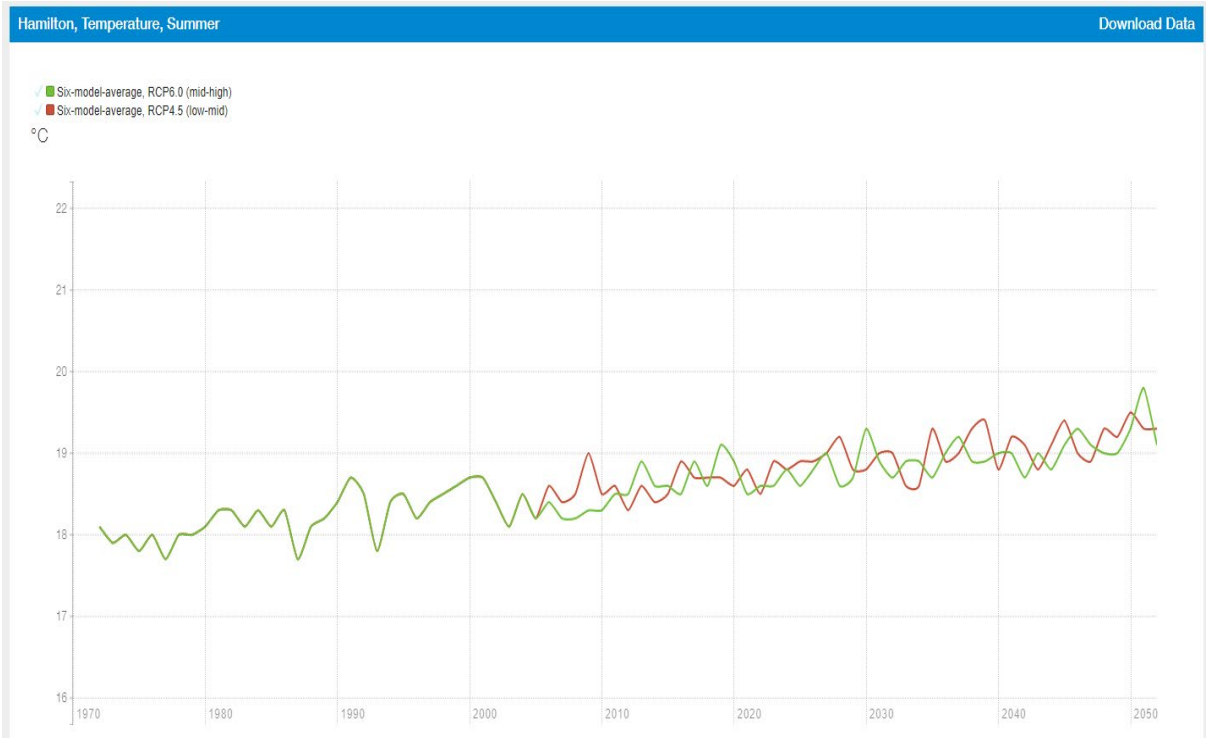
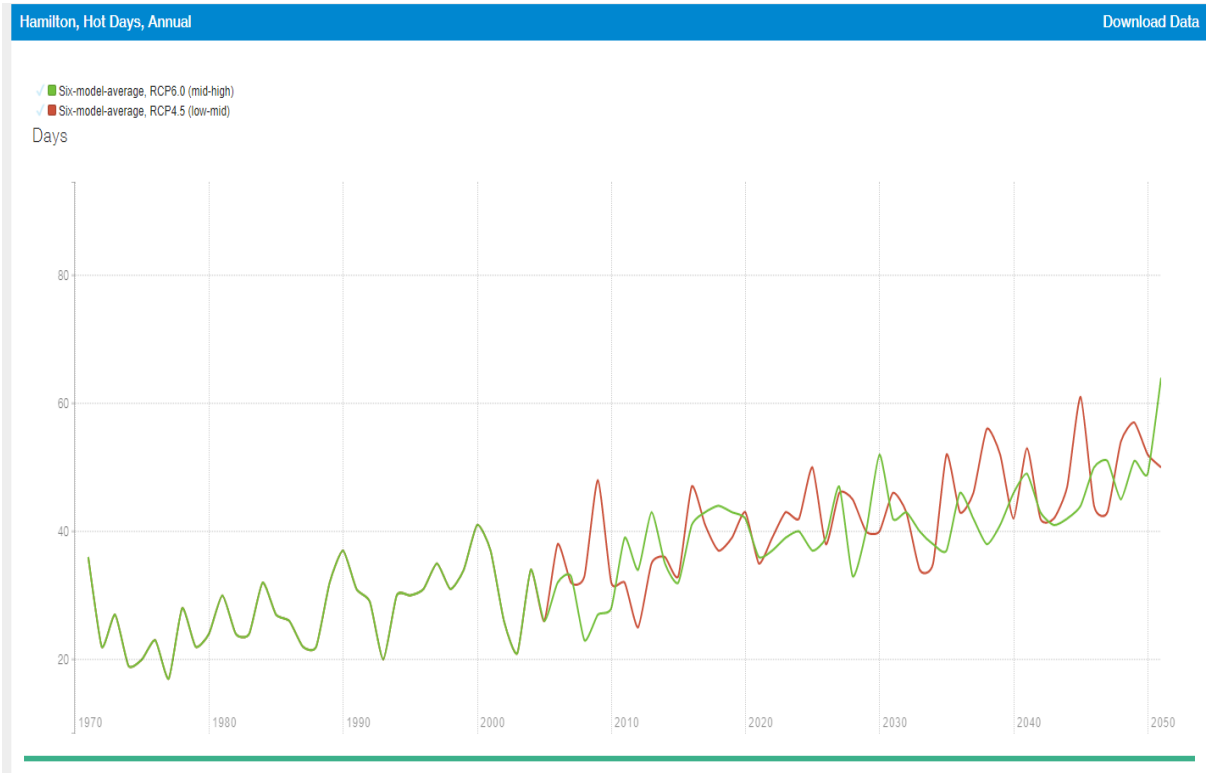


FIGURE 6: HAMILTON HOT DAYS



Based on the National Environmental Standards for Freshwater (NES-F) and Proposed Waikato Regional Plan Change 1 (PC1), there are land use restrictions on what this Site can be used for. The following would be considered either a discretionary activity or non-complying activity:

- Conversions of land on farm to dairy farm land (NES-F)
- Use of land as dairy support land (NES-F)
- Any change in the use of land to commercial vegetable production (PC1)

Therefore, a land use change consent would be required to convert land use, pending the baseline land use at the time of the reference period. For consent to be granted, the enterprise must demonstrate that the proposed land use does not have any more impact on the catchment than during the baseline year.

We note that care also must be given to what type of rural production could be established next to an operational airport. For example, certain crops have the potential to attract high levels of bird activity, especially if harvest is delayed for any reason (weather, contractor availability). Increased bird activity next to the airport would increase the risk of bird strike and create an aeronautical safety hazard, which would likely rule those crops / rural production out as a viable alternative.

8.0 ASSESSMENT OF ALTERNATIVE GROWTH CELLS IN WAIPA

This section provides an analysis of the other industrial growth cells within the Waipa District in response to the requirements of s3.6(1)(b) of the NPS-HPL.

AgFirst has assessed the productive use of the subject land that has been identified by WDC as potential industrial growth cells to determine whether there are any other reasonably practicable and feasible options for providing additional development capacity (i.e. are there already identified growth cells that are not on highly productive land or lower productive capacity).

To do this we have identified the opportunities that exist within the Waipa District (being the same locality and market as the PPC20) that have either already been identified as a future growth area within the Waipa District Plan, or logical expansions to existing industrial nodes within the Waipa District. For the latter, we identified a number of industrial growth nodes within the WDP that either have been developed or have a live industrial zoning and assessed any undeveloped rural land that surrounds these areas that would be a reasonable and practicable alternative option to PPC20.

This comparative assessment has taken into account a range of characteristics, which are relevant to the relative productive potential including:

- Size of growth cell and expansion opportunity
- Current and surrounding land use
- NZLRI LUC classification, soil characteristics and drainage
- Environmental constraints and risk
- Economic limitations arising from small, fragmented portions of land and its productive potential
- Land use limitations

8.1 Growth Cell C8 – Hautapu West

This site is zoned as Hautapu Industrial Structure Plan Area. There is limited potential for expansion of industrial activity in this area, as the surrounding areas to the north and east are already zoned industrial, with the south bounded by the Waikato Expressway. Land immediately to the west is a mix of fragmented rural lifestyle blocks, including a plant nursery. If this industrial zone were to expand, the only viable areas would be to the west.

The soils in the vicinity are largely free draining allophanic soils, imperfectly drained brown soils and poor draining gley soils (S-Map Figure 7) which are all relatively flat. The productive potential based on the soils and LUC of this growth cell and its vicinity is high, with only LUC 1 and LUC 2 soils present. The productive capacity of this area also presents better access to supporting primary industries, with established vegetable production a nursery and dairy farms in the vicinity of the Site.

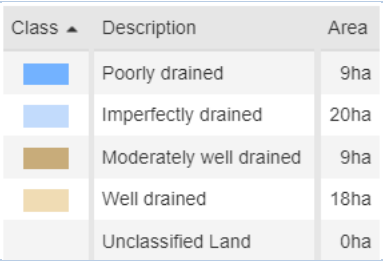
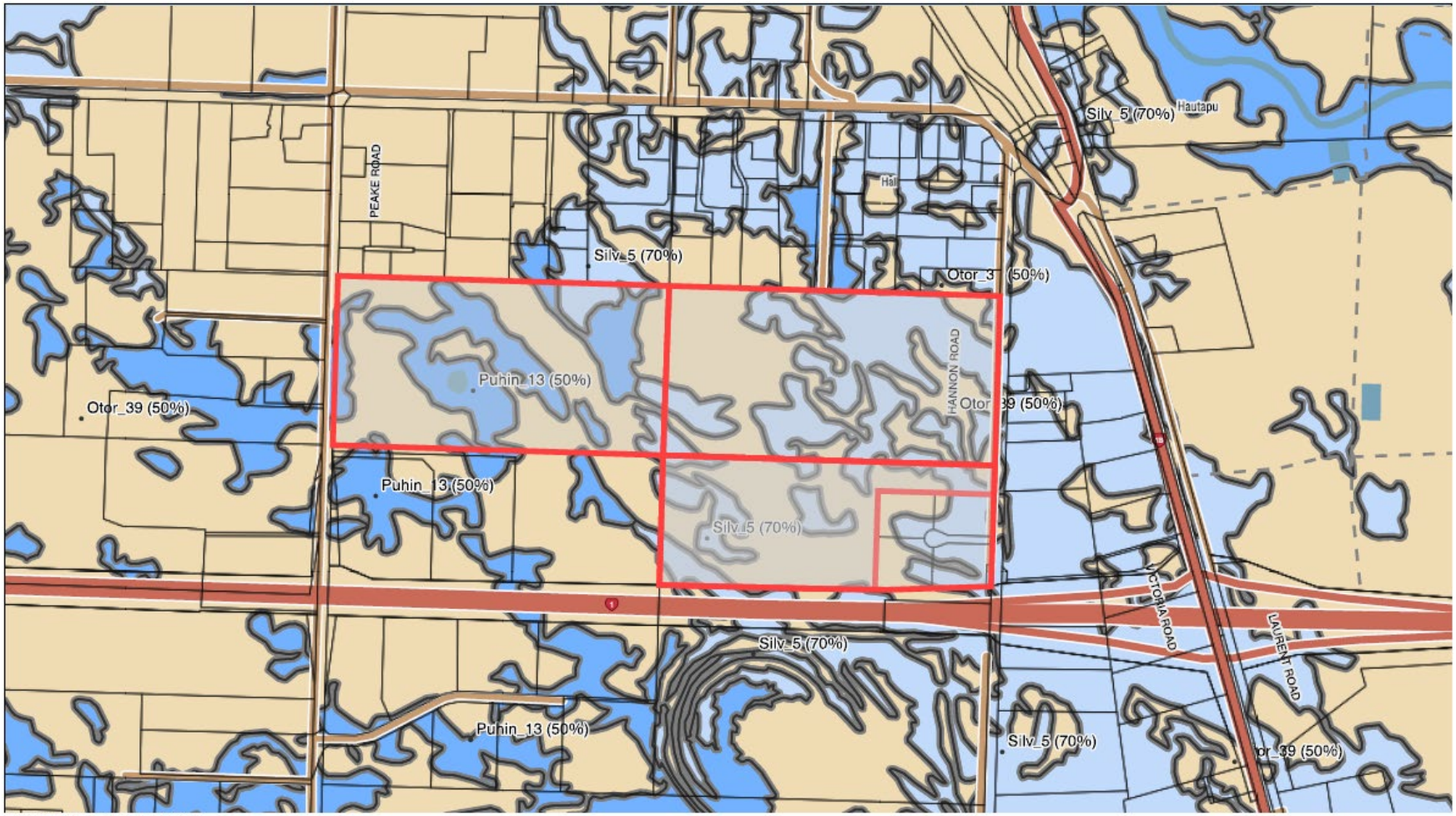
Growth cell size	55.4 ha
Current land use	Industrial zone – previous drystock grazing
Current planning zone	Hautapu Industrial Structure Plan Area
Surrounding land use	Specialised Dairy Industrial Area & Rural Zone. Plant nursery, rural lifestyle blocks and dairy farm to the east
NZLRI LUC classification	LUC 1 and LUC 2 Figure 8)
Soil characteristics	
Environmental constraints	N/A
Economic limitations	Motorway to the south and industrial area to the west
Land use potential	Industrial use, potential horticultural or commercial vegetable operation with adjacent plant nursery and asparagus operations
Comparison to PPC20	The vicinity of Growth Cell – C8 has a much higher productive capacity compared to PPC20, due to the R&D limitations of the RPL Site. The soils are slightly better than the RPL site (higher proportion of LUC 1) and established productive systems offering higher versatility and land use. The RPL Site is impacted due to the fragmented site as a result of the consented R&D facility, providing less than 10 ha of effective HPL.

FIGURE 7: GROWTH CELL – C8 S-MAP SOILS



S-MAPONLINE

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Scale: 1:10,000

0 100 200 300 400m

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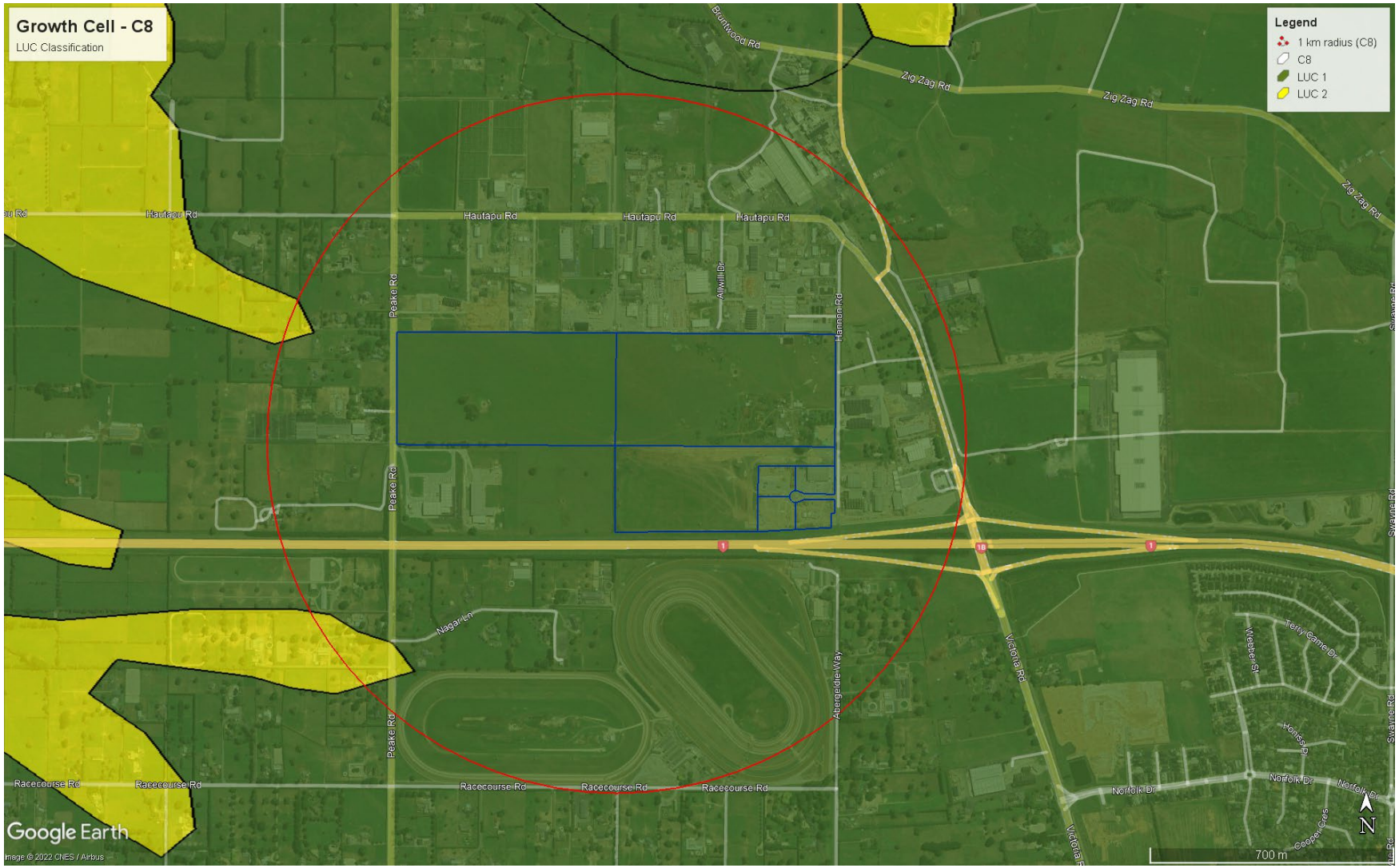
FIGURE 8: GROWTH CELL – C8 LUC MAP



8.2 Growth Cell C9 – Hautapu West

This site is zoned as Hautapu Industrial Structure Plan Area. There is potential land available for industrial expansion in this area to the north and west. Land immediately to the west is a mix of fragmented rural lifestyle blocks, including a plant nursery. Land to the north is a mixture of arable, production vegetable (asparagus), the Monarch Farms horse stud (owned by Sir Patrick and Lady Hogan) and large lot residential lifestyle. The areas to the east are already zoned industrial, with the south bounded by the Waikato Expressway.

The soils in the vicinity are largely free draining allophanic soils, imperfectly drained brown soils and poor draining gley soils (S-Map Figure 9) which are all relatively flat. The productive potential based on the soils and LUC of this growth cell and its vicinity is high, with only LUC 1 and LUC 2 soils present. The productive capacity of this area also presents better access to supporting primary industries, with established commercial vegetable production, a nursery, a high performance horse stud and dairy farms in the vicinity of the Site .

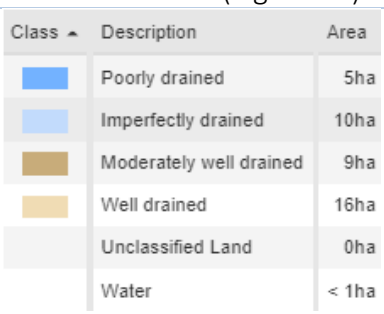
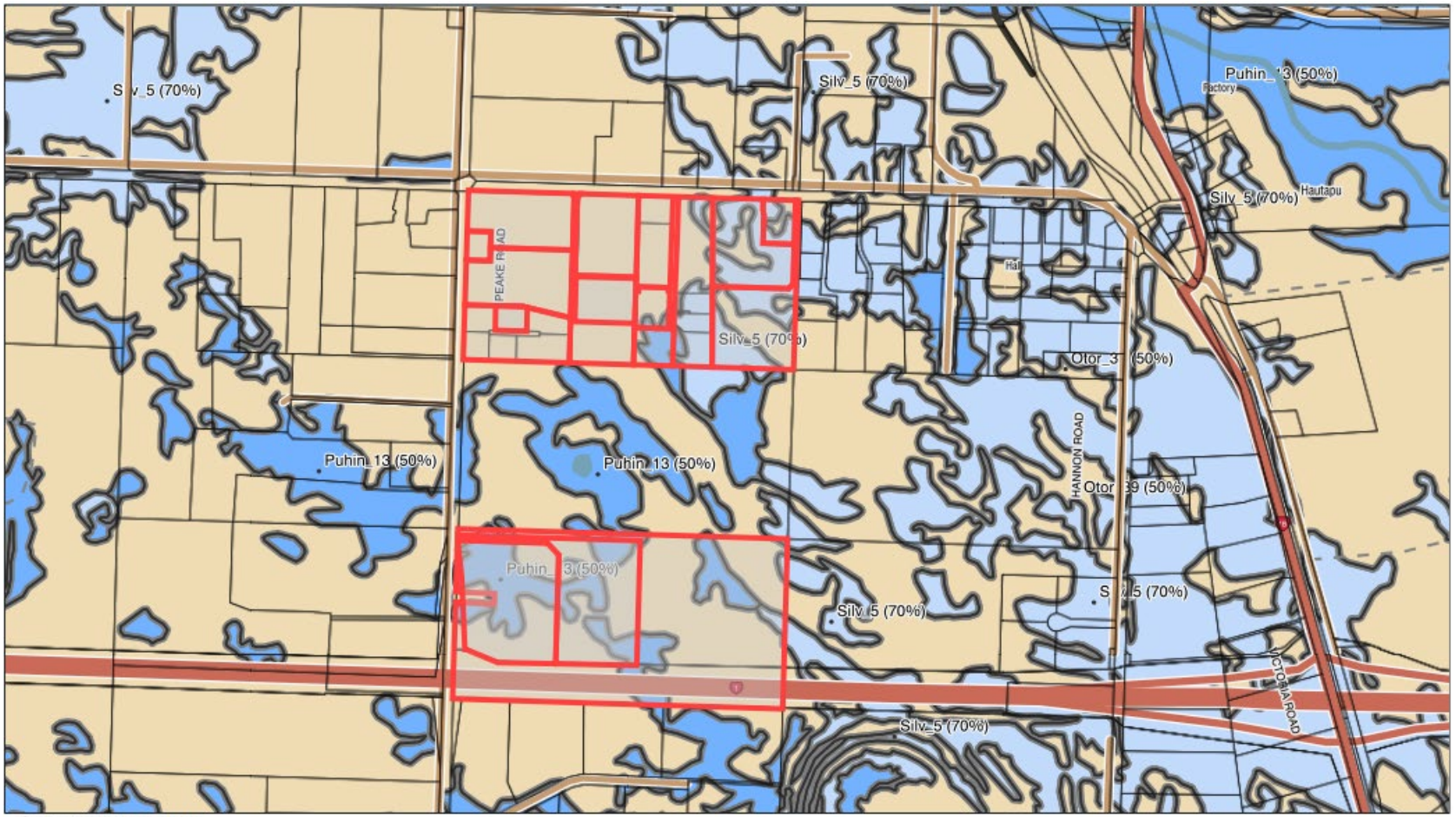
Growth cell size	35.0 ha
Current land use	Industrial zone – previous drystock grazing
Current planning zone	Hautapu Industrial Structure Plan Area
Surrounding land use	Specialised Dairy Industrial Area & Rural Zone. Plant nursery, rural lifestyle blocks and dairy farm to the east, commercial vegetable farm, mixed arable and horse stud to the north and northwest.
NZLRI LUC classification	LUC 1 and LUC 2 (Figure 10)
Soil characteristics	
Environmental constraints	N/A
Economic limitations	Size constraints of individual lots, motorway to the south and industrial area to the west
Land use potential	Industrial use, potential horticultural or commercial vegetable operation with adjacent plant nursery and asparagus operations
Comparison to PPC20	The vicinity of Growth Cell – C9 has a higher productive capacity compared to PPC20, due to the R&D limitations of the RPL Site. The soils are slightly better than the RPL site (higher proportion of LUC 1) and established productive systems offering higher versatility and land use. There are also very few physical constraints to the north (adjoining farms) compared to the fragmented RPL site as a result of the consented R&D facility, providing less than 10 ha of effective HPL.

FIGURE 9: GROWTH CELL – C9 S-MAP SOILS



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Scale: 1:10,000

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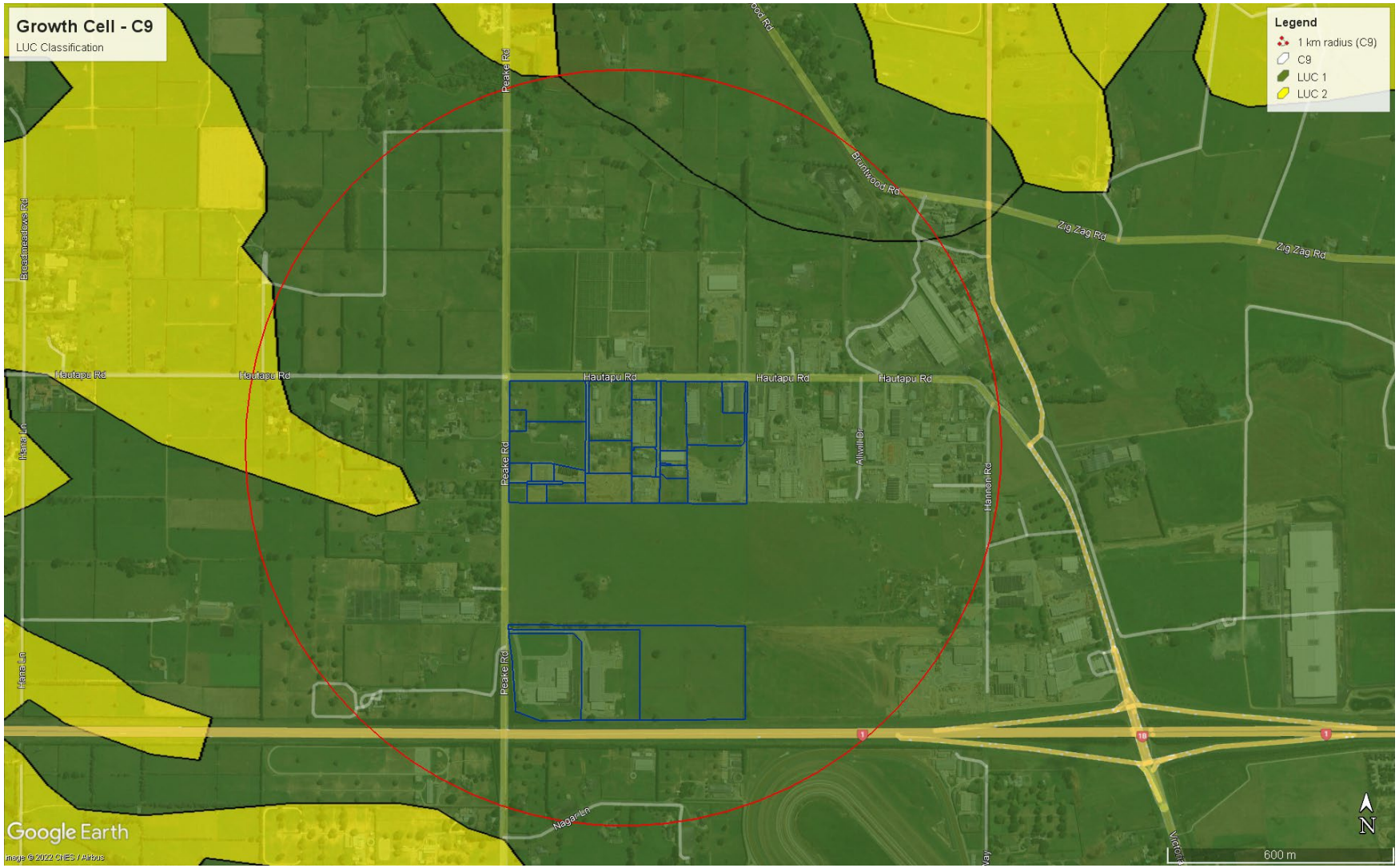
FIGURE 10: GROWTH CELL – C9 LUC MAP



8.3 Growth Cell C10 – Hautapu East

Growth Cell C10 consists of a mixture of rural (green outline on Figure 12) and industrial (blue outline on Figure 12) zoned land. There is potential land available for industrial expansion in this area (beyond the Bardowie Industrial Precinct) to the north and east, and to the west of Bruntwood Road. The current land use to the north are dairy farms, with maize and drystock blocks to the east and a horse stud to the northwest. This area is identified as a development area beyond 2035 within Appendix S1 – Future Growth Cells within the Waipa District Plan.

The majority of the soils in this vicinity are free draining allophanic soils, imperfectly drained brown soils and poor draining gley soils (S-Map Figure 11) which are all relatively flat. The dominant LUC classification for Growth cell C10 is LUC 1, with some bands of LUC 2 soils covering the dairy farm to the north. The productive potential based on the soils and LUC of this growth cell and its vicinity is high, with only LUC 1 and LUC 2 soils present. The productive capacity of this area also presents better access to supporting primary industries, with established commercial vegetable production, a nursery, a high performance horse stud and dairy farms in the vicinity of the Site

Outside the already zoned industrial area to the southwest, there are very few primary production constraints, which means the land has very high versatility. The dairy farm is currently operational and is adjoining other dairy farms, while the maize and drystock areas to the southeast are currently utilised by the Hautapu Fonterra dairy factory for wastewater irrigation.

This growth cell also provides less land use restrictions (ability to farm more intensively as a dairy support or dairy grazing operation without requiring resource consent), which provides more agricultural opportunity and diversity.

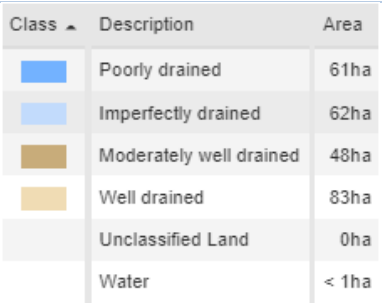
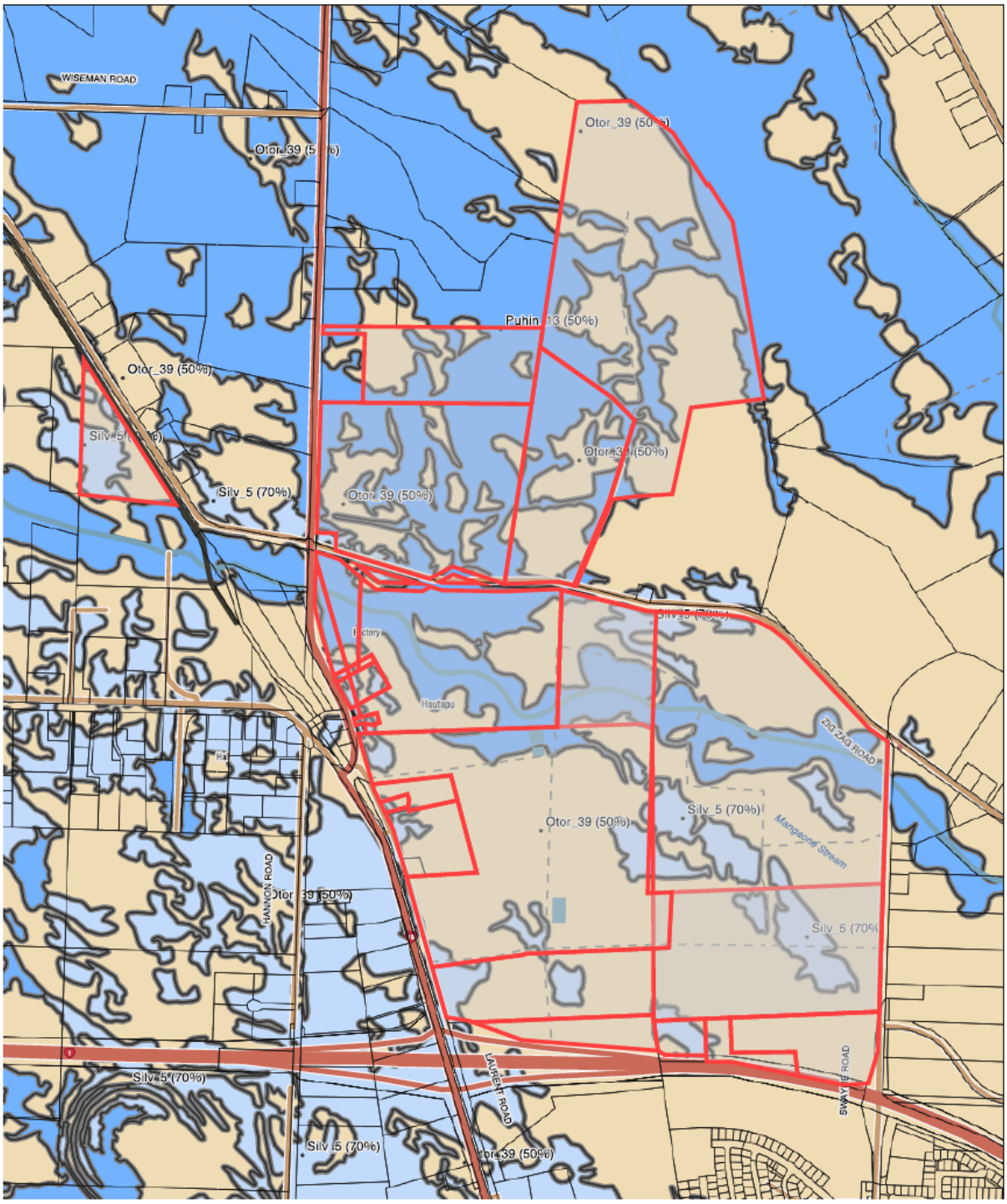
Growth cell size	250.0 ha
Current land use	Dairy farm, maize and arable crops, drystock and industrial
Current planning zone	Rural Zone & Bardowie Industrial Precinct Structural Plan Area
Surrounding land use	Rural Zone Dairy farm to the north and east, industrial, horse stud and dairy farms to the west, residential to the south
NZLRI LUC classification	LUC 1 & LUC 2 (Figure 12)
Soil characteristics	
Environmental constraints	Wastewater irrigation for the Hautapu dairy factory
Economic limitations	Land is reliant on receiving wastewater irrigation as part of the Fonterra Hautapu wastewater irrigation scheme
Land use potential	Industrial use, dairy farming, arable cropping, potential horticultural or commercial vegetable operation with nearby facilities, drystock
Comparison to PPC20	The vicinity of Growth Cell – C10 has similar quality soils (LUC 1 and LUC 2), but much more established productive systems offering higher versatility and land use, due to the R&D limitations of the RPL Site. There are also very few physical constraints with large parcel areas and less fragmented land, unconstrained land use to the north and east with the adjoining parcels being primary production and highly productive soils over the entire area. Compared to the RPL site that has less than 10 ha of effective HPL area due to the consented R&D facility. Therefore, this site would be considered to have a much greater long term productive capacity than the RPL PPC20 site.

FIGURE 11: GROWTH CELL – C10 S-MAP SOILS



S-MAPONLINE

Scale: 1:10,000

0 100 200 300 400m

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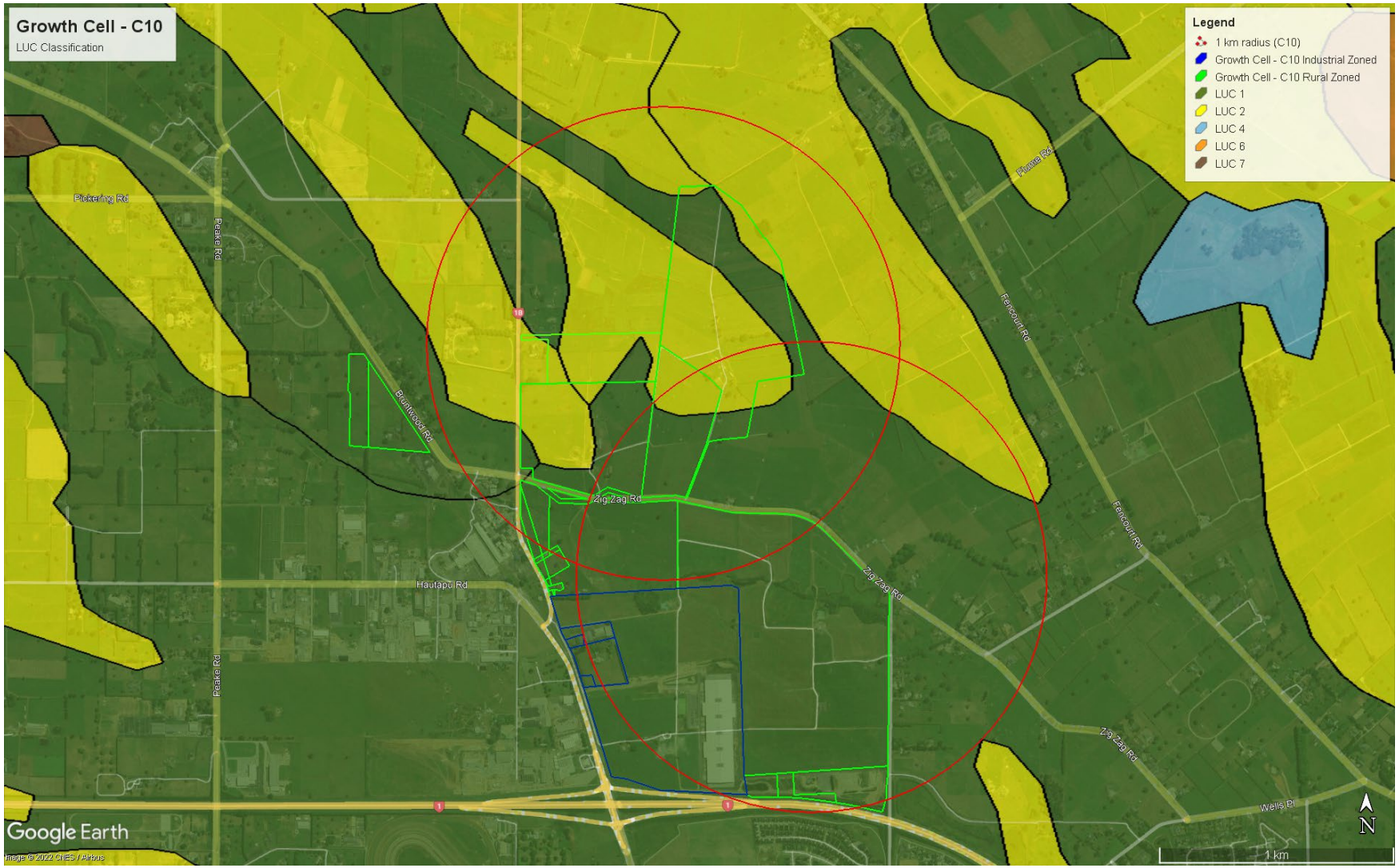
FIGURE 12: GROWTH CELL – C10 LUC MAP



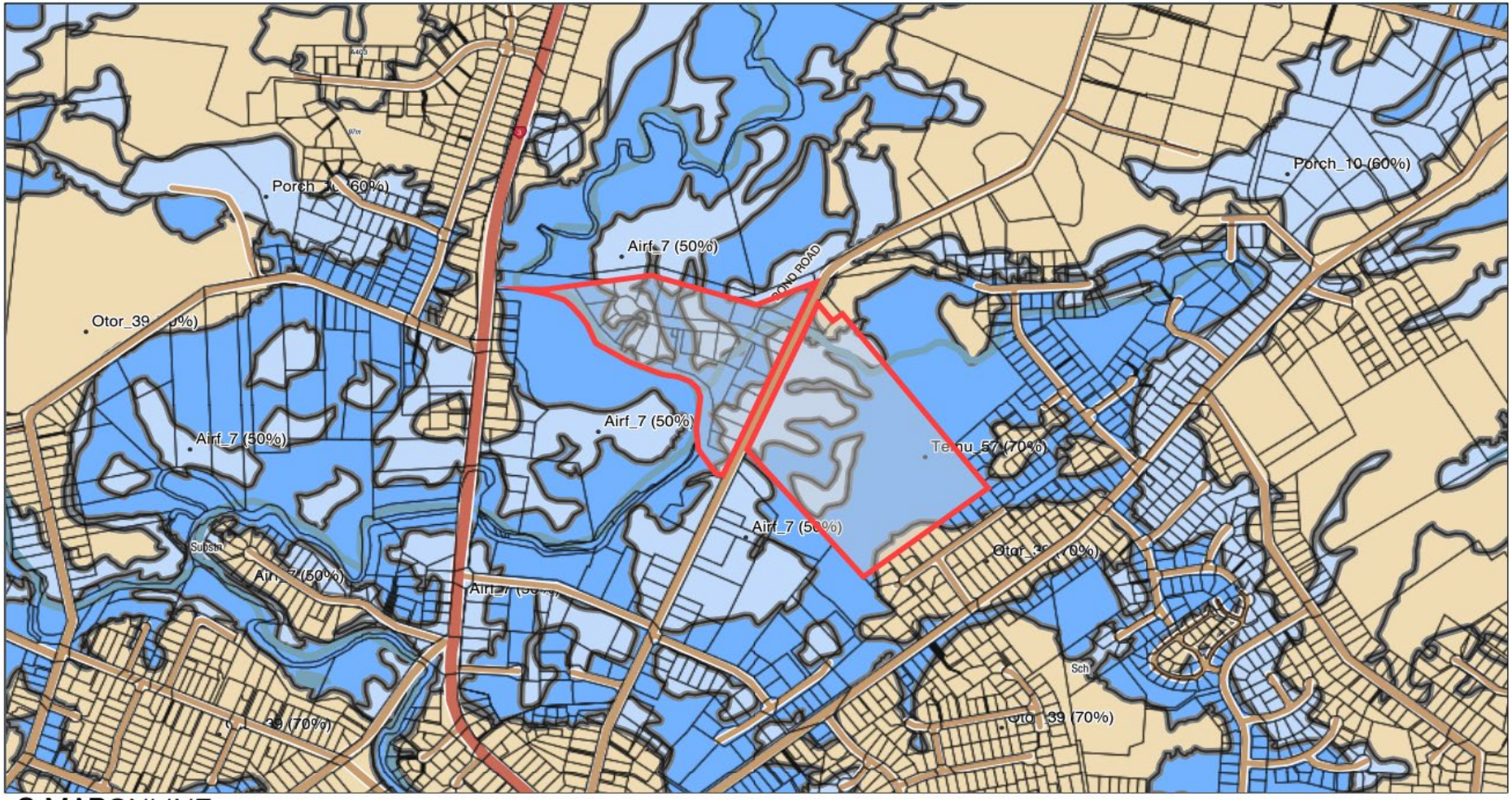
8.4 Growth Cell Bond Road – North Te Awamutu

This site is zoned as Bond Rd Industrial Structure Plan Area. There is rural zoned land potentially available for industrial expansion in this area to the north-northwest and southwest. Land immediately to the south-southeast is zoned industrial, with land to the east and northeast zoned residential. The rural zoned land is a mixture of arable (maize), dairy and drystock farms. There is a river that borders the industrial zone to the west and south that may cause expansion difficulties.

The soils are largely poor draining gley soils and imperfectly drained brown soils (S-Map Figure 13) which are all relatively flat to rolling and LUC 2. The productive potential based on the soils of this growth cell and its vicinity is high, with LUC 2 immediately surrounding Bond Road Growth Cell, with LUC 4 soils present further away. The productive capacity of this area also presents excellent access to supporting primary industries, with an established dairy farm and drystock operation to the north, including a large intensive dairy farm with herd home.

Growth cell size	17.6 ha
Current land use	Industrial zone – previous arable (maize)
Current planning zone	Bond Rd Industrial Structure Plan Area
Surrounding land use	Residential (east), Industrial (south) and Rural Zone (north, west and southwest). Arable, dairy farm and drystock farming operations.
NZLRI LUC classification	LUC 2 (Figure 14)
Soil characteristics	Class ▲ / Description / Area Poorly drained – 10ha Imperfectly drained – 7ha Moderately well drained – 1ha Well drained – 1ha Unclassified Land – 0ha
Environmental constraints	River to the west and south
Economic limitations	Residential immediately to the east
Land use potential	Industrial use, arable, drystock, dairy support, dairy
Comparison to PPC20	The vicinity of Growth Cell – Bond Rd has poorer quality soils that the RPL site, however it would have a higher productive capacity due to the R&D land use on the RPL Site. The surrounding land contains better established productive systems that offer higher versatility and land use. While there are limitations to the south, east and west with zoning and development, there are fewer physical constraints to the adjoining farms to the north compared to the fragmented RPL site as a result of the consented R&D facility, providing less than 10 ha of effective RPL.

FIGURE 13: GROWTH CELL – BOND ROAD S-MAP SOILS



S-MAPONLINE

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Scale: 1:10,000

0 100 200 300 400m

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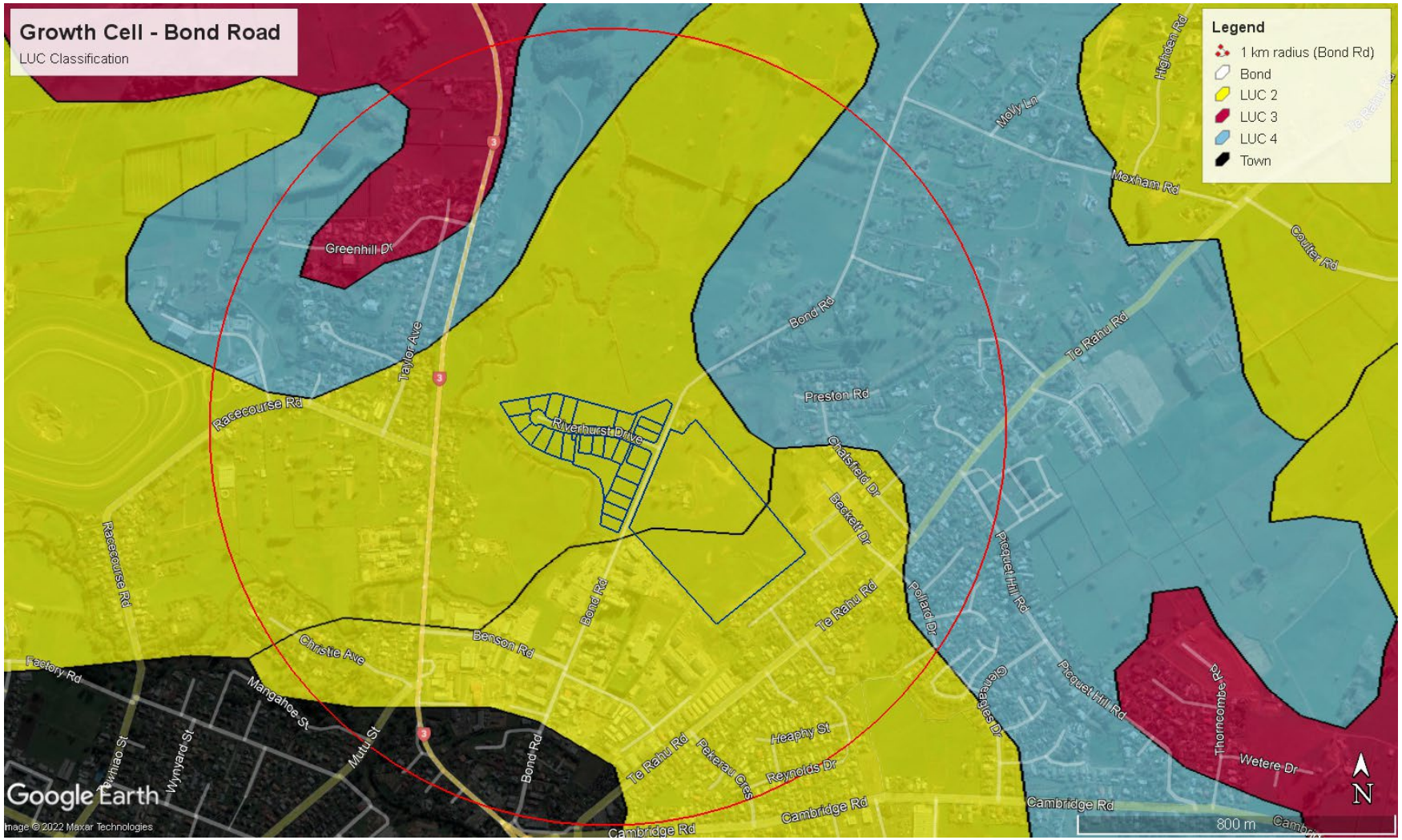
FIGURE 14: GROWTH CELL – BOND ROAD LUC MAP



8.5 Growth Cell Paterangi – North Te Awamutu

Growth Cell Paterangi consists of a mixture of rural (green outline on Figure 16) and industrial (blue outline on Figure 16) zoned land. There is potential rural land available for industrial expansion in this area (beyond the Industrial Structure Plan Area) to the north, east and west. The rural zoned area is partially identified as a development area between now and 2035 within Appendix S1 – Future Growth Cells within the Waipa District Plan.

This Site provides access to the Te Awamutu wastewater treatment plant, with the settling ponds and wetlands adjacent to the west. The block is currently used as a dairy farm, as with the adjoining land to the north, east and west – all zoned rural. There is established industrial operations to the southeast. A river borders much of the Growth Cell to the west.

The soils in this vicinity are a dominated by free draining allophanic soils to the north, and a mixture of poor draining gley soils and imperfectly drained brown soils to the south (S-Map Figure 15) which are rolling to strongly rolling to the north and all relatively flat to the south. The dominant LUC classification for the Paterangi Growth Cell is LUC 2, while the soils to the north are less versatile, consisting of LUC 3 and LUC 4. The productive potential based on the soils and LUC of this growth cell and its vicinity is relatively high.

Outside the already zoned industrial area to the southeast, there are very few primary production constraints, which means the land has a relatively high versatility. The dairy farm is adjoining other dairy farms further to the north, west and east, which offer expansion and amalgamation options for the future.

This growth cell also provides less land use restrictions (ability to farm more intensively as a dairy farm, dairy support or dairy grazing operation without requiring resource consent), which provides more agricultural opportunity and diversity.

The productive potential of this block is better to that of the RPL, due to the impact the R&D land use has on productive use. This site also presents better access to supporting primary industries, with established dairy farms surrounding the growth cell to the north, east and west.

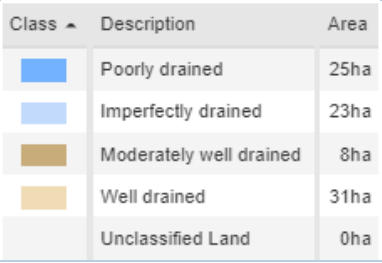
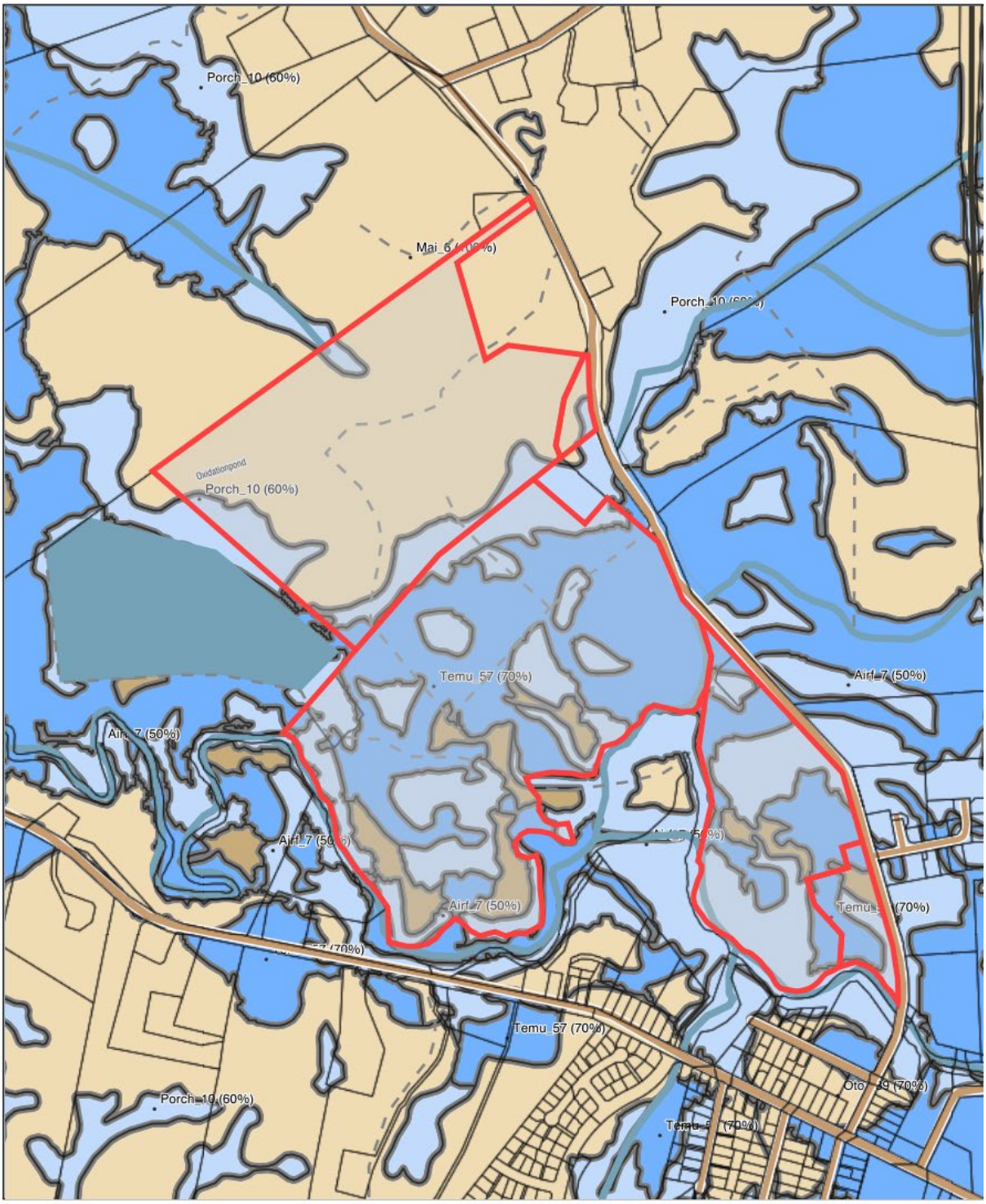
Growth cell size	85.8 ha
Current land use	Dairy farm
Current planning zone	Industrial Structure Plan Area and Rural Zone
Surrounding land use	Industrial (south and southeast) and Rural Zone (north, west and east).
NZLRI LUC classification	LUC 2, LUC 3, LUC 4 (Figure 16)
Soil characteristics	
Environmental constraints	River to the west and south, Wastewater treatment plant and wetlands to the west
Economic limitations	Wastewater treatment plant to the west
Land use potential	Industrial use, arable, drystock, dairy support, dairy
Comparison to PPC20	The vicinity of Growth Cell – Paterangi has lower quality soils (LUC 2, LUC 3 and LUC 4) compared to the RPL Site, but it has much more established productive systems offering moderate versatility and land use. There are very few physical constraints with large parcel areas, compared to the RPL site that has less than 10 ha of effective HPL area due to the consented R&D facility. The land is less fragmented, with unconstrained land use to the north, east and west with the adjoining parcels being primary production and highly productive soils over much of the areas. Therefore, this site would be considered to have a higher long term productive capacity than the RPL Site.

FIGURE 15: GROWTH CELL – PATERANGI S-MAP SOILS



S-MAPONLINE

Scale: 1:10,000

0 100 200 300 400m

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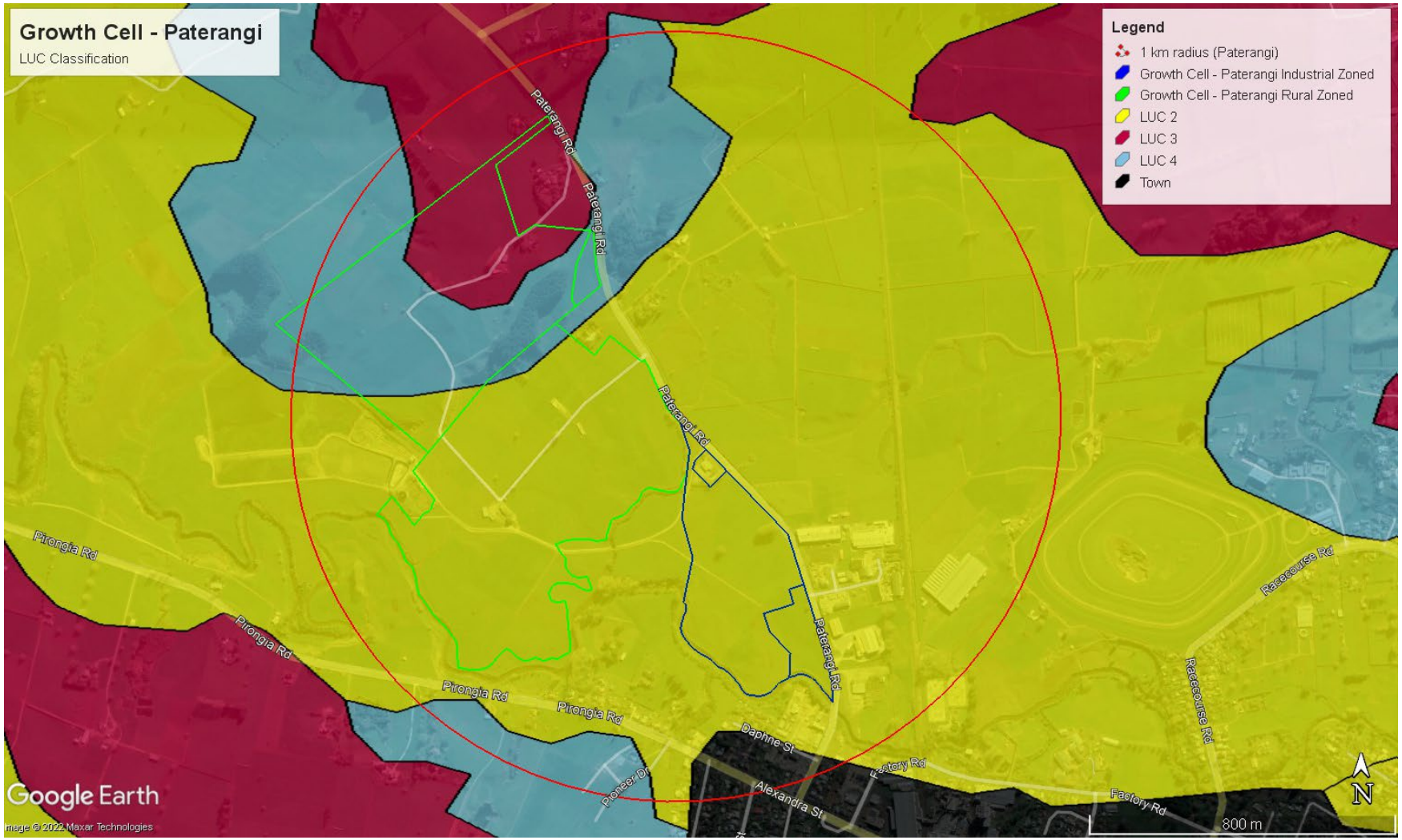
FIGURE 16: GROWTH CELL – PATERANGI LUC MAP



9.0 SUMMARY

Overall, while the land and soils within the RPL Site are categorised as high-quality under the NPS-HPL (LUC 1 and LUC 2), the practical likelihood of any sustained existing or intensive agricultural operation would be restricted due to:

- The productive capacity of the Site as a result of the R&D facility
    - Due to the consented R&D expansion providing less than 10 ha of HPL for cropping
    - Compromised yields due to R&D trials
- Surrounding land uses not being in land-based primary production
    - Airport, motorway, the adjacent business zoned land, Peacockes Rd interchange, Stage Highway 3
- Soil conditions
    - Summer dry, causing reduced yields
    - Requirement for freshwater irrigation for any intensification or land use change into horticulture or commercial vegetable operations
- Lack of expansion or improvement options
    - Due to national regulations restricting intensification into various land uses
    - Due to physical boundaries and amalgamation opportunities

Given the constraints identified above, and a comparison against other growth cells within the Waipa District that have higher effective proportions of highly productive land, AgFirst believes that the re-zoning of the RPL Site meets the requirements of Clause 3.6 (1)(b) and (c).

With rapidly rising input costs, the returns for marginal yields will be reduced, consideration will need to be given regarding the optimum land use for the Site. When discussing the long term productivity of the site, relying on the productive capacity of the RPL land, the current system would not be economically viable beyond 30 years.

It is AgFirst's opinion that allowing the proposed plan change to proceed from rural to industrial zone will have a less material impact of the district's productive capacity than developing additional greenfield sites with fewer constraints.

Considering that the productive nature of the RPL Site is already significantly compromised due to the R&D Consent, AgFirst does not consider that the loss of the well below average yields from this Site will have a significant loss on the district's production, and the conversion of the land into industrial zone would not cause any fragmentation or further disruption of additional highly productive land.

Contact

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