IN THE MATTER OF the Resource Management Act 1991

AND

IN THE MATTER OF Private Plan Change 95 Pencarrow Estate Pongakawa to the Western Bay of Plenty District Plan

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STATEMENT OF EVIDENCE OF JOEL PERRY (PEDOLOGY AND LAND PRODUCTIVITY) ON BEHALF OF KEVIN AND ANDREA MARSH

Introduction

1. My full name is Joel James Perry.

2. I hold a Bachelor of Science with Honours degree (specialising in Earth Sciences) from Massey University, Palmerston North. I also hold a Bachelor of Science (specialising in Earth Sciences and Geography) from Massey University. I have also completed the Advanced Nutrient Management Course at Massey University. I am a member of the New Zealand Association of Resource Management (NZARM).

3. I have been working in the field of soil science and land resource management for 14 years.

4. From 2013-2021, I worked as a Land Management Consultant for LandVision Ltd, progressing to Principal Consultant (Soils) in 2021 and Director in 2023 specifically for Landvision Tauranga Ltd.

5. At LandVision I have specialised in soil, land resources and LUC mapping, farm planning, resource consent and compliance consultancy, land use assessments and sustainable land resource management. Over my 11 years with LandVision I have mapped the land resources and land use capability units on land in excess of 250,000 hectares.

6. LandVision Tauranga Ltd is based in Mount Maunganui, Tauranga and works throughout the Central North Island. This work is predominantly in the Bay of Plenty, Waikato and Gisborne Regions.

7. LandVision has produced over 100 private land productivity assessments for subdivision and horticulture activities.

8. From 2011-2012, as a result of a New Zealand Society of Soil Science award, I worked as a graduate research assistant. This position was under the supervision of Dr. Alan Palmer and tasks included soil and geology mapping, data review, analysis of field samples using a wide range of laboratory techniques, as well as the writing of technical reports.

9. From 2009-2011, I worked as a student for Horizons Regional Council Environmental Manager of Soils as part of attaining the Horizons Sustainable Land Use Initiative Scholarship. Tasks included soil and geology mapping, data review and the preparation of official council documents.

10. I was engaged by Kevin and Andrea Marsh of Pencarrow Estate in April 2024 to paddock scale map the land resources and land use capability units of the proposed plan change site. I was tasked with assessing the proposed plan change site with regards to Clauses 3.6 and 3.13 of the National Policy Statement for Highly Productive Land (NPS-HPL) which became operative in October 2022.

11. I produced the technical report titled “Land Productivity Assessment for Proposed Private Plan Change – Pencarrow Estate, SH2, Pongakawa” dated August 2024.

Code of Conduct for Expert Witnesses

10. I confirm that I have read the Environment Court’s Code of Conduct for Expert Witnesses, as contained in section 9 of the Environment Court’s Practice Note 2023, and I agree to comply with it.

11. The data, information, facts and assumptions that I have considered in forming my opinions are set out in my evidence that follows. The reasons for the opinions expressed are also set out in the evidence that follows.

12. I confirm that the matters addressed in this brief of evidence are within my area of expertise, with the exception of where I confirm that I am relying on the evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from my opinions expressed in this brief of evidence. I have specified where my opinion is based on limited or partial information and I have identified any assumptions I have made in forming my opinions.

Scope of evidence

13. My evidence will cover:

    (a) The existing site, its land resource classification and make up of soils present at the site;

    (b) The proposed plan change and development to be enabled;

(c) A summary of my assessment of the productive capacity of the proposed plan change site including any limitations;

(d) A summary of my assessment of potential effects in respect of loss of productive land, drawing on the relevant regulatory framework of Clause 3.6 of the NPS-HPL. This will cover productive land-use potential at the subject site, and comparison with other reasonably practicable and feasible options for urban development in the same locality and market of the site;

(e) A summary of my assessment with regard to Clause 3.13 of the NPS-HPL concerning cumulative impacts to land productivity;

(f) Responses to land productivity matters raised in submissions;

(g) Responses to land productivity matters raised in Council's s 42A report; and

(h) Comments on the proposed rules as relevant to maintaining productivity of the rural land resource.

14. I have read and am familiar with the private plan change application, the submissions, the s 42A report and the proposed plan change. I am familiar with the site, having visited the site on 22nd April 2024. In considering reasonably practicable and feasible options for comparisons as required under the NPS-HPL, I have relied on the evidence of Mr Counsell as to the spatial extent of the relevant locality and market.

Executive Summary

15. I have assessed the proposed private plan change site of Pencarrow Estate against the provisions set out in the National Policy Statement for Highly Productive Land (NPS-HPL). Approximately 9.9 ha meets the criteria for highly productive land (LUC class 1, 2 or 3) as mapped under the New Zealand Resource Inventory.

16. The effective area of land, when mapped at paddock scale (1:6,000), is 6.5 ha. These areas include highly versatile soils, flat to rolling topography and are suited to a number of different land uses.

17. It is more than likely that the overall productive capacity of the site is constrained by: the fragmentation and lack of size and scale of the HPL units; the site location in relation to surrounding land uses; and the presence of a modified watercourse dividing the site.

18. Alternative sites for residential development "within the same locality and market" were identified – these being on the outskirts of the satellite towns of Te Puke, Paengaroa and Pongakawa. These areas were assessed against the provisions set out in Clause 3.6 of the NPS-HPL – concerning reasonably practicable and feasible options for providing residential development and land productivity impacts at option locations.

19. Areas around these satellite towns already in kiwifruit production were considered generally unfavourable for residential development as this land use optimally utilises the land resources and climatic conditions. Additionally, these operational orchards represent a significant investment. It is my opinion that the loss of these orchards represents a considerable cost to utilising the potential of the land for primary production.

20. The areas surrounding the satellite town which are susceptible to flooding, as per the Western Bay of Plenty District Council's overlays, and areas already zoned as industrial were also deemed unsuitable for residential development.

21. Notwithstanding, in comparing strictly the productive capacity of the land surrounding the three satellite towns there were areas identified, particularly around Pongakawa and Paengaroa, which appear to have larger scale, contiguous, productive land units with versatile soil types. These units appear to be less constrained by features such as dividing water courses, urban infrastructure and settlement interfaces. It is noted that larger private lands vacant of orchards surrounding Te Puke and Paengaroa are due west south or south-west of the existing townships, favourable for primary production use given prevailing westerly winds carrying spray drift and odour from such uses.

22. In my opinion the overall productive capacity of these sites is higher than that of the highly productive land on the plan change site, being a relevant consideration to urban rezoning consideration pursuant to Clause 3.6(1)(b) of the NPS-HPL.

23. To satisfy the provisions set out in Clause 3.13 of the NPS-HPL I have identified activities and effects associated with highly productive land in a rural environment. These included stock grazing, nutrient and agrichemical, and effluent application, cultivation and sowing of crops and irrigation.

24. With respect to cumulative land productivity impacts, the loss of 9.9 ha of the classified highly productive land – considering its particular constraints in terms of soil and land fragmentation, existing division and residential interfaces of the site, and inability to amalgamate with HPL in certain directions - out of 44,000 ha of the districts HPL is considered insignificant.

Proposed plan change

25. It is proposed to re-zone 10.03 ha of land at 1491 State Highway 2, Pongakawa from Rural to a mixture of Residential and Commercial (see **Appendix One**). A total of 9.66 ha of land is proposed as Residential (which includes multiple reserve spaces, overland flowpath, and roading and utility corridors), with the remaining 0.37 ha proposed as Commercial. This is expected to enable delivery of a maximum of 120-130 dwellings and a small commercial area accommodating a local shop/café/community health hub or flexible use space for community services. The proposed wastewater treatment system and disposal area north-east of areas to accommodate development would remain zoned Rural.

26. The plan change is proposed to enable supply of housing and community/social infrastructure to the Pongakawa residential community, responding to growth in intensive horticulture and the establishment of the Rangiuru Business Park in the area. Full details of the particulars of the proposal are covered in the planning evidence of Mr Coles and Mr Murphy.

Land Assessment - Land Resource Inventory and LUC classification System

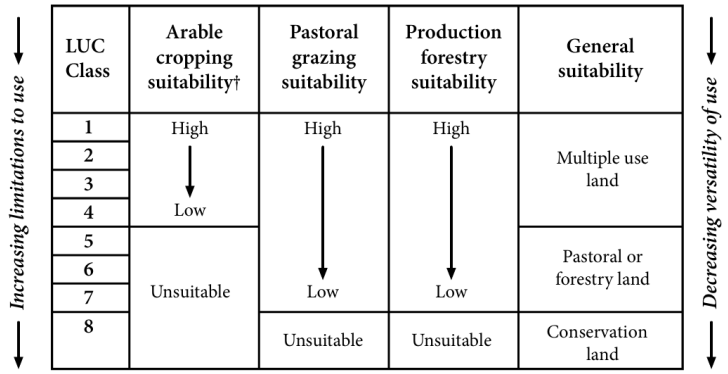
27. The LRI system involves mapping landscape units according to five inventory factors (rock type, soil unit, slope class, erosion type and severity, and vegetation).

28. From the LRI assessment, the units can be assigned Land Use Capability (LUC) units, which groups similar land features according to their capacity for sustainable production under arable, pastoral, forestry or conservation uses across the region. The LUC code is broken down into three components, which show the general capability (1-8 or I-VIII classes), the major limitations (four subclass limitations of wetness, erosion, soil and climate), and the capability

unit to link with regional classifications and known best management practices.

29. As the LUC class increases, the inherent limitations to use increases and versatility of use decreases. LUC classes 1-4 are generally suitable for a multiple of land uses, LUC classes 5-7 suitable for pastoral and forestry, and LUC class 8 is only suitable for conservation land. This is summarised in the Table 1 below.

*Table 1. Relationship between increasing land classes (1 to 8), increasing limitations of use and decreasing versatility of use (*taken from *Lynn et al., 2009*).



Proposed plan change site land resource features

30. I assessed the land resources on the whole site, firstly, by utilizing the NZLRI mapping system – a national database of New Zealand's physical resource information. This database is a collection of information gathered from published and unpublished material, stereo aerial photography and extensive fieldwork. The database obtained is present in 1:50,000 scale.

31. This NZLRI data is suitable for guidance and not designed to be interpreted at a farm or paddock scale. It is required however under the NPS-HPL to be used to determine whether a particular site contains LUC classes 1-3. For the entire proposed plan change site (including wastewater disposal field) 16.9 ha is classified as 2w1 and 0.2 ha as 3e2 (see Appendix Two).

32. When undertaking land resource mapping the size of the smallest unit is about 1 cm^2 irrespective of scale. Under regional scale mapping (1:50,000 scale) the smallest mapping unit is about 25 ha whilst paddock scale mapping (1:6,000 scale) the smallest mapping unit is about 3,600 m^2. Under regional scale mapping there were two LUC units identified whilst under paddock scale mapping five units were recorded. The level of detail from paddock scale mapping is significantly greater than that from regional scale mapping. For this example, the total area of the proposed subdivision site is significantly smaller than the smallest mapping unit under regional scale mapping.

33. I acknowledge the Bay of Plenty Regional Council's (BOPRC) draft Plan Change 8 mapping – a requirement under the NPS-HPL to include maps of HPL within the Regional Policy Statement (RPS). When comparing the NZLRI and draft PC8 mapping for the PC95 site it was evident that they are alike including similar distributions of LUC classes 2 and 3.

34. For improved accuracy in the productive capacity assessment, the Land Resource Information was obtained through site specific resource mapping undertaken at a scale of 1:6,000 (See Appendix Three). This showed that:

(a) Approximately 85% is flat to gently undulating terraces, with the remaining 15% as rolling hills. The vegetative cover currently comprises of approximately 15.5 ha of effective pasture and 0.3 ha in maize. The remaining 1.3 ha are in utilities and other non-effective areas.

(b) The predominant rock type for the higher terraces and rolling hills is patchy Kaharoa tephra over ancient tephra. The lower terraces are formed from peat and pumiceous alluvium.

(c) Five different soil types were identified on the property each with different characteristics.

(d) There was no erosion recorded.

35. For comparison, under the NZLRI assessment (see Appendix Two):

(a) Only two soil types were classified.

(b) The majority of the site was mapped as flat (0-3^{o}) with a small section of gently undulating to rolling 4-20^{o}) hills on the eastern boundary.

(c) The main drain (LUC class VIIIw) along the western boundary was not classified because of the differences in the smallest mapping unit.

36. The difference of scale between regional and paddock scale LUC/LRI mapping is reflected in the extent of all the land resource inventory characteristics (geology, soils, slope, erosion and vegetation). This resulted in different LUC units being classified with the paddock scale mapping exercise surveyed five LUC units compared to the two surveyed under the NZLRI assessment.

NPS-HPL Assessment

37. From the date that the NPS-HPL comes into force, and until the mapping of highly productive land in the Bay of Plenty Region becomes operative, the NPS-HPL applies to all consent applications involving land that meets the "transitional definition" of HPL i.e., land that as of 17 October 2022:

is:

- zoned general rural or rural production; and
- identified as land use capability class (**LUC**) 1, 2, or 3 land; but

is not:

- identified for future urban development; or

- subject to a council initiated, or an adopted, notified plan change to rezone it from general rural or rural production to urban or rural lifestyle.

38. I defer to the planning assessments of Mr Coles and Mr Murphy however I understand the site is not strictly identified for future urban development. As a private plan change, the land does not meet either exclusion listed above.

39. From my survey, approximately 9.9 ha (proposed development area) is proposed to be rezoned from current rural land to residential/commercial areas. The remaining area will remain as rural, being land set aside for primary and reserve wastewater disposal areas. Of the 9.9 ha, approximately 9.7 ha, is classified under the NZLRI as LUC class 2w1 and 0.2 ha as LUC class 3e2. The site is therefore implicated by the NPS-HPL.

40. Clause 3.6 of the NPS-HPL allows territorial authorities to undertake urban rezoning of highly productive land only if the following criteria are met:

(1) (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;

(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.

41. Clause 3.13 of the NPS-HPL ensures territorial authorities manage the reverse sensitivity and cumulative effects by:

(1) (a) identifying the activities and effects associated with the land based primary production on highly productive land that should be anticipated in a productive rural environment; and

(b) requiring the avoidance if possible, or otherwise the mitigation, of any reverse sensitivity effects from urban rezoning or rural lifestyle development that could affect land-based primary production on highly productive land; and

(c) require consideration of the cumulative effects of any subdivision, use, or development on the availability and productive capacity of highly productive land in their district.

Productive Capacity

42. The definition of productive capacity, in relation to land, is defined in Clause 1.3 of the NPS-HPL as:

…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.

43. For improved accuracy in determining the productive capacity of the site, I conducted the assessment using the LRI and LUC resources mapped at

paddock scale. I considered the following areas to better reflect the effective HPL across the site. This is depicted in Table 2 below.

Table 2. Summary of LUC classes identified on proposed plan change site (at 1:6,000 scale).

Productive land (NPS-HPL classification)	**Total area (ha)**	**LUC class**	**LUC class area (ha)**	**Total current effective area (ha)**	**Total current non-effective area (ha)**
Highly Productive Land	7.3 ha	IIw1	0.2	0.2	-
		IIs1	5.6	4.8	0.8
		IIIw1	1.5	1.5	-
Non Highly Productive Land	2.6 ha	IVe2	2.2	2.1	0.1
		VIIIw1	0.4		0.4
Total	**9.9 ha**		**9.9 ha**	**8.6 ha**	**1.3 ha**

44. As mentioned above there is 7.3 ha of highly productive land affected by the proposed subdivision site. The different highly productive land classes on this have the following features:

(a) LUC class IIs1 land includes flat land (0-3^{o}) consisting of well drained, sandy textured, Paengaroa soils.

(b) LUC class IIw1 land consists of flat land (0-3^{o}) with poorly drained, silt and peat textured, Pukehina soils.

(c) LUC class IIIw1 land includes flat land (0-3^{o}) with poorly drained sandy and peat textured Raparapahoe soils.

45. Of the 9.9 ha as part of the proposed plan change site, 8.6 ha is currently in effective area. This area can currently be utilized for primary activities. The

remaining 1.3 ha is in non-effective areas – areas occupied by buildings, utilities, drains and ponds etc.

46. With regard to the 7.3 ha of HPL on the proposed plan change site, 6.5 ha is in current effective area.

47. LUC class II units have slight limitations for arable use, whereas, the LUC class III units have moderate limitations for arable use *(Lynn et al., 2009).* The limitations or constraints in the case of the plan change site are the poor soil structure and susceptibility to summer drought (IIs1 units) and the high water table and poor natural drainage (IIw1, IIIw1).

48. In my experience, although these limitations or constraints exist, the units are suitable for a range of land uses given the correct management practices in place. For example, with the installation of open drains on the IIw and IIIw units, the land is suited for intensive pastoral farming, some horticulture practices, cereal cropping and root and green fodder cropping. The LUC class IIs units, with the installation of irrigation is suited for the same land uses as well as citrus and sub-tropical fruit orchards as well as other orchards.

49. Although the land is suitable for a number of land uses the overall productive capacity of the site is more than likely to be limited by different features. These include:

    (a) Fragmentation – the soils and corresponding LUC units are well fragmented as a result of the intertwining of non-highly productive land units as well as non-effective utility areas. This may pose management challenges and difficulties as there is not one large contiguous area of HPL to work with.

    (b) Lack of size and scale – the fragmentation has isolated small areas of HPL. This lack of size and scale may impact investment into

infrastructure, machinery, irrigation etc if there was a desire to change to more highly productive growing activities.

(c) Site location and surrounding land uses – the location of the site is in the southeastern corner of the land parcel. In the immediately surrounding land to the south there is State Highway 2 and to the east is existing residential development and Arawa Road. This limits the HPL within the site to be amalgamated with HPL further to the south and east.

(d) Reverse sensitivity constraints - management activities for particular land uses could be constrained by the residential development on Arawa Road downwind of the prevailing winds. Land uses such as kiwifruit orchards, where large quantities of chemicals are applied, will require a robust spray management plan – including ongoing consultation with neighbours prior to spraying, and the erection of effective shelter belts on the perimeter.

Clause 3.6 of the NPS-HPL

Reasonably practicable and feasible alternatives

50. As per clause 3.6 of the NPS-HPL areas with similar development capacity and located within the same locality and market were defined by Mr Counsell. This included land on the fringes of Te Puke, Paengaroa and Pongakawa.

Assessment of productive capacity on alternative sites

51. I assessed the productive capacity of this land by utilizing data from the NZLRI database as well as from the Western Bay of Plenty District Council digital mapping overlays.

Areas on fringes of Te Puke

52. I assessed approximately 1034 ha of land on the fringes of Te Puke. The area I assessed excluded the Plan Change 92 defined urban area of Te Puke. This area is already either developed or allocated for future residential development. A map of the area assessed around Te Puke is provided in **Appendix Four**.

53. Approximately 803.8 ha is classified as either LUC classes 2 or 3 and is therefore defined as highly productive land under the NPS-HPL. The land includes the LUC units 2s1, 2w1, and 3w1. The features of these are summarized in Table 3 below:

Table 3. Summary of LRI and LUC features assessed on the outskirts of Te Puke.

LUC unit	Area (ha)	Slope and landscape feature	Rock and soil types	Limitations	Current land uses and predominant location in assessment area.	Potential land uses[1]
2s1	533.2	Gently undulating (4-7°) terraces	Well drained Paengaroa soils from volcanic tephra	Unit exhibits soil limitations including fragile topsoils, and coarse texture, and susceptibility to drought	• Pastoral Farming – small units in east and south • Orchards – east and south • Industrial buildings – northeast	• Intensive pastoral farming. • Citrus and sub-tropical fruit orchards. • Orchards. • Horticulture. • Cereal crops. • Green and fodder cropping.
2w1	133.2	Flat (0-3°) terraces	Poorly drained Pongakawa and Opiki soils	Unit exhibits a wetness limitation with poor natural drainage, fluctuating water table and fragile structure.	• Pastoral Farming - north • Orchards - north • Industrial buildings – northeast	• Intensive pastoral farming. • Horticulture. • Cereal crops. • Root and green fodder cropping.
3w1	137.4	Flat (0-3°) terraces	Poorly drained Pongakawa soils	Unit exhibits a wetness limitation with poor natural drainage, fluctuating water table, fragile structure and susceptibility to flooding and runoff.	• Pastoral Farming - west • Orchards – some small orchards in west.	

54. Approximately 169.9 ha of the sample area includes LUC classes 4-8, or areas defined under the NPS-HPL as not highly productive land. The remaining 60.7 ha is classified as town.

<u>Areas on fringes of Paengaroa</u>

55. I assessed a 206.6 ha sample area which incorporated areas on the fringes of Paengaroa. The area included entirely highly productive land – 108.6 ha of LUC class 2 and 98.0 ha of LUC class 3. The features of these units are summarized in the Table 4 below and a map of the area assessed is provided in Appendix Five.

Table 4. Summary of LRI and LUC features assessed on the outskirts of Paengaroa.

LUC unit	Area (ha)	Slope and landscape feature	Rock and soil types	Limitations	Current land uses and predominant location in assessment area	Potential land uses[1]
2s1	108.6	Flat (0-3°) terraces	Well drained Paengaroa soils from volcanic tephra	Unit exhibits soil limitations including fragile topsoils, and coarse texture, and susceptibility to drought.	• Pastoral Farming – small section in the west. • Orchards – north and west • Houses/building – north and west	• Intensive pastoral farming. • Citrus and sub-tropical fruit orchards. • Orchards. • Horticulture. • Cereal crops. • Green and fodder cropping.
3e5	98.0	Rolling (8-15°) hills		Unit exhibits soil limitations fragile topsoils, and coarse texture, and susceptibility to drought. Most dominant limitation is susceptibility to erosion when cultivated.	• Pastoral Farming – small section in the south. • Orchards – east and south. • Houses/building – central.	• Intensive pastoral farming. • Orchards. • Horticulture. • Root green and fodder cropping.

<u>Areas on fringes of Pongakawa</u>

56. I assessed an area of 191.2 ha on the fringes of Pongakawa and immediately surrounding the private plan change site. The area included 183.6 ha of either LUC classes 2 or 3. The features of this HPL were summarized in the table below and a map of the area assessed is provided in Appendix Six.

Table 5. Summary of LRI and LUC features assessed on the outskirts of Pongakawa.

LUC unit	Area (ha)	Slope and landscape feature	Rock and soil types	Limitations	Current land uses and predominant location within assessment area	Potential land uses[1]
2w1	110.0	Flat (0-3°) terraces	Poorly drained Pongakawa and Opiki	Unit exhibits a wetness limitation with poor natural	• Pastoral Farming – north and west.	• Intensive pastoral farming. • Horticulture. • Cereal crops.

			soils derived from pumiceous alluvium and peat.	drainage, fluctuating water table and fragile structure.	• Orchards – small section in the east.	• Root and green fodder cropping.
3e2	62.9	Gently undulating to strongly rolling hills (4-20°) hills	Well drained soils derived from volcanic tephra.	Unit exhibits soil limitations fragile topsoils, and coarse texture, and susceptibility to drought. Most dominant limitation is susceptibility to erosion when cultivated.	• Pastoral Farming – south, west and east. • Orchards – south.	• Intensive pastoral farming. • Orchards. • Horticulture. • Root green and fodder cropping.
3w1	10.7	Flat terraces (0-3°)	Poorly drained Kairanga Soils derived from pumiceous alluvium.	Unit exhibits a wetness limitation with poor natural drainage, fluctuating water table, fragile structure and susceptibility to flooding and runoff.	• Pastoral farming – south and east.	• Intensive pastoral farming. • Horticulture. • Cereal crops. • Root and green fodder cropping.

57. Approximately 7.7 ha of the sample area includes LUC classes 4-8, or areas defined under the NPS-HPL as not highly productive land.

58. From a land resource perspective there are significant areas of land around the three satellite towns assessed suitable for a wide range of highly productive land uses. I now assess these areas for their suitability for housing development.

59. Areas of the LUC unit 2s1 mostly in the east and south of Te Puke, north and west of Paengaroa and southwest of Pongakawa are currently in kiwifruit orchards. This best utilises the land resources as well as the favourable climatic conditions in these areas. In my opinion the cost to land productivity of removing these orchards may outweigh any benefits gained from converting the use of the land into residential development.

60. The LUC class 2w1 and 3w1 LUC units, predominantly in the north and west of Te Puke and north and south-east of Pongakawa are in intensive pastoral grazing – dairy farming with some kiwifruit orchards and cropping present. These units are not considered as versatile as the LUC class 2s1 (do not support as many land uses), however, they still have a high productive capacity. In my opinion expanding residential development into these areas would be unfavourable as large areas with a high productive capacity would be lost and large contiguous areas of HPL would be fragmented.

61. More importantly, these LUC class 2w1 and 3w1 areas lie either within the rural/small settlements and Te Puke floodable areas or flood hazard areas as per the Western Bay of Plenty District Council's overlays. This alone suggests the areas are unsuitable for residential development.

62. The LUC class 3e5 on the east and southern fringes of Paengaroa and LUC class 3e2 on the southern fringes of Pongakawa are currently in intensive pastoral grazing – dairy or kiwifruit orchards. These units have lower versatility (to support a number of land uses) because of greater limitations. Those limitations, being the susceptibility to moderate erosion when cultivated and low water holding capacity with a subsequent high susceptibility to drought. Nevertheless, in my opinion these large contiguous units do still have a moderately high productive capacity to sustain highly productive activities such as kiwifruit orchards.

63. In my assessment, there were other discrete areas identified with lower versatility and productive capacity. These areas are not classified as highly productive land as they include LUC classes 4-8. These were not suitable for residential development for a number of reasons. These reasons include:

(a) The LUC class 4e2 in the south of Te Puke which are already in kiwifruit orchards. For the same reasons mentioned above these areas are unfavourable for residential development.

(b) The LUC class 4e2 unit in the west of Pongakawa which lies within the flood hazard area of the WBOPDC overlay.

(c) The small area of 6e4 in the south of Pongakawa is unsuitable for residential development because of the moderately steep slope.

(d) Steep to very steep LUC classes 7e1 and 8e1 in the south of Te Puke which follow floodable areas along the Ohineangaanga Stream as well as an unnamed tributary to the east. The steep contour and positioning within a flood plain make these areas unsuitable for residential development.

(e) The area in the northwest of Te Puke which is already zoned for industrial purposes but also subject to flooding. Because of this there is very little potential for the expansion of residential development into this area.

64. In my opinion, from merely a land resource perspective there are areas of land within the same locality and market with lower versatility than the plan change site. These areas are found on the eastern and southern fringes of Paengaroa and southern fringes of Pongakawa. These large contiguous land units, however, still have a high productive capacity to sustain highly productive activities including intensive kiwifruit production.

65. In comparison, it is more than likely that the overall productive capacity of the plan change site is diminished by:

(a) Composition of fragmented HPL units intertwined with non-HPL units;

(b) Small scale of land divided by a watercourse to the north and west;

(c) Difficulty to combine the land with adjacent HPL units to the east and south because of:

(i) State Highway 2 to the south.

(ii) The existing residential development and Arawa Road to the east, and

(d) Reverse sensitivity constraints of the same features to the east and south.

Clause 3.13 of the NPS-HPL

Land based primary activities and effects

66. In my assessment I identified the activities related to the potential land uses for the proposed development site. These potential land uses were mentioned previously and the activities include: stock grazing, nutrient, agrichemical and effluent application; and cultivation and sowing of crops. The associated environmental effects of each activity include pugging, contaminant loss, surface erosion and spray drift.

67. At present, dairy farming activities are occurring on the subject land and residential houses (as part of the Pongakawa settlement on Arawa Road) are already located around the eastern boundary of the site. In this context, these two land uses are already integrated.

68. In any case, shelterbelts between proposed residential properties and the boundary with Arawa Road, at the eastern corner of the plan change site, are

proposed to mitigate reverse sensitivity from the existing kiwifruit orchard located north-east of the Arawa Road residential settlement. These measures appropriately mitigate reverse sensitivity effects to primary production in response to the plan change.

69. Any further reverse sensitivity effects from the urban rezoning that could affect land based primary production I defer comments to Mr Murphy of MPAD.

70. In my assessment I identified, from the NZLRI, the highly productive land in the Western Bay of Plenty District Council's area. This is summarised in the table below.

Cumulative effects of development on HPL in the district

Table 7. Distribution of highly productive land within the Western Bay of Plenty District.

Land Class under the NPS-HPL	LUC class (from NZLRI)	Area (ha)	Percentage (%)
Highly productive land	1	-	-
	2	19,197	9
	3	25,188	12
Not highly productive land	4	32,320	15
	5	659	<1
	6	70,627	33
	7	28,466	13
	8	18,018	9
	Other (rivers, estuary, towns, other areas not classed)	17,270	8
Total		**211, 745 ha**	**100 %**

71. There is approximately 44,000 ha of highly productive land in the Western Bay of Plenty district, which constitutes 21% of the district.

72. For the proposed plan change site, 9.9 ha is identified as highly productive land under the NZLRI system. This area is well fragmented, small in scale, and may pose challenges with amalgamating with adjacent HPL in certain directions. This area to be lost to development is considered insignificant.

Submissions on the plan change

73. Submissions received on the plan change have been reviewed. As they relate to land productivity, matters raised are addressed below.

Loss of productive land and precedent

74. Several submissions raise issue with the loss of productive land in-principle[1]. Precedent for converting productive farm land in the area to housing is also raised.

75. The assessment that I have undertaken acknowledges that there will be highly productive land lost as part of the plan change.

76. I have discussed the overall productive capacity of the plan change site. I have acknowledged that the overall productive capacity is more than likely affected by fragmentation adding to the lack of size and scale of the units, and the site location and surrounding land uses.

77. I have thoroughly assessed the productive capacity of other areas within the same locality and market and acknowledged there are many areas not suitable for residential development. This is because these areas contain existing kiwifruit orchards, are within floodable areas, or are in existing industrial zoned areas.

[1] Submitters Mike Massen, Hamish Henderson, Karen Summerhays/Nicola Cooke, Rebecca and Cameron Black, BOPRC

78. I have identified areas where residential development is suitable, however, in my opinion these large contiguous areas hold higher productive capacity than the proposed plan change site, hence the plan change site is preferred to be removed from productive land use in comparison.

79. With regard to precedent, I defer comments to Mr Murphy of MPAD.

Alternatives – Paengaroa and Te Puke

80. Several submissions point precisely to Paengaroa and Te Puke existing settlements/townships as the more appropriate place for urban development to be accommodated[2]. I acknowledge growth at Te Puke and Paengaroa is appropriate to consider due to being in the same locality and market as the plan change site, this has been considered at length in my report dated August 2024 and in this evidence.

81. I defer any commentary on the potential for these communities, in existing Residential-zoned land, to accommodate further growth to the evidence of Mr Murphy. In the event further greenfield expansion of these settlements/towns would be required to accommodate growth, this has been considered in the alternatives assessment above.

82. With regard to land productivity, I have assessed areas around Paengaroa and Te Puke and identified areas which are unfavourable for housing. These areas are either: in existing kiwifruit orchards, are within a floodzone, or already zoned as industrial.

83. I acknowledge that there were some areas on the outskirts of Paengaroa which are suitable for housing but it is my opinion these large contiguous units of highly productive land exhibit higher productive capacity than the plan change site.

[2] Submitters Julian Clayton; Rebecca and Cameron Black

Section 42A report

84. I can confirm that I have read the Section 42A report which includes a "Peer Review of NPS-HPL documents supporting Plan Change 95 Application" conducted by Mr Stuart Ford of the Agribusiness Group.

85. Mr Ford concludes that the work carried out by myself is satisfactory, however, does raise some concerns on the confidence placed on any conclusions that can be made on comparing alternate sites at regional scale with the subject site at paddock scale.

86. I stand by my assessment of the productive capacity of the plan change site using paddock scale mapping. It was evident that the NZLRI does not reflect the land resource features on site. For improved accuracy in the assessment of the productive capacity and best reflecting what actually is able to be produced on site the paddock scale mapping was used. The distinctive differences in the NZLRI and paddock scale mapping techniques are highlighted in Section 5.6 of my report.

87. To alleviate any concerns raised in Mr Fords report I have undertaken the same assessment but pursuant to the NZLRI.

88. In any case, using the NZLRI it is acknowledged in Section 6.2 of my report that the proposed development area of the plan change site contains 9.9 ha of HPL – 9.7 ha of 2w1 and 0.2 ha of 3e2. In addition, in Section 5.6 of my report it acknowledges the LUC and Soils mapped under the NZLRI mapping of the site – LUC class 2w1 contains flat, poorly drained Opiki and Pongakawa soils and LUC class 3e2 contains gently undulating to rolling well drained Paengaroa soils.

89. In Section 12.7 of my report I list the potential land uses for the two units. These are listed below in Table 8.

Table 8. Potential land uses for the LUC units on the plan change site, as identified in the NZLRI.

LUC unit	Soils (code)	Area	Limitations	Potential land uses*
2w1	Opiki complex (2b) Pongakawa (107f)	9.7	• Poorly drained soils	Intensive pastoral farming. Horticulture. Cereal crops. Root and green fodder cropping.
3e2	Paengaroa (14)	0.2	• Prone to moderate erosion. • Susceptible to drought.	Intensive pastoral farming. Citrus and sub-tropical fruit orchards. Orchards. Horticulture. Cereal crops. Root green and fodder cropping.
Total		9.9 ha		

*from Blaschke, P. (1985).

90. Table 8 shows that under the NZLRI the majority (98%) of the site (9.7 ha) is classified as 2w1 with a very small portion (2%) of the site (0.2 ha) is classified as LUC class 3e2. The LUC class 2w1 includes poorly drained soils, limited by poor natural drainage and moderately high water table. The LUC class 3e2 land is limited by its susceptibility to moderate erosion when cultivated and summer droughts.

91. Table 8 identifies the potential land uses for the different LUC units identified on the proposed plan change site through the NZLRI. The LUC class 2w1 land, given that the correct management conditions are implemented (such as open drains) is suited to intensive pastoral farming, horticulture, and cropping. The variety of the crops will however be limited by the poorly drained soils and moderately high-water table. This either delays planting dates and limited access at harvesting.

92. The LUC class 3e2 land includes more versatile Paengaroa soils, and given that correct soil conservation methods are implemented – direct drilling etc, is suited to a number of different land uses. The overall productive capacity of

the LUC class 3e2 land on the plan change site however is affected by the small size and scale (0.2 ha) as well as the location of the unit in relation to Arawa Road and the existing residential development. This limits combining the unit with adjacent HPL units to the east and south. Also reverse sensitivity constraints exist of the same features to the east and south.

93. It is still my opinion following this assessment that the overall productive capacity of the site is lower than that of the sites identified for potential resident development around Paengaroa and Pongakawa. These areas exhibit large contiguous HPL units, with versatile soils, suited to a wider variety of land uses due to the absence of a wetness limitation. In comparison, the plan change site comprises 2w1 soil with wetness limitations, characterised as poorly drained soils with a moderately high water table (from NZLRI classification). This limits the productive capacity and versatility of land use.

94. In summary, despite the changes in the assessment the conclusion is still the same, that the overall productive capacity of the plan change site is considered lower than the areas identified around Paengaroa and Pongakawa suitable for residential development.

95. Mr Ford also raises concern about the lack of information on the environmental, economic, social and cultural benefits and costs of the loss of HPL.

96. Environment**:** the removal of 9.9 ha of HPL to residential development can result in a net positive affect on the environment, given the current land use is dairy farming. Going forward irrigated animal effluent will no longer be discharged across the farm and its highly productive land.

97. There are also potential environmental gains in aesthetic, biodiversity and conservation values with the proposed landscaping plan (native plantings) and formation of wetland and stormwater reserve.

98. For the reasons discussed above, and considering the classification and small size of highly productive land loss, there are no long term environmental costs associated with this loss, in my opinion.

99. **Economic**: any economic benefits and costs associated with the loss of HPL I defer my comments to Mr Counsel.

100. **Social and Cultural**: any social and cultural benefits and costs associated with the loss of HPL I defer my comments to Mr Murphy.

Comments on proposed rules

101. There are no proposed rules with regard to land productivity.

Conclusion

102. The plan change site includes highly productive land (LUC class II and III). From merely a land resource perspective these exhibit a high productive capacity.

103. Under the paddock scale mapping, the overall productive capacity of the plan change site, however, is more than likely to be constrained by:

(a) The fragmentation of the HPL units.
(b) The size and scale.
(c) The difficulty to combine with HPL to the south and east.
(d) Reverse sensitivity constraints.

104. Under the NZLRI mapping the overall productive capacity of the site is limited by the presence of poorly drained soils with a moderately high water table (as per NZLRI soil classification) which limits the versatility of land use.

105. I have identified areas of HPL on the outskirts of Te Puke, Paengaroa and Pongakawa which are unfavourable for residential development because they are in:

(a) Existing kiwifruit orchards.
(b) Floodpaths.
(c) Existing industrial areas.

106. I have identified other areas favourable for residential development on the eastern and southern fringes of Paengaroa and southern fringes of Pongakawa. These large contiguous areas of HPL are productive units and include versatile soil types. These appear to be less constrained by land resource features, dividing water courses, urban infrastructure, settlement interfaces and potential reverse sensitivity issues.

107. The environmental benefits associated with the loss of HPL as part of the proposed residential development outweigh any costs.

108. On balance, with respect to clause 3.6(1)(b) of the NPS-HPL, it is my professional opinion that the overall productive capacity for the plan change site is lower than other viable sites for residential development within the same location and market.

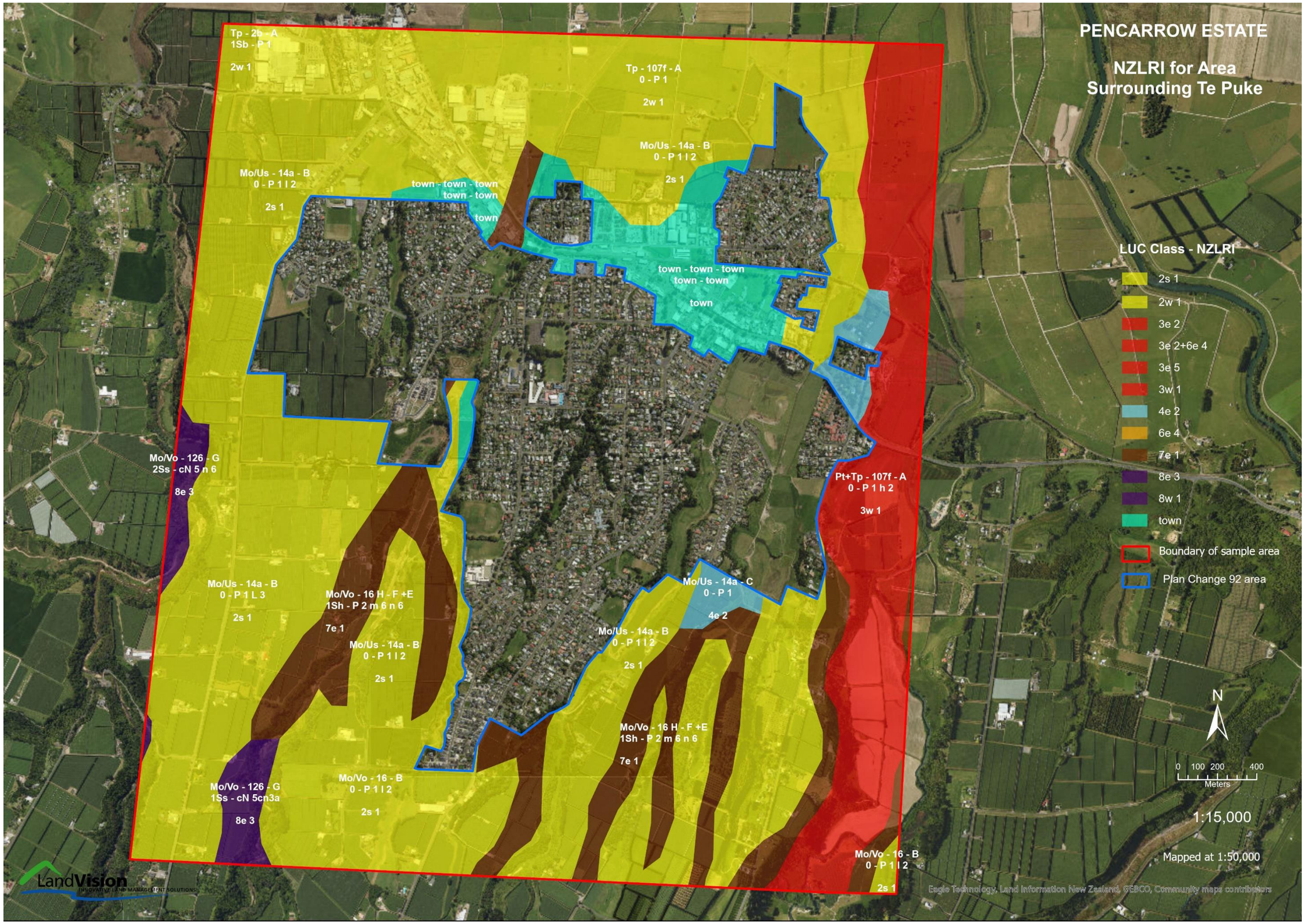
Joel James Perry
24th October 2024

Appendix One: Proposed Zoning for Plan Change Site.

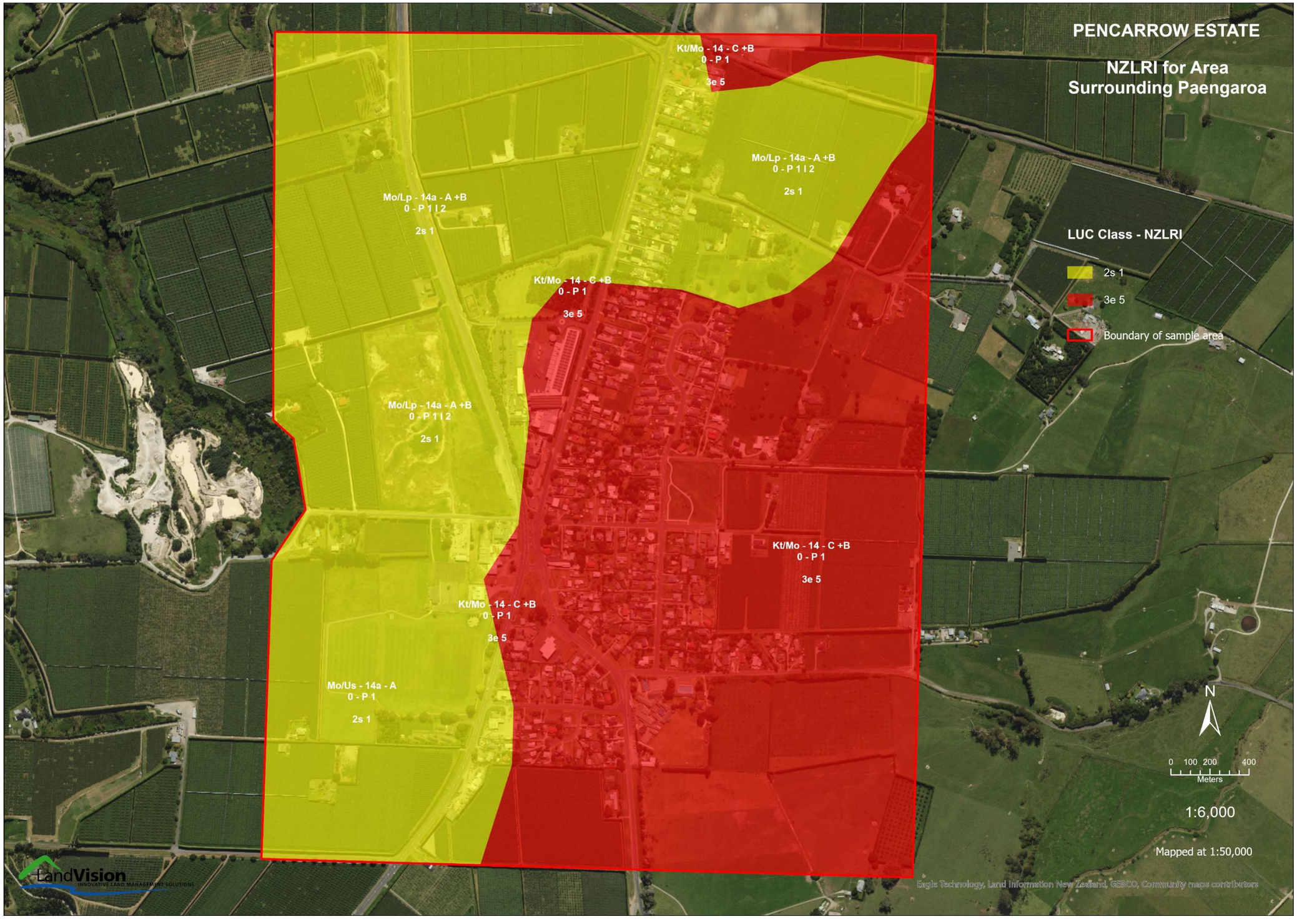
Appendix Two: NZLRI (LUC) for entire site.

Appendix Three: LRI and LUC classification of plan change site at paddock scale (1:6,000)

Appendix Four: NZLRI of assessment area on the fringes of Te Puke



Appendix Five: NZLRI of assessment area on the fringes of Te Puke



Appendix Six: NZLRI of assessment area on the fringes of Pongakawa