Osborne Land Productivity Report

Te Moana Road

Waikanae

Lachlan Grant

LandVision Ltd

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1 SUMMARY

1. Under the NZLRI regional scale mapping there is about 1.87 ha of land on the Plan Change site that has been classified as LUC class 2 under regional scale NZLRI mapping (HPL land) and therefore triggers the NPS HPL.
2. Paddock scale mapping showed that the area of HPL land on the Plan Change site comprises of LUC units IIIw3 (0.67 ha), IVe4 (1.1 ha) and VIe5 (0.09 ha). The IIIw3 land are wet sand flats that are poorly drained, the IVe4 land are dry sand flats and shallow sand dunes that are well to excessively well drained, and VIe5 land are sand dunes prone to severe wind erosion. These LUC units occur in a mosaic nature and have contrasting soil properties that make land use options difficult.
3. Generally, the climate is reasonably temperate with good annual rainfall but high humidity throughout the year that can influence pathogens for some crops. Sunshine hours are moderate and can be constraint on crops requiring high heat units for ripening. The growing degree days are considered cool to mild rather than mild to hot and this is insufficient heat units for many crops.
4. The soil resources present follow the LUC units. The Pukepuke soil is found on the wet sand flats (IIIw3), the Himatangi soil is found on the dry sand flats and shallow dunes (IVe4), and the Foxton soils are found on the steeper dune (VIe5). All these soils are formed from windblown sand, and they have weak granular soil structure and a loamy sand texture. These properties also influence land use options. Because they are very young soils, have weak soil structure and loamy sand textures they are prone to wind erosion if the vegetative cover is removed. They have limited soil moisture holding capability and are prone to preferential flow after heavy rain. Their natural fertility is low due to the lack of exchange sites to hold nutrients. The high water-table under the Pukepuke soil severely limits root growth and makes this soil prone to pugging by cattle. None of the soils are suited to cultivation.
5. The dominant constraints on the IIIw3 land are poor drainage and the inability to change this. The soil physical properties are also poor. For IVe4 land the dominant constraint is the poor soil physical properties that limit land use options and productivity. These constraints cannot be easily rectified and just require time – 100's of years of time to evolve to a soil with better physical properties.
6. Market gardening, floriculture, horticulture, maize, arable cropping, pastoral farming, and forestry were all assessed against the soil physical properties and climate constraints for each of the LUC units and soil types to determine the highest and best productive use. For the HPL land low intensity pastoral farming is considered the highest and best option for the IIIw3 and IVe4 Units. For the LUC VIe5 Unit, the highest and best option is forestry or pastoral farming with soil conservation techniques.
7. Using the LUC classification system the potential productivity for each of the LUC units was determined and over the HPL land the potential livestock carrying capacity is about 19 su. The estimated returns are about $1900. The rates for this area of land are about $7,000. Consequently, the returns from farming will not cover the rates let alone service a mortgage or provide an income. Extrapolating this out over the whole subject land generates the same story. The lack of scale and the constraints make the subject land non-viable.
8. The productive capacity is seriously constrained by the soil physical properties (drainage, texture, structure, soil moisture holding capability), and climate and the influence of shape and scale.
9. The Kapiti Coast District Council's total area is about 71,266 ha of which 9,309 ha is classified as HPL land. The area of HPL land within the subject area is 0.02% of the HPL land within the district. The productive potential of the HPL land on the subject land is about 19 su. This represents about 0.07% of the districts stock units from the 2022 Agricultural Production Census. Consequently the loss of this 1.87 ha is insignificant.
10. The proposal avoids fragmentation and any reverse sensitivity issues.
11. It is considered that the proposal has a positive impact on the environment, economic and social benefits but neutral effect on cultural benefits.

Overall, the proposal meets the criteria under Section 3.10 of the NPS HPL.

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3 ABOUT THE AUTHOR

This report has been prepared by Lachie Grant, sole director of LandVision Ltd. I have a M Agri Sci (hons) from Massey University majoring in land resource management, pedology, soil erosion processes and agricultural engineering. I have also completed bachelor of agricultural science from Massey with a focus on soils, farm management and land resource management.

Since completing my post graduate studies in early 1991 I have held the positions of land management officer/soil conservator with Horizons Regional Council (11 years) and regional land manager for Taranaki Regional Council (3 years) before establishing LandVision Ltd in 2005.

LandVision Ltd is an independent technical agricultural/land and resource management consultancy company with offices in Hawkes Bay, Nelson, Wanganui, and Tauranga. We are a team of multi-skilled staff with extensive experience across farm planning and management, soil and LUC mapping, nutrient budgeting, environmental management, compliance, and policy. In the last 21 years we have undertaken farm planning, land resource inventory/land use capability mapping for over 1.2 million hectares across New Zealand to the protocols outlined in the NZLRI handbook.

With regards the NPS HPL I have prepared over 40 HPL assessments across the country and peer reviewed over a dozen reports for six different councils. Further to this I have internally peer reviewed approximately another 40 reports for other LandVision staff.

This report has been peer reviewed by Ian Millner from LandVision. He holds a science degree and a very strong background in land resource management, farm management, and planning. He is also a qualified hearing commissioner. He has prepared approximately 70 reports for clients across the country and peer reviewed in excess of 40 reports for various councils throughout the country. Ian is undoubtably one of the most experienced consultants in New Zealand for HPL. In total LandVision Ltd has prepared more than 170 HPL reports since the inception of NPS HPL.

4 BACKGROUND INFORMATION

This report was originally prepared in February 2023 when remapping of LUC at the paddock scale was accepted for HPL assessments. In May 2024 case law[1] was established that the NZLRI mapping at 1:50,000 scale at the date of commencement was the only determinant of whether the NPS HPL is triggered. Paddock scale LUC mapping cannot be used as a determinant of whether the NES HPL is triggered. It can however be used for addressing or determining the constraints present within the NZLRI mapped area of HPL land.

The application contained the 2023 report and this was reviewed by Hainsworth[2] in January 2025. Between the writing of this report and the review by Mr Hainsworth the interpretation of the HPL changed due to case law. Mr Hainsworth's review did not challenge this interpretation of HPL and therefore the altered 2023 report only addressed the questions from Hainsworth.

In 2026 the Kapiti Coast District Council contracted Ms Juliet Chambers from Ag First[3] to review the altered 2023 report that addressed Hainsworth's questions and this review rightly highlighted the need to address the changes in HPL interpretation, and to cover the full extent of the HPL on the property as mapped at 1:50,000 scale as a result.

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[1] *Blue Grass Limited v Dunedin City Council* [2024] .

[2] Hainsworth, S (January 2025): Peer Review of LUC Report 100 + 110 Te Moana Road Waikanae completed by LandVision Ltd In February 2023. For the Kapiti Coast District Council.

[3] Chambers, J (14 July 2026). Statement of evidence of Juliet Chambers on behalf of the Kapiti Coast District Council (Highly Productive Land).

As a result this report has addressed these changes and added significantly more detail around the assessment of Section 3.10 of the NPS HPL. It is however noted that the recommended outcome between the two reports has not changed.

5 PURPOSE

The purpose of this report is to determine the productive capability of land within the site of the proposed plan change at 100 and 110 Te Moana Road Waikanae, and as required under the NPS for Highly Productive Land (NPS-HPL). It aims to examine the productive capacity of the HPL land within the property and make an assessment of the long term or permanent constraints on the HPL land under clause 3.10 of the NPS-HPL .

Location Map

6 CONSENT APPLICATION

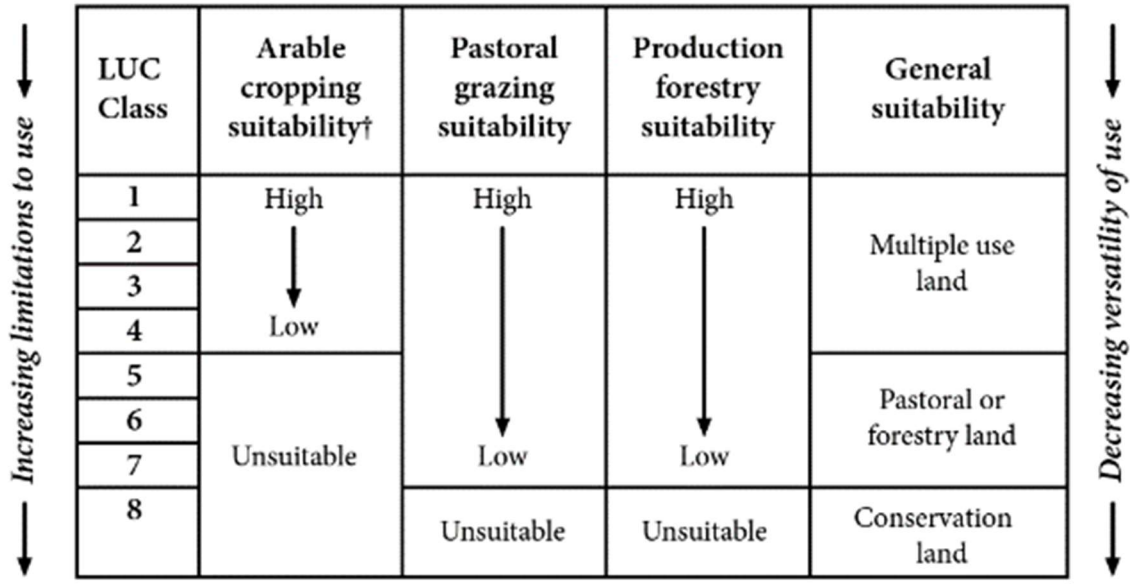
The application is for a proposed plan change from General Rural Zone to General Residential Zone.

7 LAND RESOURCES - REGIONAL SCALE

The National policy statement for Highly Productive Land 2022 (NPS_HPL) came into effect in October 2022 with the objective being *"Highly productive land is protected for use in land based primary production, both now and for future generations".* The NPS_HPL gives regard to the land resources as described according to the New Zealand Land Resource Inventory (NZLRI) and Land Use Capability (LUC) classification system and has placed additional restrictions on the development of LUC class 1-3 land. The NZLRI mapping was undertaken at a scale of 1:50,000 in the early 1980's and the Waikanae region is referenced in the Wellington LUC Extended Legend.

7.1 LRI & LUC CLASSIFICATION SYSTEM

The LUC classification system[4] classifies land into eight different classes as shown in the following table. Classes 1-4 are typically suited to arable use, classes 6 and 7 are suited to pastural farming and class 8 land is retirement land.



Each LUC class is then divided as per its dominant limitation and within the LUC system there are four dominant limitations that include erosion, wetness, soil and climate. Typically, class 1 land has no limitations to arable use, class 2 land slight limitations to arable use, class 3 land moderate limitations to arable use and class 4 land severe limitations to arable use.

The subclass is then further divided to generate the LUC unit. This is where land with similar land resource inventory factors is grouped together to form the LUC unit. The resource inventory factors include the underlying geology or rock type, the soil type, the slope, the erosion type and severity, and the dominant vegetation. When mapping LUC and one of these inventory factors change then so should the polygon change.

7.2 MAPPING SCALE

When undertaking LUC/LRI mapping the smallest map unit according to the LUC Handbook is about 1 cm^2 on the map irrespective of scale. Therefore for 1:50,000 scale mapping the smallest map unit is about 25 ha (25 ha is 1 cm^2 on the 1:50,000 scale map). Under paddock scale mapping, i.e. 1:6,000 scale, the smallest map unit is about 3,600 m^2.

7.3 NZLRI ON THE SUBJECT LAND

The following map and table are from the NZLRI regional scale mapping as required under the NPS HPL.

[4] *Lynn IH, Manderson AK, Page MJ, Hainsworth GR, Eyles GO, Douglas GB, Mackay AD, Newsome PJF (2009). Land use capability Survey Handbook – a NZ handbook for the classification of land. E3rd edition. AgResearch, Landcare Research and GNS Science.*

The above map shows the NZLRI classification (1:50,000 scale) for the property. The following table details the land resources over the subject land from the NZLRI.

LUC and description	Total area (ha)	Parent material	Dominant soil type	Slope degree	Dominant vegetation	Erosion degree and severity	
						Actual	Potential
2s1 Flat, low river terraces and levees of the floodplains with alluvial soils. The soils are sandy in texture and moderately deep overlying gravels. They are fertile and well drained although they tend to dry out in summer. Occurs on Manawatu, Ohau and Waikanae floodplains.	1.87 ha	Fine-grained alluvium.	Ws	0-3	Pasture.	Slight stream bank erosion.	Slight streambank erosion.
2w1 Flat, low river terraces and floodplains with fine-textured alluvial soils. The soils are deep, fertile and imperfectly drained with a slight wetness limitation. Occurs on the Manawatu, Ohau, Otaki and Waikanae floodplains.		Fine-grained alluvium.	Y	0-3	Pasture.	Slight streambank erosion.	Slight streambank erosion.

LUC and description	Total area (ha)	Parent material	Dominant soil type	Slope degree	Dominant vegetation	Erosion degree and severity	
						Actual	Potential
6e5 Strongly rolling to moderately steep consolidated sand dunes inland of the recent unconsolidated sand dunes. Soils are weakly developed, and somewhat excessively drained. There is a potential for moderate wind erosion.	3.93 ha	Windblown sands.	Mt+Fx	16-20+4-7^{o}	Pasture.	Slight wind erosion.	Slight to moderate wind erosion.

The above map and table show the following:

- Of the total area of the subject land about 1.87 ha has been classified as a compound LUC unit (2s1 + 2w1) and the remaining 3.93 ha is class 6e5 land.
- The area of 2s1 + 2w1 land (1.87 ha) is classed as HPL land under the NPS HPL

8 SITE ASSESSMENT

8.1 PADDOCK SCALE LRI & LUC MAPPING (1:6,000)

It was shown in an earlier section that HPL land is defined by those areas of LUC classes 1, 2 or 3 land mapped under the NZLRI (1:50,000 scale mapping). Once the Wellington Regional Council has remapped HPL land the use of the NZLRI for determining HPL land stands. The paddock scale mapping was undertaken to show the extent of the constraints to productive use of the HPL, rather than to show that the classification of HPL land under the NZLRI is necessarily wrong.

To determine the constraints over the subject land it has been remapped at 1:6,000. The following map and table shows the results from this.

LUC and description	Total area (ha)	Parent material	Dominant soil type	Slope degree	Dominant vegetation	Erosion degree and severity	
						Actual	Potential
IIIw3 Low lying, imperfectly to poorly drained sand plains amongst the inland dunes between Waitarere and Waikanae. Water tables are at or near the surface in winter. 	0.8	Windblown sands.	P	0-3	Pasture.	Nil.	Negligible.
IVe4 Flat, free-draining, higher sandplains amongst the older inland dunes. Soils have a moderately developed structure and are subject to seasonal moisture deficiencies. There is a potential for severe wind erosion when cultivated. 	1.3	Windblown sands.	Hm	0-3	Pasture.	Nil.	Negligible.
VIe5 Strongly rolling to moderately steep consolidated sand dunes inland of the recent unconsolidated sand dunes. Soils are weakly developed, and somewhat excessively drained. There is a potential for moderate wind erosion. 	2.0	Windblown sands.	F	16-25	Pasture / cutover forestry.	Nil.	Slight to moderate wind erosion.

LUC and description	Total area (ha)	Parent material	Dominant soil type	Slope degree	Dominant vegetation	Erosion degree and severity	
						Actual	Potential
VIs4 Flat to undulating, free draining, higher sandplains. Soils have little profile development and are subject to seasonal soil moisture deficiencies. 	0.8	Windblown sands.	Hm	0-7	Pasture / cutover forestry.	Nil.	Negligible.
VIw1 Peaty swamps and swamp margins with high water tables and capable of only limited drainage. 	0.8	Peat and windblown sands.	Om	0-3	Wetland vegetation.	Nil.	Nil.
VIIIw1 Non-drainable swampy depressions and dams or lakes. 	0.2	Wetland	Wetland	0-3	Wetland	Nil.	Nil.

The LUC definitions are from Page, M.J. (1995) Land use capability classification of the Wellington region: A report to accompany the second edition of the NZLRI. Landcare Research Science Series No. 6.

The following table shows the areas of each LUC unit (from paddock scale mapping) for the parts of the property that are classified as both HPL and non HPL under the NPS-HPL.

Regional scale LUC unit	Area (ha)	Paddock scale LUC unit	Area (ha)
2s1+2w1 (HPL Land)	1.87	IIIw3	0.67
		IVe4	1.11
		VIe5	0.09

6e5 (Non-HPL Land)	3.93	IIIw3	0.09
		IVe4	0.17
		VIe5	1.88
		VIs4	0.80
		VIw1	0.82
		VIIIw1	0.17

The main difference between the regional and paddock scale LRI & LUC mapping are:

- The parent material of the flat area recorded as 2s1+2w1 (and therefore HPL land) is windblown sand rather than alluvium (both 2s1 and 2w1 LUC units are alluvial units rather than windblown sand units).
- The LUC units found over both the HPL and non-HPL land are in a mosaic pattern rather than two distinct polygons of 2s1+2w1 and 6e5 land.
- The LUC units found on the HPL land when mapped at the paddock scale are principally IIIw3 and IVe4.
- There is significantly less class 1-3 land when mapped at 1:6,000 scale.
- The 6e5 land mapped under regional scale mapping is a multitude of LUC units ranging from very young sand flats to strongly rolling dunes to a significant wetland. None of this area contains LUC classes 1-3.

8.2 ASSESSMENT OF LAND STRENGTHS AND LIMITATIONS BY LUC UNIT

The following table summarises the strengths, limitations, land use suitability and conditions of use for each LUC unit present[5].

LUC unit	Land use	Area (ha)	Strengths	Limitations	Land use suitability	Conditions of use
IIIw3 Low lying, imperfectly to poorly drained sand plains amongst the inland dunes between Waitarere and Waikanae. Water tables are at or near the surface in winter.	Pasture.	0.8	Contour. Access.	High water table in winter.	Low intensity pastoral farming with conservation.	Care with cattle during winter to avoid pugging and treading damage.
IVe4	Pasture.	0.8	Contour.			

[5] LandVision Ltd. Internal document generated from the Land use capability classification of the Wellington region: A report to accompany the second edition of the NZLRI (Page, M.J. (1995) Landcare Research Science Series No. 6.

LUC unit	Land use	Area (ha)	Strengths	Limitations	Land use suitability	Conditions of use
Flat, free-draining, higher sandplains amongst the older inland dunes between Waitarere and Otaki. Soils have a moderately developed structure and are subject to seasonal moisture deficiencies. There is a potential for severe wind erosion when cultivated.	Unimproved pasture.	0.5	Access. Good natural drainage.	Subject to seasonal moisture deficiencies. Potential for severe wind erosion if cultivated. Low natural fertility.	Low intensity pastoral farming with conservation.	Maintain vegetative cover through grazing management and soil fertility to avoid risk of wind erosion. Pasture renewal through zero-tillage techniques such as direct drilling.
VIe5 Strongly rolling to moderately steep consolidated sand dunes inland of the recent unconsolidated sand dunes. Soils are weakly developed, and somewhat excessively drained. There is a potential for moderate wind erosion.	Cutover forestry.	2.0	Good winter country for stock. Good year-round access.	Potential for moderate wind erosion. Low natural fertility. Unsuited to cropping due to weakly developed soils. Seasonal moisture deficits.	Forestry. Low intensity pastoral farming with conservation.	Maintain vegetative cover through grazing management and fertility to avoid wind erosion.
VIs4 Flat to undulating, free draining, higher sandplains near the coast between Waitarere and Waikanae. Soils have little profile development and are subject to seasonal soil moisture deficiencies.	Exotic trees.	0.4	Contour. Access. Good natural drainage.	Subject to soil moisture deficiencies. Potential for slight wind erosion. Low natural fertility.	Low intensity pastoral farming with conservation.	Maintain vegetative cover through grazing management and fertility to avoid wind erosion.
	Unimproved pasture.	0.4				
VIw1 Peaty swamps and swamp margins with high water tables and capable of only limited drainage.	Wetland association species.	0.8	Biodiversity values. Sediment trap and nutrient filter.	Extreme potential for pugging and compaction from stock and machinery. Potential stock trap.	Retirement. Low intensity pastoral farming with conservation.	Fence to exclude livestock.

LUC unit	Land use	Area (ha)	Strengths	Limitations	Land use suitability	Conditions of use
VIIIw1 Non-drainable swampy depressions and dams or lakes.	Wetland.	0.2	Biodiversity value. Habitat for birdlife.	Drainage is not feasible. High water table.	Retirement. Wetland habitat.	Fence to exclude livestock. Wetland enhancement.

In summary: over the HPL land there are contrasting strengths and limitations between IIIw3 and IVe4 land. This makes the opportunities for highly productive uses difficult. The mosaic nature of the land types provides further challenges.

8.3 CLIMATE

The following table summarizes the climate for Waikanae[6].

Parameter	Typical Value / Range	Land Use Considerations
Average Annual Rainfall	1570-1660 mm with rain on 130-132 days per year.	Soil moisture deficit not typically a constraint during summer. Rainfall distribution spread throughout the year.
Wettest period:	late autumn to early winter (May–June) and into spring; October often among the wettest months.	Can influence the opportunity for working the soil for spring and summer crops.
Driest month	Typically February, though still often >50 mm	Rainfall still reasonable but there will be decreasing soil moisture holding capabilities with increased evapotranspiration rates over this period. Sandy soils with lower moisture holding capabilities in the topsoil accentuate this problem.
Sunshine	Longest and sunniest days in summer (January/February), shortest in June (around 5 hours/day on average).	Generally good sunshine hours throughout most of the year except winter.
Humidity	Generally high year-round, often in the low-to-mid 80% range, peaking in winter.	Can influence pathogens for some crops.
Wind	Fairly exposed to prevailing westerlies/north westerlies; October tends to be the windiest month on average	The area of flat land is generally sheltered from the dominant winds. Can be controlled with shelterbelts.
Drought Risk	Low risk.	Occasional slight summer drought.
Sunshine Hours	2000-2100 hours on average	Moderate sunshine hours suitable for some crops however a constraint on crops requiring high heat units for fruit ripening.
Growing Degree Days	1,200 – 1,400 GDD per year	Cool to mild environment rather than mild to hot. Insufficient heat units for many crops.

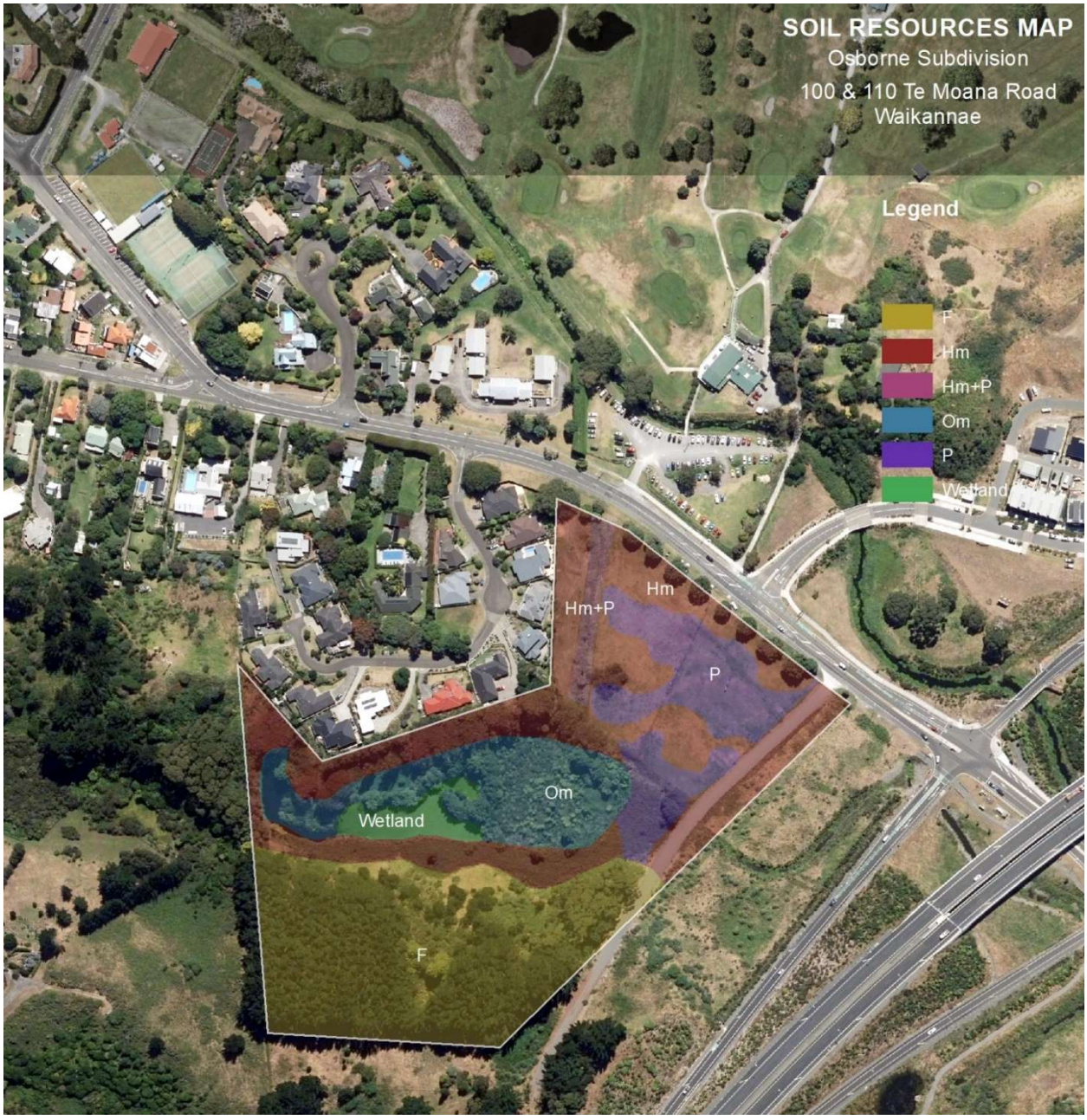
[6] Pearce, P.R., Fedaeff, N., Mullan, B., Sood, A., Bell, R., Tait, A., Collins, D., and Zammit, C. 2017. Climate change and variability – Wellington Region. NIWA Client Report for Greater Wellington Regional Council, 2017066AK. Available from www.gw.govt.nz/climate-change

Mean annual temperature	13-14°C	
Coldest month	July: highs of 11-12°C and lows 7-9°C	Lack of intense summer heat and lack of winter chilling put limitation on some crop types.
Warmest Month	Feb: daily highs 18-19°C and lows 14-15°C	
Frosts	Uncommon	Low to very low risk of frosts on the site.

In summary: the site has good annual rainfall that is spread through the year which accentuates the problems associated with the poorly drained soils. The humidity can be high which influences pathogens. The temperatures are temperate which limits the growing degree days and the ability to ripen some crops.

8.4 Soil Resources

The following map sows the soil resources over the subject land from the 1:6,000 scale mapping.



Descriptions of these soils are shown in Appendix 2.

In summary: all the soils are formed from windblown sand or peat. They generally fit the physiographic position in the landscape for sand country in the western lower North Island. Typically the sand flats are differentiated according to depth to water table – they are either the poorly drained Pukepuke soils where the watertable is within the top 30 cm of the surface or well drained Himatangi soils where there is no evidence of mottling. Typically the Pukepuke soils have been eroded by wind down to the watertable. The Himatangi soils have greater depth down to the water table. If there is peat present then the soils are the Omanuka peat soils. On the fragile sand dunes the soils are the Foxton series and these are dependent on the amount of topsoil development (which represents age of the dune).

8.5 Soil Physical Characteristics

The following table summarises the main characteristics, strengths and limitations of the soils found on the subject land. A full description of the soils is in Appendix 1 and is shown on the Paddock Scale Soil Resource map above.

Soil	Key Characteristics	Inherent Strengths	Inherent Limitations
Pukepuke Black Sand: Found on the poorly drained wet sand flats (IIIw3). 	Moderately deep topsoil but very weakly developed. Poor drainage due to high water table. Moderate water holding capacity. Prone to severe pugging damage by heavy cattle.	Present on flat land with good access. Moderate water holding capacity therefore reasonable summer and shoulder season growth. Good topsoil depth. Responds well to N, K and S fertiliser applications.	Difficult to drain due to its location in the landscape. The water table fluctuates due to seasonal fluctuations. Weak soil structure that is easily destroyed through cultivation or heavy stock. Limited area and fragmented. Moderate to high risk of pugging. Prone to soil nutrient leaching out of the topsoil. High risk of nutrient leaching to ground water with seasonally high-water table and being in a high rainfall climate. Not suited to crops requiring free draining soils. Not suited to cultivation. Wind erosion risk increased with the removal of the vegetative cover. Low natural fertility.
Foxton Black Sand: Found on the steeper sand dunes. 	Steeper sand dunes. Generally class VI land. Prone to erosion. Highest and best productive use is forestry.	Well drained.	Contour. Prone to wind erosion if vegetative cover removed. Low natural fertility.

Soil	Key Characteristics	Inherent Strengths	Inherent Limitations
Omanuka Peat Found on the swampy areas. LUC class VIw1 and VIIIw1 land. 	Poor to very poorly drained. Highest and best use – wetland.	Biodiversity values.	Very high-water table. Prone to pugging and treading damage by heavy stock. Not suited to cultivation.
Himatangi sand Found on sand dunes and dry sand flats. Typically class IVe4 and VIe5 land. 	Excessively well drained. Generally class IV and VI land with an erosion limitation.	Winter safe for livestock.	Low fertility. It will dry out over summer. Poor soil structure that is not suited to cultivation. Prone to severe wind erosion if the vegetative cover is removed.

In summary: the mosaic of contrasting soils inhibit land use options and management. Their 'youthfulness' mean they are weakly developed loamy sands that provide limited opportunities for primary production. The physical properties of the different soils are often contrasting which adds to the land use challenge.

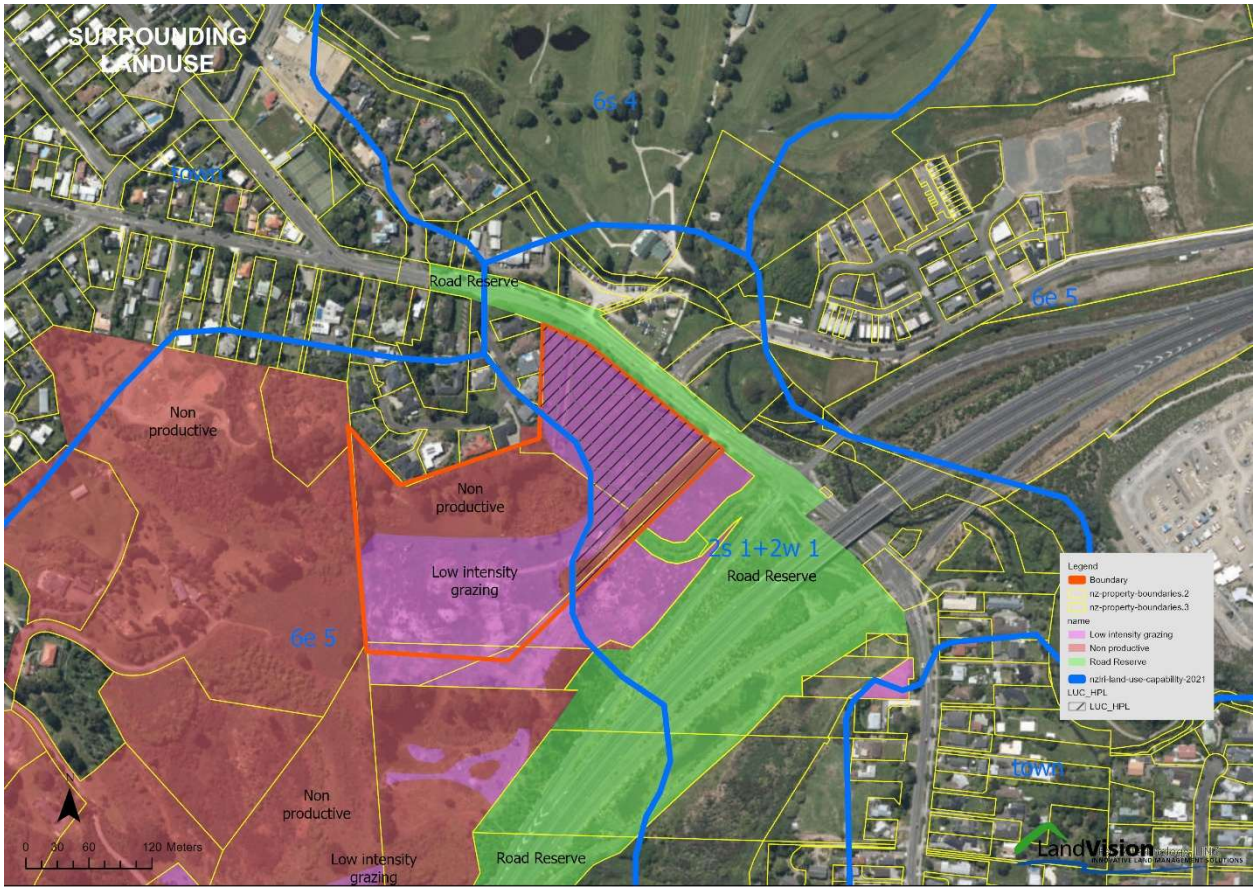
8.6 DRAINS

Open drains have been installed within the area of HPL land and are shown on the following map. In total there are about 160 m of drains within the HPL area. The outlet under Te Moana Road is limiting. Opportunities around the drains are discussed further in Section 9.3.1.

8.7 SURROUNDING LANDUSE

The following map shows the following:

1. The regional scale NZLRI map – The area classified as 2s1 and 2w1 is the area of HPL land as recognised in the NPS HPL.
2. The paddock scale LUC map showing just the area of class 3 land when mapped at 1:6,000 scale.
3. The surrounding land use around and within the subject land.



The map above shows the bulk of the land surrounding the HPL land (black hashed) is not in productive use and is either houses, wetland, road reserve or non HPL land on the subject land. There is a small piece of land about 1.2 ha on the eastern boundary that is also classified as HPL land (LUC units 2s1 + 2w1) from the NZLRI but from aerial photographs it looks more likely to be IVe4 land. It would have the same constraints as the IVe4 land on the subject land. This area of neighbouring land looks to be either low intensity grazing or not grazed at all. Its shape and size are also likely to preclude highly productive land uses in the future.

In summary: it is highly unlikely the proposal will create either reverse sensitivity or fragmentation issues for the neighbouring properties.

9 TECHNICAL ASSESSMENT OF THE PRODUCTIVE CAPACITY OF THE HPL LAND

9.1 LAND RESOURCES

The following map shows the paddock scale mapping on the area classified as HPL land. Under the NZLRI 1:50,000 scale map this whole area is mapped as 2s1+2w1. The mapping of compound units, that is two LUC units in the one polygon, are common in regional scale mapping as the smallest map unit is 25 hectares. They generally do not occur when mapped at 1:6,000 scale when the smallest map unit is 3,600 m^2.

In summary there are three blocks of LUC unit IIIw3 totalling 0.67 ha, five distinct blocks of IVe4 land totalling 1.11 ha and a small area of VIe5 land totalling 0.09 ha. The total area of HPL land is about 1.87 ha. The LUC unit distribution for this site is described as a mosaic of LUC units. Where the LUC units under a mosaic pattern have contrasting strengths and limitations, it makes for difficult land management without affecting the long-term sustainability of the land resources.

The following map shows the soil resources across the HPL land specifically.

The above map shows that the Pukepuke black sand soils are found on the wet sand flats, the Himatangi loamy sand soil is found on the dry sand flats or low angle dunes, and the Foxton black sand soils are found on the steeper class VIe5 fragile dunes. All these soils are very weakly developed fine granular loamy sands. What differentiates them is the Pukepuke soil is poorly drained whilst the Foxton and Himatangi soils are well to excessively well drained. The difference between the Foxton and the Himatangi soil is their age which is depicted by the depth of topsoil and the landform they occur on (dune vs sand flat or shallow dune).

9.2 Constraints to Productive Capacity

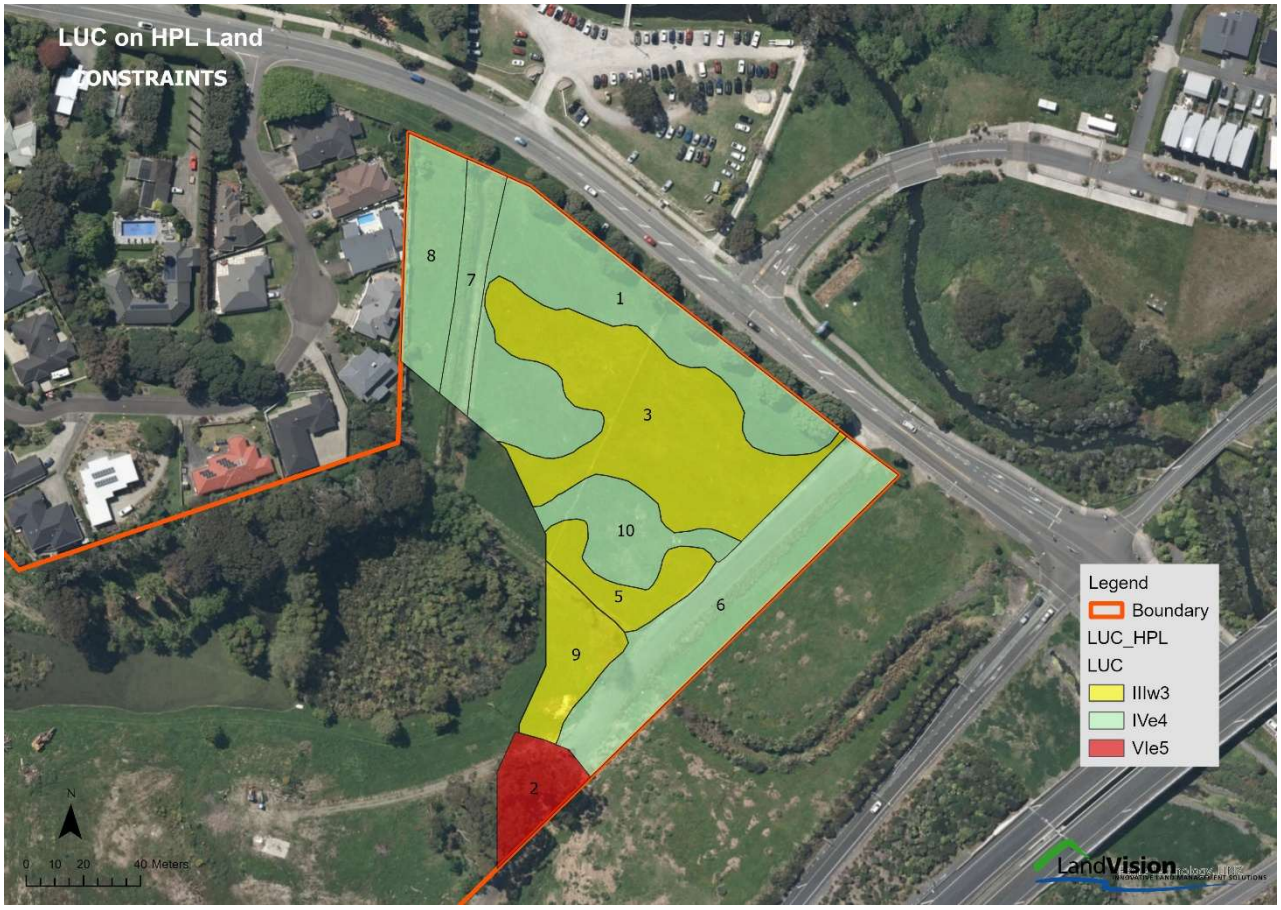
Productive capacity, in relation to land, is defined in Clause 1.3 of the NPS-HPL as: *In relation to land, means the ability of the land to support land-based primary production over the long term, based on an assessment of:*

a. *physical characteristics (such as soil type, properties, and versatility);*

b. *Legal constraints (such as consent notices, local authority covenants, and easements);*

c. *the size and shape of existing and proposed land parcels*

To assess the productive capacity of the HPL land to the above three criteria, each polygon of paddock scale mapping has been analysed and is shown in the following map and table.



LUC Unit from paddock scale mapping	Description	Id & area (ha)	Constraint
IIIw3	Low lying and poorly drained sand flats with Pukepuke soils. Weakly developed fine granular crumb structure and loamy sand textures.	3. (0.47 ha)	• The watertable is near the soil surface for long periods of the year making the Pukepuke soils poorly drained. • Drainage from the property is choked before it goes under the road to the golf course. This makes drainage of the block difficult. • The high watertable restricts the crop type options. The Pukepuke soils are only suited to crops that can handle 'wet feet'. • The wet nature of the Pukepuke soils accentuate the risk of pugging and treading damage by heavy cattle. Any cattle grazing programme needs to restrict cattle access over the winter and other wet periods. • Natural fertility is low due to the raw nature of the Pukepuke soils. The loamy sand has very few exchange sites for holding nutrients. This is further accentuated by the limited rooting ability of plants down to the watertable.
		5. (0.09 ha) and 9 (0.11 ha)	• Polygons 5 and 9 are the same but are divided by a drain that runs down to the drain in area 7. This drain effectively fragments these two polygons. • The constraints are the same as area 3 – poor drainage, low natural fertility, and the susceptibility to pugging and treading damage.
IVe4	The soils are well to	1. (0.41 ha)	• The weak soil development means the soil basically has no soil structure. The soil particles are granular and not packed together

	excessively well drained, very weakly developed fine granular loamy sand.		in aggregates. The implications of this are there is limited micropores for holding on to water and there is greater macropores which results in the soil being well to excessively well drained (the soil does not have the ability to hold on to water within the profile). The depth to the watertable is deeper than IIIw3 and with the pores being mostly larger, the ability to extract moisture from the water table through capillary action is significantly reduced. The high microporosity means that these soils are prone to preferential flow. • Because this soil is prone to drying out over the drier months it is also prone to severe wind erosion. This is accentuated under cultivation. • Due to the loamy sand texture there are limited exchange sites for nutrients. Nutrients need to be applied little and often however they are still prone to preferential flow and high rates of leaching of N. • Once dry these soils become hydrophobic and there is a tendency for overland flow across the surface until the sol wets up.
		8. (0.15 ha)	• This area is between the drain and the boundary and has similar constraints to above. There are access issues to this area across the drain.
		10. (0.13 ha)	• Area 10 is an elevated sand plan or low dune between two areas of IIIw3 land. The constraints are the same as that described above.
		6. (0.33 ha)	• This area of Himatangi soils has similar constraints as listed above. • In addition, there is an old road that has been sealed. In making this road the topsoil would have been removed. This road was used for recent logging within the subject land This areas was considered too small to take out separately when undertaking the paddock scale LUC mapping. It is not practical to remove the road and create HPL land. The road is a permanent constraint for HPL use • On the eastern side of this formed road is a small strip of IVe4 land. It has the same constraints listed above for IVe4 but the size and position are also a constraint for highly productive use.
		7. (0.09 ha)	• This area occurs in a small drain and is a combination of Himatangi soils on the sides and Pukepuke soils in the bottom of the drain. The area of Pukepuke soils was too small to remove as its own unit. • The Himatangi soils have the same constraints listed above. • The Pukepuke soils have the same constraints listed above, however in this situation the watertable is near or at the surface. Drainage from the property is however difficult.
VIe5 land:	Occurs on a fragile sand dune with Foxton black loamy sand soils that are prone to severe wind erosion.	2. (0.09 ha)	• The unit occurs on fragile sand dunes that have a contour that is not suited to vehicles. • These soils are far to young for structural development. The topsoil development is very weak fine granular structure. Having no soil aggregates severely limits the moisture holding capability. • The soil textures are loamy sands meaning the soil has limited nutrient exchange sites due to low surface area to volume ratios of the particles.

			• Once the vegetative cover is removed or significantly reduced from overgrazing, they are prone to severe wind erosion. • The slope precludes cultivation. • Due to the loamy sand texture there are limited exchange sites for nutrients. Nutrients need to be applied little and often however they are still prone to preferential flow and high rates of leaching of N. • Once dry these soils become hydrophobic and there is a tendency for overland flow across the surface until the sol wets up.

9.3 OPPORTUNITIES TO OVERCOME THE CONSTRAINTS

9.3.1 Drainage of the IIIw3 land:

The general rule for draining sand country is that it can only be undertaken with open drains. The loamy sand textures will not hold a mole and tile drains (including nova flow) will fill with sand, so the only option is open drains. Typically the drains are shallow (1-2m) with spacings of between 60-100 m apart and shallow side slopes of 1:2-1:3. Drain fall of about 1:500 to 1:1000. The batters should be grassed to prevent collapse. There also needs to be an outfall so the water can exit the property.

For the subject land there are several drains running through the HPL land. On the map above areas 5 and 9 have a drain dissecting the two areas and this has resulted in very little improvement. For area 3 in the map above, most of the area is within 100m of the drains present. This area continues to be poorly drained. Inserting a drain through the middle of area 3 may slightly improve the drainage around the drain but the effects are reduced as you move away from the drain. It would also significantly reduce the versality of that land due to it being dissected.

If the drains on the subject land were lowered, and the exit point was able to discharge the water from the property, there would be a negative effect on the adjacent wetland. The current drain exit point from the property appears to be quite high and ineffective. At a significant cost you could pump this water to exit the property. This would also impact on the wetland.

The cost to undertake any drainage work would be quite cheap (if no pumping is required) but as shown by the existing drain between areas 5 and 9, it has been ineffective. Additional drainage in association with lowering the existing drains will not improve the versatility to the land but potentially reduce it further by effectivity removing land through the installation of additional drains. They also will potentially affect the wetland.

Overall, drainage of IIIw3 land is not seen as a viable option as in this situation there are very little benefit to highly productive land use and the environmental effects to the adjacent wetland are negative. **Therefore the poor drainage of these soils is seen as a long term or permanent constraint to productive use.**

9.3.2 Improving the soil physical properties of IVe4 land

Poor moisture holding capability and low natural fertility is brought about by soil texture (loamy sand), soil structure (granular structure) and the age of these soils. With time, in the magnitude of 100's to 1000's of years, these soils will develop better soil structure with a little help from biological activity and the addition of organic matter. Over the next 30 years, you can consider very little change.

Artificially you could speed this process up by the addition of large volumes of organic matter and topsoil over the surface, but at a significant cost where there would be no return on investment. Potentially there would be hydraulic issues around the interface between the current surface and the added material. The addition of this material over LUC unit IVe4 will create a greater differentiation in the elevation levels between the IIIw3 and IVe4. You could reduce the

effects of this by also adding material to the IIIw3 land. This may then restrict the outlet from the wetland and increase the watertable levels resulting in drainage problems over the whole block.

If 30 cm of added material is required over the HPL land to improve the soil texture and structure in the topsoil, about 5600 m^3 of topsoil is required (about 560 truckloads). Topsoil alone, before cartage and spreading, costs about \$100/m^3. The investment is uneconomic.

In summary it is uneconomic to even consider improving the soil textures and structures through the addition of topsoil and organic matter. The most effective way of achieving this is time; 100's to 1000's of years. **Therefore, the soil physical properties are a long term or permanent constraint to primary production.**

9.4 LAND USE OPTIONS

The following table presents different land use options for the HPL land (1.87 ha) and whether it is suitable or not.

High Value Crops	HPL land (1.87 ha)		
	IIIw3 land (0.67 ha)	**IVe4 land (1.11 ha)**	**VIe5 land (0.09 ha)**
Market gardening.	Not suited due to weak soil structure and the inability for continuous cultivation. Restricted access during parts of the year. No access to irrigation water. Influenced by seasons. Limited area.	Not suited due to slope and weak soil structure.	Not suited due to slope.
Floriculture.	Possible but this would require crops that are perennial rather than annual. The crops would need to handle 'wet feet'. The choice of crops with this requirement is limited. Restricted access during parts of the year. No access to irrigation water. Limited size. Fragmented area.	Not suited due to slope and/or weak soil structure.	Not suited due to slope.
Sub-tropical fruit and vegetables (including tamarillo, citrus fruit passionfruit, limes, feijoas).	Not commercially grown in the district due to climate. No access to irrigation water. Drainage limits suitability to these crops. Limited size. Fragmented area. Restricted access during parts of the year.	Not suited.	Not suited.

High Value Crops	HPL land (1.87 ha)		
	IIIw3 land (0.67 ha)	IVe4 land (1.11 ha)	VIe5 land (0.09 ha)
Grapes. Berries. Stone fruit. Pip fruit. Kiwifruit. Hops. Avocadoes. Nuts.	Not commercially grown in the district (kiwifruit is grown in the district but not on this LUC unit). Poorly drained soil, climatic constraints such marginal summer temperatures and insufficient GDD's, lack of scale with subsequent lack of infrastructure, no access to water would be the key limitations to commercial scale production.	Not suited.	Not suited.
Maize for silage and stockfeed.	Grown regionally to support livestock but not on this soil type due to the short season limiting vehicle access at planting and harvesting. Not viable due to lack of scale and no ability for crop rotations. Risk of soil degradation with continual cultivation. High risk of nutrient leaching.	Not suited.	Not suited.
Arable cropping.	Generally not suited in this soil type due to weak soil structure and high watertable limiting the season length and the ability to get machinery onto the site. No ability for scale. Restricted access during parts of the year.	Not suited.	Not suited.
Pastoral farming.	Suitable but with a low stocking rate and the stock type is limited to sheep and lighter cattle. Restricted access during parts of the year. Limited size. Fragmented area.	Suitable but at low stocking rates. This area will struggle to grow grass over the summer months due to limited moisture holding capacity of the soils.	Low intensity pastoral farming may be suited but care is needed to retain vegetative cover to prevent wind erosion.
Forestry.	Pinus radiata not suited due to highwater table.	Suited.	Suited.

Using the information above, the following table summarises the highest and best landuse for long term sustainability.

High Value Crops	HPL land (1.87 ha)		
	IIIw3 land (0.67 ha)	IVe4 land (1.11 ha)	VIe5 land (0.09 ha)
Highest and best productive landuse	Low intensity pastoral farming in association with soil conservation techniques. As the highest and best use is low intensity pastoral farming, irrigation is not required for this use and therefore is not considered as a constraint.		Forestry. Low intensity pastoral farming.

In summary: The productive capacity of the subject land is therefore considered low, due to the wetness limitation of the IIIw3 land and the weak soil structure and slope of the IVe3 and VIe5 land. The permanent constraints around these LUC units severely limit productivity.

9.5 Potential Returns from the Highest and Best Productive Landuse

Section 9.2 shows that the highest and best productive landuse on IIIw3 and IVe4 is low intensity pastoral farming, whilst VIe5 is forestry.

The following table shows the estimated physical potential average stock carrying capacity for the HPL part of the subject land and the whole of the subject land[7].

	LUC Unit	Area (ha)	Estimated potential stock carrying rate (su/ha)	Estimated physical potential stock numbers (su)
HPL Land	IIIw3	0.67	14	9.4
	IVe4	1.11	9	10.0
	VIe5	0.09	0	0
Total		**1.87**	**10.4**	**19.4**
Non HPL land	IIIw3	0.09	14	1.3
	IVe4	0.17	9	1.5
	VIe5	1.88	0	0
	VIs4	0.80	6	4.8
	VIw1	0.82	3	2.5
	VIIIw1	0.17	0	0.0
Subtotal		**3.93**	**2.6**	**10.0**
	Total	5.81	**5.1 su/ha**	**29.4 su**

The table above shows that the HPL land (1.87 ha) can carry about 19 stock units and the non-HPL land about 10 stock units. The total carrying capacity is about 29 stock units. Typically, an economic unit is about 3-4,000 stock units and this is dependent on a multitude of factors.

There is about 1.97 ha of VIe5 land (including 0.09 ha within the HPL land). The highest and best productive use for this area is forestry. It is suited to light grazing but with soil conservation measures to prevent soil erosion.

In summary: The area of HPL land managed under the highest and best productive use has the potential to carry 19 stock units.

9.6 Economic Returns from Highest and Best Productive Use

Typical returns from Pinus radiata are around $8,000/ha after 28 years. If this is discounted back over the 28 years at 6%, it is equivalent to about $120/ha annual investment at 6%. With about 2 ha this equals about $240/yr.

[7] Page, M.J (1995): Landuse capability classification of the Wellington region: A report to accompany the second edition New Zealand Land Resource Inventory. Landcare Research Science Series No. 6.

If livestock operating surplus is currently $100/su[8], and there are 29 stock units then the property has the potential to generate $2,940 of income annually (or $506 /ha). Note the current state of the pastures and soil fertility status indicate that the property would struggle to achieve 60% of this carrying capacity.

Combining the livestock and the forestry, the potential annual income is about **$3,180/yr**.

The capital value of the property is currently $1,570,000. If 40% was mortgaged ($628,000) then there would be an annual interest cost of about $37,680 (at 6%).

The rates on the larger block (LOT 2 DP 71916 C/T 44C/426 PT SUBJ TO QE II OPEN SPACE COVENANT that covers just under 4 ha in size) is $7,690 per annum.

The total costs (rates and mortgage) are more than **$45,370** per year before any drawings/wages are taken.

The income from the highest and best productive use will only service about 7% of the rates and for a mortgage on 40% of its value, and would not cover the rates alone.

If these calculations are based on just the area of HPL land then the following applies:

- The physical potential stock carrying capacity is 19 su over the HPL land.
- If livestock operating surplus is currently $100/su then the property has the potential to generate $1,900. The area of VIe5 land is 0.09 ha and it has been excluded from the calculations due to size.
- The capital value of the HPL land is about $560k. If 40% was mortgaged ($224,000) then there would be an annual interest cost of about $13k (at 6%) to service the mortgage along with a rates bill of about $7k.
- The potential annual revenue of about $1,900 will not cover the rates, or service the mortgage or provide an income.

In summary: the income generated from the highest and best productive use is insufficient to cover the costs of the rates, let alone service any debt or provide an income.

9.7 Effects on the Districts Productive Capacity

The Kapiti Coast District Council's total area is about 71,266 ha of which 9,309 ha is classified under the NZLRI 1:50,000 scale map as HPL land, ie LUC classes 1, 2 and 3. The area of HPL land within the subject area is 1.87 ha or 0.02% of the HPL land within the Kapiti district. This is not significant and probably less than the margin of error.

The Agricultural Production Census (2022)[9] reported about 4,800 head of beef cattle and 685 dairy cows. No sheep were reported, although in 2007, about 23,000 sheep were recorded. These figures are considered light and should be taken with a grain of salt as there was only a 73% response rate and it was only compulsory for farms with a GST level of greater than $60k. Irrespective, this represents about 27,000 stock units.

The highest and best productive use of the HPL land is low intensity pastoral farming. The productive potential is about 19 su and a small amount of forestry. These 19 su represents about 0.07% of the districts stock units. Again, this is insignificant and probably less than the margin of error.

In summary: The loss of 1.87 ha of HPL land from the proposal will have no effect on the district's productive capacity.

[8] Greg Sheppard, (August 25) – farm consultant at Sheppard Agriculture. Pers. com.

[9] https://figure.nz/chart/L7Wzd4SZBjYyXTUf-NMJ4oN4qzpWPZ11s

9.8 ENVIRONMENTAL, SOCIAL, CULTURAL AND ECONOMIC COSTS AND BENEFITS

9.8.1 Environmental Costs & Benefits

The current land use on the HPL land is low intensity grazing with cattle or horses. Pasture quality is poor and representative of low fertility species, weed species and rushes. If farming was to continue then a deterioration in the wetland water quality can be expected with fertiliser, surface runoff and weed infestations. The addition of more drains has the potential to lower the watertable around the wetland. The ability to fund environmental enhancement from the farm income generated is zero.

If the proposed plan change is approved the environmental benefits of removing the HPL land from primary production include:

- Reduced nutrient leaching to the watertable. The flow-on effect of this is reduced nutrification of the adjacent wetland.
- Livestock excluded from the drains and eliminating a critical source area that eventually enters the downstream waterway. Cattle in a drain will cause pugging damage and bank erosion and excrete E.coli into the drain that eventually ends up in a waterway.
- There is an opportunity to plant the drains with native species that create an ecological corridor through to the next piece of native bush.

The expected environmental costs include:

- Removing the HPL land from primary production is not expected to create any environmental costs.

The net effect of removing the HPL land from primary production on the environment is considered positive.

It is also noted that other experts have assessed the environmental effects associated with rezoning to be minor.

9.8.2 Social Costs & Benefits

Currently farming the HPL land provides no social benefits to the community. There is a social cost in that the rates exceed $7300 and the income generated from the HPL land will only cover a fraction of this cost. Removing the HPL land would therefore create no social costs.

The social benefits of rezoning the land to residential use might include:

- Additional housing/housing options as covered by other experts,
- Subject to future site design, the potential for approximately 20 new houses over the 1.87 ha of HPL land adding an extra 50 people to the community and each paying $6-7,000 annually in rates (rating information is from houses adjacent to the subject land) (totalling $130,000). The social benefit from this will be high both for the individual directly benefiting and the wider community through increased housing supply.
- Enhanced environmental outcomes of improved water quality and biodiversity values have a positive effect on the social benefits.

The expected social costs of rezoning the HPL land for residential use might include

- loss of amenity as discussed by other experts[10], and understood to be low or minor
- Infrastructure capacity issues, as also discussed by other experts[11] and understood to be satisfactory.

[10] statement of evidence of Benjamin Ormsby on behalf of Eric, Vince and Raechel Osborne, Dated 2 September 2026.

[11] statement of evidence of Nick Taylor on behalf of Eric, Vince and Raechel Osborne, Dated 2 September 2026

Overall the net social benefit of the proposed plan change by removing the HPL land from primary production is considered positive.

9.8.3 Cultural Costs & Benefits

There are no known cultural sites of significance on the area of HPL land, and one known archaeological site on the non-HPL land[12]. Hence it is assumed that the net cultural benefit is considered neutral.

9.8.4 Economic Costs & Benefits

The current landuse on the HPL land, as discussed earlier, is economically unsustainable. No sustainable landuse will generate enough income to pay the rates, service a mortgage and produce an income. Hence the highest and best productive landuse is not economically viable. Therefore, the potential economic cost from removing the HPL land is negligible. Potential economic benefits from rezoning the land to residential use may include direct and indirect benefits for the community living on site and indirect for the wider service industries supplying services to the community on site.

Overall the net economic benefits of removing the HPL are considered positive.

In summary: the net economic, social and economic benefits are considered positive whilst the cultural benefits are considered neutral.

[12] statement of evidence of Mary O'Keeffe on behalf of Eric, Vince and Raechel Osborne dated 2 September 2026

10 NPS FOR HIGHLY PRODUCTIVE LAND (NPS HPL)

This section summarises the previous sections with respect to the NPS HPL sections and highlights where further detail in the document can be found.

10.1 OBJECTIVES NPS_HPL

The NPS-HPL came into force on 17 October 2022 and aims to protect highly productive land for use in land-based primary production, both now and for future generations. It requires councils to map and zone highly productive land and manage subdivision, use and development of that land.

The following policies of the NPS_HPL are relevant for this proposed plan change.

1. Highly productive land is recognised as a resource with finite characteristics and long-term values for land-based primary production.
2. The identification and management of highly productive land is undertaken in an integrated way that considers the interactions with freshwater management and urban development.
3. Highly productive land is mapped and included in regional policy statements and district plans.
4. The use of highly productive land for land-based primary production is prioritised and supported.
5. The urban rezoning of highly productive land is avoided, except as provided in this National Policy Statement.
6. The rezoning and development of highly productive land as rural lifestyle is avoided, except as provided in this National Policy Statement.
7. The subdivision of highly productive land is avoided, except as provided in this National Policy Statement.
8. Highly productive land is protected from inappropriate use and development.
9. Reverse sensitivity effects are managed so as not to constrain land-based primary production activities on highly productive land.

10.2 PRODUCTIVE CAPACITY OF THE SITE

Productive capacity, in relation to land, is defined in Clause 1.3 of the NPS-HPL as:

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:

[Therefore, an assessment of attributes of any land involved with consent applications on highly productive land (as described by clause 3.5(7) of the NPS-HPL) is required to complete assessments under clause 3.8, 3.9, and 3.10 of the NPS-HPL.]

a) physical characteristics (such as soil type, properties, and versatility);

My assessment found that due to the physical attributes on the HPL land, the following critical constraints to productive capacity of high value, plant-based production exist:

Implications of Soil Constraints on productive capacity (see Section 9.2):

LUC unit IIIw3 (the Pukepuke soil) due to:

- its poor drainage limit the landuse options to light stock due to the high risk from pugging and treading damage.
- The weak soil structure is due to the age of the soil. This eliminates cultivation. The weak structure also means this soil has limited soil moisture holding capabilities.
- The soil textures are loamy sands and contain very few exchange sites for holding on to nutrients. Hence any fertiliser programme needs to be frequent but with light rates. It also means the porosities are high making nutrient leaching high.
- The fluctuating watertable restricts plant root growth and shortens the growing season.

- Drainage is not very effective as shown by a drain dissecting an area of IIIw3 land.
- The HPL land does have surface drains but the outflow is ineffective.

LUC unit IVe4 (the Himatangi soils)

- These soils are free draining and prone to drought over the drier months.
- The soil development is weak and mostly granular, reflecting the age. Soil textures are loamy sands. This combination of structure and texture mean the soil has low moisture holding capability and poor ability to hold on to nutrients. The are prone to preferential flow and consequently high rates of leaching. Drainage is classed as well to excessively well drained.
- These soils have the tendency to become hydrophobic when they dry out and take a lot of rain to wet them up again.
- They are not suited to cultivation and if the vegetative cover is removed then they are prone to severe wind erosion.

Implications of Climate Constraints on productive capacity:

- High annual rainfall and relatively even annual rainfall distribution contributes to saturated soils and drainage related issues. Subsequent high risk of nutrient loss and freshwater contamination.
- Moderated summer temperatures with a lack of suitable Heat Units or Growing Degree Days above 10^0C baseline, and very little winter chilling in the subject location result in non-viable or marginal production outputs. This includes but is not exclusive to pip fruit, stone fruit, hops, grapes, kiwifruit, berries.
- High humidity results in high dependency on pesticide and fungicide sprays.
- Salt laden onshore winds inhibits salt sensitive plant performance.

Implications from lack of scale on productive capacity:

- The area of HPL land is 1.87 ha and is spread over two contrasting LUC units or soil types. This is below the economic threshold for all permanent high value crops assessed and this includes but is not exclusive to horticulture, viticulture, hops and kiwifruit.

Due to the limitations outlined in Sections 8 & 9, the land has very low to minimal productive capacity for high value plant-based land uses.

The best and highest productive land use has been determined from paddock scale LUC mapping and is low intensity pastoral farming on the areas of IIIw3 and IVe4 land. For the very small area of VIe5 land the highest and best productive use is production forestry or low intensity grazing with soil conservation techniques. At maximum potential pasture production and astute farm management practices, the HPL land can potentially run up to 19 su.

The subject land, therefore, has a low productive capacity under pastoral farming.

Over the whole area the returns from livestock production and forestry will not cover the rates, let alone the mortgage costs. (refer section 9.6).

b) ***Legal constraints (such as consent notices, local authority covenants, and easements); and***

The HPL land contains no legal constraints (the QE II covenant covers the wetland outside the HPL land).

c) ***the size and shape of existing and proposed land parcels.***

Implications of lack of scale on productive capacity

The HPL land (1.87 ha) is made up of two very contrasting land management units (one with poor drainage and the other is well to excessively well drained with poor physical properties) and these two units occur in a mosaic pattern across the area of HPL land. The size and shape of these units individually or collectively are too small to be viable for intensive cropping and other high value land uses if the soil resources were suitable. (refer section 9).

The highest and best productive use is low intensity farming and there is the potential for about 19 stock units. Currently an economic sheep and beef farm is about 3-4,000 stock units.

Implications of site location on productive capacity

There is no opportunity for the HPL land or the entire subject land to be amalgamated with neighbouring properties due to being either road reserve, residential houses, or other non-productive land.

10.3 Analysis of Site Under Clause 3.10 NPS-HPL

In this part of the report, I assess the HPL land against the criteria in clause 3.10 of the NPS-HPL.

(1) Territorial authorities may only allow highly productive land to be subdivided, used, or developed for activities not otherwise enabled under clauses 3.7, 3.8, or 3.9 if satisfied that:
a) there are permanent or long-term constraints on the land that mean the use of the highly productive land for land-based primary production is not able to be economically viable for at least 30 years; and
(see section 9.6) The NZLRI have mapped about 1.87 ha of land as 2s1 +2w1 and therefore it triggers the NPS HPL as highly productive land. All the subject land was remapped at the paddock scale, and this was used to determine whether long term or permanent constraints exist that make the land not economically viable for land based primary production for at least 30 years. On the HPL land the permanent or long term constrains identified include poor drainage on the IIIw3 land and poor soil physical properties on both the IVe4 and IIIw3 land (and the very small amount of Vie5 land). Due to the long-term physical constraints on the subject land, the highest and best productive land use is pastoral farming (on LUC units IIIw3 and IVe4) and production forestry (on VIe5) (VIe5 land may also be suited to low intensity pastoral farming with soil conservation techniques). According to the NZLRI, the physical potential stock carrying capacity is 19 su over the HPL land. If livestock operating surplus is currently $100/su then the property has the potential to generate $1,900. The area of VIe5 land is 0.09 ha, and it has been excluded from the calculations. The capital value of the HPL land is about $560k. If 40% was mortgaged ($224,000) then there would be an annual interest cost of about $13k (at 6%) along with a rates bill of $7690. The potential annual revenue of about $1,900 will not cover the rates, or service the mortgage or provide an income (see section 9.6). Note the current state of the pastures and soil fertility status indicates that the property would struggle to achieve 60% of this carrying capacity. **In summary**, the above basic calculation shows that the highest and best productive land use is not a viable economic option for the property over any period, 30 years or beyond.

(b) the subdivision, use, or development: (i) avoids any significant loss (either individually or cumulatively) of productive capacity of highly productive land in the district; and

(see section 9.7)

The Kapiti Coast District Council's total area is about 71,266 ha of which 9,309 ha is classified under the NZLRI 1:50,000 scale map as HPL land, ie LUC classes 1, 2 and 3. The area of HPL land within the subject area is 1.87 ha or 0.02% of the HPL land within the district. This is not significant and probably less than the margin of error.

The Agricultural Production Census (2022)[13] reported about 4,800 head of beef cattle and 685 dairy cows. No sheep were reported, although in 2007, about 23,000 sheep were recorded. These figures are considered light and should be taken with a grain of salt as there was only a 73% response rate and it was only compulsory for farms with a GST level of greater than $60k. Irrespective, this represents about 27,000 stock units.

The highest and best productive use of the HPL land is low intensity pastoral farming. The productive potential is about 19 su and a small amount of forestry. These 19 su represents about 0.07% of the districts stock units. Again, this is insignificant and probably less than the margin of error. There is therefore no significant loss of productive capacity in the District.

(ii) avoids the fragmentation of large and geographically cohesive areas of highly productive land; and

The proposed development will not produce fragmentation effects beyond those already experienced in the area. The development of this site will not cause fragmentation of the HPL land as there is no HPL land surrounding it (apart from where the new express highway runs)- refer section 8.7.

(iii) avoids if possible, or otherwise mitigates, any potential reverse sensitivity effects on surrounding land-

There are no productive uses in the surrounding land to the HPL (refer section 8.7 above) so reverse sensitivity effects will be avoided.

(c) the environmental, social, cultural and economic benefits of subdivision, use, or development 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.

Cost	Benefit	Overall
Environmental		
Refer section 9.8.1	Refer section 9.8.1	Positive.
Economic		
Refer section 9.8.4	Refer section 9.8.4	Positive.

[13] https://figure.nz/chart/L7Wzd4SZBjYyXTUf-NMJ4oN4qzpWPZ11s

Social		
Refer section 9.8.2	Refer section 9.8.2	Positive.
Cultural		
Refer section 9.8.3.	Refer section 9.8.3	Neutral.

As noted above, there will be no resulting significant loss (either individually or cumulatively) of productive capacity of highly productive land in the district because of this development, and therefore the benefits outweigh the potential costs associated with the loss of highly productive land.

(2) In order to satisfy a territorial authority as required by subclause (1)(a), an applicant must demonstrate that the permanent or long-term constraints on economic viability cannot be addressed through any reasonably practicable options that would retain the productive capacity of the highly productive land, by evaluating options such as (without limitation):

Various aspects of the site's productive capacity and options to improve are discussed below.

(a) alternate forms of land-based primary production:	Economic analysis of highest and best productive use is for low intensity pastoral use and forestry but analysis shows the site is incapable of economic feasibility due to constraints of scale. The site is not suited to market gardening, arable, horticulture, floriculture use as shown in Sections 9.2 & 9.4.
(b) improved land-management strategies:	Typical land management improvements were assumed for the site. The site was shown to be unfeasible with these strategies employed. The low-lying nature of the paddock scale IIIw3 land makes it difficult to drain, and the soil physical properties exclude more intensive land uses other than low intensity grazing on IVe4 land. (See Section 9.3).
(c) alternative production strategies:	N/A
(d) water efficiency or storage methods:	N/A, The highest and best productive land use does not require water (but is not economically viable) . Any other land uses that require water are considered not suitable to the land resources present.
(e) reallocation or transfer of water and nutrient allocations:	N/A
(f) boundary adjustments (including amalgamations):	There are no feasible options for amalgamation or lease of this land because • The site is isolated from all other (see section 8.7). • The site is not economically viable and therefore unattractive for a lessee. (see section 9.5).
(g) lease arrangements:	As above

(3) Any evaluation under subclause (2) of reasonably practicable options: (a) must not take into account the potential economic benefit of using the highly productive land for purposes other than land-based primary production; and **(b) must consider the impact that the loss of the highly productive land would have on the landholding in which the highly productive land occurs; and**
A) – the analysis above only considers the lands suitability for land based primary productivity. The site's suitability for land based primary productivity is severely constrained by a lack of scale and the land resources present. B) The whole block is proposed for a plan change. The effect of just removing the HPL land on the whole land holding in this case is not considered relevant. Despite this, the whole block is not considered an economically viable block, and this is detailed in Section 9.5.
(c) Must consider the future productive potential of land-based primary production on highly productive land, not limited by its past or present uses. The productive potential for the highest and best productive use has been considered above and due to the land resources present, these are a combination of low intensity pastoral farming and production forestry. These land uses are not economic for the site due to the scale. More intensive land uses are considered unsuitable due to the land resources present. (4) The size of a landholding in which the highly productive land occurs is not of itself a determinant of a permanent or long-term constraint. The permanent or long term constraints are the land resources present which dictate the highest and best productive use. The size of the block under these highest and best productive uses makes the block uneconomic. (5) In this clause: **landholding** has the meaning in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020. **long-term constraint** means a constraint that is likely to last for at least 30 years.

11 APPENDIX 1: MAPS

11.1 LAND USE CAPABILITY MAP

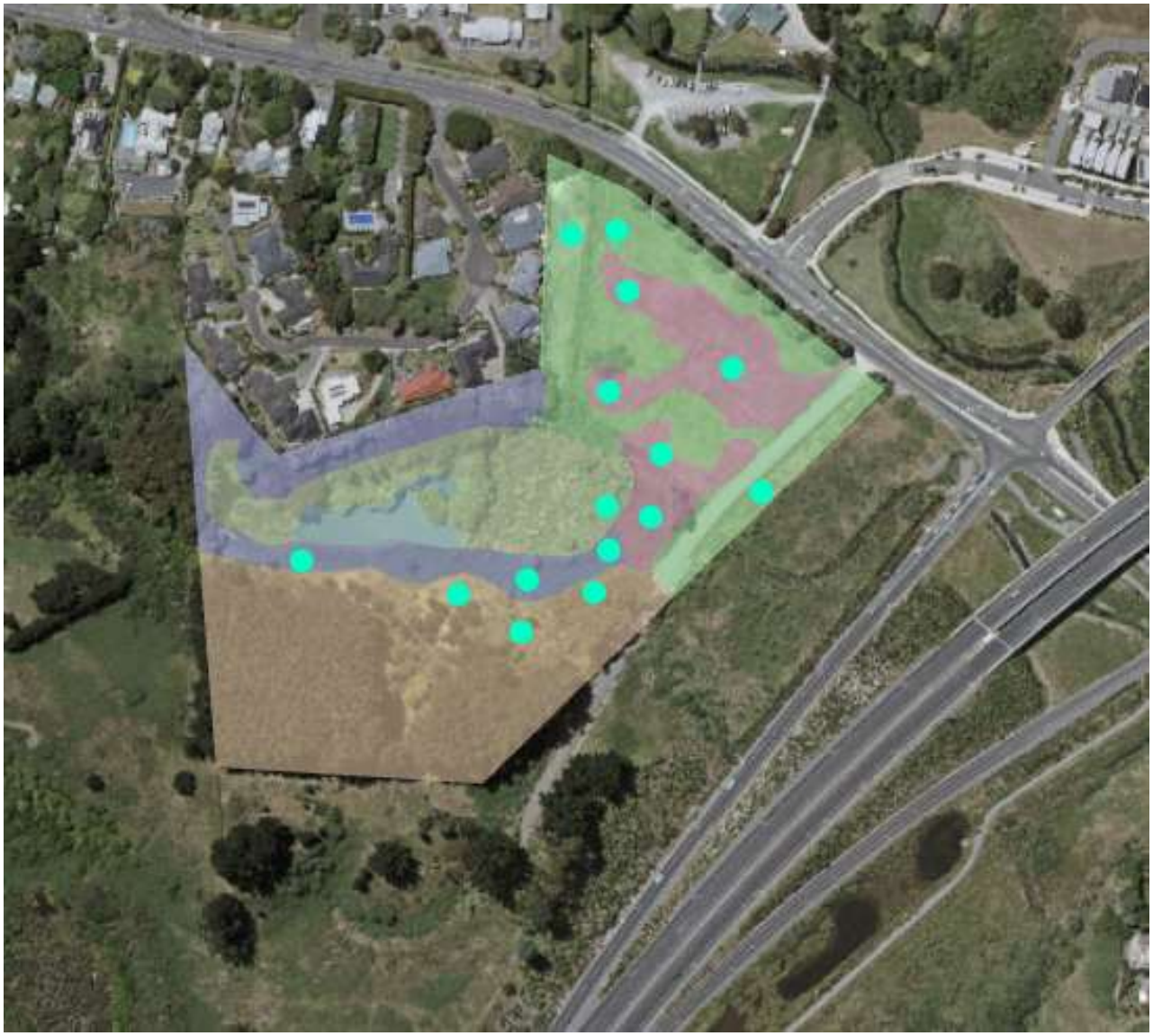
(Note: Mapped at 1:6,000)

11.2 SOIL RESOURCES MAP

(Note: Mapped at 1:6,000)

11.3 OBSERVATION POINTS MAP

The green dots present the observation points used in the field mapping. These observation points may have included a hole, an auger hole or a track cutting observation. The shaded areas on the map are the LUC unit classification.



(Note: Mapped at 1:6,000)

12 Appendix 2. Land Resources Legends

12.1 Extended Geological Legend

The dominant rock type on the property is windblown sand. There are also areas of peat around the wetland area.

12.2 Extended Soil Legend

The property is a combination of wet and dry sand flats and stable and potentially fragile sand dunes. There is also a small inter-dune wetland. The soils found on the property are described below.

	**Name: Pukepuke black sand.** **LUC map symbol:** P **Parent material:** Windblown sand. **Drainage status:** Poorly drained. **Soil consistence:** Friable to loose when moist, non-plastic when wet. **Degree of topsoil development:** Weakly developed. **Pugging susceptibility:** High. **Profile description:** 25 cm weakly developed, fine granular, friable to loose when moist, non-plastic when wet, very dark yellow-brown black (WO 2a) loamy sand. On: 20 cm weakly developed to structureless, fine to coarse granules, loose when moist, non-plastic when wet, dusky orange grey (WO 1c) sand with few brown mottles. On: weakly developed to structureless, fine to coarse granules, loose when moist, non-plastic when wet, pale grey (G 5f) gleyed sand with few to many orange mottles. On windblown sand. **Comments:** High water table in winter and spring make this soil prone to damage from heavy cattle and machinery. **Management considerations:** Care with cattle and machinery during winter, spring and extended wet periods. Maintain vegetative cover to avoid wind erosion.
	**Name: Foxton black sand.** **LUC map symbol:** F **Parent material:** Windblown sand **Drainage status:** Well drained. **Soil consistence:** Friable when moist, slightly plastic when wet. **Degree of topsoil development:** Weakly developed. **Pugging susceptibility:** Low. **Profile description:** 25 cm weakly developed, fine granular crumb, friable to loose when moist, slightly plastic when wet, brownish black (WO 1a) loamy sand. On: weakly developed to structureless, coarse granules, loose to friable when moist, non-plastic when wet, dark grey (G 5c) sand with few indistinct brown mottles. On windblown sand. **Management considerations:** Maintain vegetative cover to avoid wind erosion.

	**Name: Omanuka peat.** **LUC map symbol:** Om **Parent material:** Windblown sand over peat. **Drainage status:** Poorly drained. **Soil consistence:** Friable when moist, slightly plastic when wet. **Degree of topsoil development:** Weakly developed. **Pugging susceptibility:** High to extreme. **Profile description:** 16 cm weakly developed, fine granular crumb, friable when moist, slightly plastic when wet, brownish black (SO 1a) sandy loam with few to many brown mottles. On: weakly developed, fine to medium crumb, loose to friable when moist, plastic when wet, dusky strong orange brown (SO 3b) peat with many brown mottles. On windblown sand over peat. **Comments:** Perched water table makes this soil prone to damage from stock and machinery.
	**Name: Himatangi sand.** **LUC map symbol:** Hm **Parent material:** Windblown sand **Drainage status:** Excessively well drained. **Soil consistence:** Friable when moist, non-plastic when wet. **Degree of topsoil development:** Weakly developed. **Pugging susceptibility:** Low to moderate. **Effluent application risk:** High (due to slope > 7^0) **Profile description:** 8-12 cm weakly developed, fine granular crumb, friable to loose when moist, non-plastic when wet, greyish dark-yellow brown (WO 2b) loamy sand. On: structureless, coarse granules, loose when moist, non-plastic when wet, very light grey (G 5g) sand. On windblown sand. **Comments:** High potential for wind erosion if vegetative cover is removed. **Management considerations:** Maintain vegetative cover to avoid wind erosion. More suited to forestry than pasture.

12.3 EXTENDED SLOPE LEGEND

The definitions of the slope classes mapped on the LRI Map are shown in the table below, along with a summary of the various slope classes found on the property.

Slope class	Degrees	Slope description	Access suitability
A	0-3°	Flat to gentle undulating	Tractor
B	4-7°	Undulating	Tractor
C	8-15°	Rolling	Tractor
D	16-20°	Strongly rolling	Some tractor, four-wheel bike
E	21-25°	Moderately steep	Two-wheel bike
F	26-35°	Steep	Walking and some two-wheel bike
G	>35	Very steep	Walking
+	*Indicates a compound slope*		
/	*Indicates average slope is borderline between two slope classes*		

Slope class	Area (ha)	Percentage (%)
A, A+B, B’	3.0	52
C+D	0.8	14
E	2.0	34

12.4 EXTENDED VEGETATION LEGEND

The vegetation types and the definitions of the symbols on the LRI Map are shown in the table below.

Vegetation type	Map symbol	Area (ha)
Semi-improved pasture	gS	1.5
Unimproved pasture	gU	0.8
Wetland association species.	hW	1.0
Exotic trees	fR	0.5
Cutover forestry.	cfF	2.0
Rushes	hR	-
Scattered vegetation.	*	-

13 APPENDIX 3: KAPITI COAST DISTRICT COUNCIL PEER REVIEW - MR HAINSWORTH

Mr Sharn Hainsworth reviewed Version 1 of this report and below lists Mr Hainsworth's comments in blue and responses to these.

The name of the author of the report is absent.

Addressed in the document.

The name of the LUC mapper.

Addressed in the document.

The date that the LUC survey was undertaken.

Addressed in the document.

Evidence of antecedent soil moisture conditions at the time survey.

Considered irrelevant for the purpose of this report.

Mention of any permanent artificial drainage that has taken place on the site.

Addressed in the document but considered ineffective due to the heights of outlets and the watertable.

Evidence of the water table at the time survey, and an indication of the depth of the water table after any permanent artificial drainage on the site (this can potentially change LUC classifications of LUC map units at a site-specific scale, based on Section 3.3.5.2 of the LUC Survey Handbook (p 86), Lynn et al. (2021) or Lynn et al. (2009)).

LUC assessments are undertaken as if improvements are made to modify or remove any limitation. In this situation, the LUC unit 3w3 is in a depression area with no natural outlet. The soil profile as described in the appendix show the colour and depth to mottling. The photo for the Pukepuke soil clearly shows the orange mottling and wetting front. According to Milne et al (1995) page 148 the soil is classified as poorly drained. A poorly drained soil has a moderate to severe wetness limitation according to the NZRI handbook (ref below) and therefore at best, it is classified as class 3w land.

The handbook also comments that for removal or modifying of a limitation, it needs to be 'reasonable, feasible and economic.' The low-lying nature of the landscape show that it is not feasible. The small area shows that it would also not be economic. And finally, practically it would be difficult to shift the water from the site as the new highway would prevent it going east and the Te Moana Road would stop it going to the west.

The other area of land with a wetness limitation is a wetland and under the NES FW drainage of this area would not be entertained. A 100 m buffer zone in the report shows the no go area for drainage.

There are no grid referenced observations showing soil where soil or site observations were taken or made on the site to determine the 1:3,000 scale map units presented in the soil and LUC map provided.

A correction to the observation that the mapping scale is 1:6,000 scale rather than 1:3000. The map in Appendix 1 shows the observation points.

Most of the soil profile photos do not include a scale. One includes a spade, so it gives some indication of scale, but a measuring tape is important for scale in soil profile photos, when trying to determine if reductimorphic features (gleying) or ochreous mottles (red or orange mottles or manganese are occurring at specific depths within the soil profile, to the nearest 5 cm increment. This is especially important in difficult to decipher soils such as coastal sands in low-lying environments such as at 100 & 110 Te Moana Road, Waikanae.

Point taken but in this situation, it really adds no value. I am sure Mr Hainsworth is conversant with the Pukepuke soil and a tape measure in this case would not provide any further clarity. It is noted that most of the soil bureau reports

containing detailed soil descriptions and the S Map info sheets have no photos of the profiles. It is noted that the horizon depths for all soils are documented.

There are no references. This means no reference to use of Milne et al. (1995) (the Soil Description Handbook), no reference to Hewitt (2010), or Webb and Lilburne (2011), (the New Zealand Soil Classification), and no reference to Lynn et al (2009) or Lynn et al (2021), (the LUC Survey Handbooks). Neither is there any reference to any Soil Bureau Bulletins, any use of S-map Online (there is S-map coverage for the area, and it looks quite useful, especially the "map unit page", and the "improved factsheets", but they are at 1:50,000, compared with the 1:3,000 scale mapping of Land Vision Ltd, which is considerably more detailed), the Fundamental Soil Layer, the New Zealand Land Resource Inventory, or Landcare Research Science Series No 6 by Mike Page (LUC Classification of the Wellington Region) (1995), or to the nationally correlated NZCU LUC units. It would also be useful to have referenced the Protocols for Farm Scale Soil Mapping (Grealish (2019), Grealish et al. (2018) and Grealish (2017)).

Where appropriate these have been added but really they add no value.

14 APPENDIX 4: KAPITI COAST DISTRICT COUNCIL PEER REVIEW – MS CHAMBERS

The following table responds to the evidence of Juliet Chambers as part of her peer review evidence of the HPL assessment.

Paragraph	Juliet Chambers comments/concerns	Response
13.9	The Report does not include a direct spatial comparison between the NZLRI mapping and the site-specific LUC mapping. Accordingly, it is not possible to accurately quantify the relationship between the 1.83 ha of NZLRI LUC 2 land and the individual LUC units identified in the site-specific assessment. Based on my review of the available mapping, the area identified as LUC 2 in the NZLRI appears to broadly correspond with land classified as LUC 3 and 4 in the site-specific assessment, together with a small area of LUC 6 land. As no formal spatial reconciliation has been undertaken, this observation should be regarded as indicative rather than definitive.	See revised report Section 8.1, page 11 bottom table quantifies the difference between regional LUC mapping and paddock scale LUC/LRI mapping. Spatially this is shown on the map in Section 9.1.
14.1	The site-specific LUC and soil resource assessment identifies 0.76 ha of LUC 3w3 land (13.1% of the site). No LUC 2 land was identified within the site-specific assessment area. The balance of the site is classified as LUC 4, 6 and 8 land.	It is noted that within the HPL land there is only 0.67 ha of IIIw3 land. The additional 0.09 ha is contained in the area of non-HPL land. This is shown on the table in the report on Page 11. It is also noted that for paddock scale LUC mapping the LUC class is written in roman numerals and the regional scale LUC mapping (NZLRI) the LUC class is written in normal letters.
14.4	The assessment also identifies site scale as a limitation to productive use. However, clause 3.10(4) of the NPS-HPL states that the size of a landholding in which HPL occurs is not, of itself, a determinant of a permanent or long-term constraint. While site scale may influence the practicality and efficiency of land-based primary production, it should not be relied upon in isolation as evidence of a permanent or long-term constraint for the purposes of clause 3.10.	Agree. The size of the parcel is not relied on in the clause 3.10 assessment, instead the constraints on productive capacity and use of the HPL land.
14.5	The lack of irrigation water is also identified as a constraint. While irrigation availability may influence productive potential, insufficient information has been provided regarding water availability, allocation status, storage opportunities or the feasibility of securing an irrigation supply to determine whether this constitutes a permanent or long-term constraint.	On review the highest and best productive use over the HPL land is low intensity grazing. Irrigation is not needed for this use and has been discarded as a constraint from the original report. See Section 9.2 where irrigation is not listed as a constraint.

14.6	The LUC 3w3 land is interspersed with areas classified as LUC 4e4, which are described as free draining. This indicates that drainage characteristics vary across the site and that the identified wetness limitations are not uniformly expressed. Furthermore, the site-specific assessment does not include a direct spatial comparison between the NZLRI LUC 2 land and the farm-scale LUC units. Accordingly, while I am satisfied that wetness and drainage represent long-term constraints affecting the LUC 3w3 land, I am unable to determine the extent to which those constraints apply across the full 1.83 ha of land identified as HPL under the transitional provisions of the NPS-HPL.	As explained in the revised report, the primary LUC Units in the HPL land have contrasting limitations across a mosaic, making opportunities for productive use of the 1.87ha of HPL land as a whole more challenging- eg drainage limitations alongside excessive drainage, see section 9.3.
14.7	In summary, the site-specific LUC and soil resource assessment identifies long-term wetness and drainage limitations affecting the LUC 3w3 land. The assessment also identifies the presence of a natural wetland, which together with the associated regulatory framework may limit the range of land-based primary production activities that can be undertaken. The lack of irrigation water may also influence the versatility of the land; however, insufficient information has been provided to determine whether this represents a permanent or long-term constraint.	It is noted that the natural wetland is not within the area identified as HPL land. Irrigation water will not address versatility on IIIw3 land but may on IVe4 land, however the highest and best use is low intensity grazing that does not require irrigation water. Sections 9.2 and 9.3 details the constraints over the HPL land collectively.
14.8	In my opinion, the available evidence demonstrates that long-term wetness and drainage constraints affect the land identified as LUC 3w3 within the mapped HPL. The available evidence also identifies factors that may limit the versatility of the site for land-based primary production. However, based on the information before me, I am unable to conclude that permanent or long-term constraints apply across the full 1.83 ha of HPL identified under the transitional provisions of the NPSHPL.	Sections 9.2 and 9.3 details the long term or permanent constraints over the HPL land collectively.
15.2	In my opinion, the available evidence demonstrates long-term constraints affecting part of the mapped HPL. However, for the reasons set out above, the evidence does not establish the nature and extent of those constraints across the full 1.83 ha of HPL identified under the transitional provisions of the NPS-HPL.	Sections 9.2 and 9.3 details the long term or permanent constraints over the HPL land collectively.

15.3	Accordingly, I am unable to conclude that the identified permanent or long-term constraints apply across the entirety of the mapped HPL.	This is addressed above.
15.5	Mr Grant assesses the economic viability of the property using the previous 10 years' data from the Beef and Lamb New Zealand economic survey for the Western North Island Class 5 finishing farms. Whilst I agree with the application of this industry data, I was unable to reconcile the Economic Farm Surplus (EFS) figures presented on page 12 in the report with the published Beef + Lamb New Zealand Economic Service survey data. If the published EFS per hectare figures were not used, it would be helpful for the methodology to explain how the EFS values were derived. One possible explanation is that provisional or forecast data available at the time the assessment was undertaken (assumed to be 2023) was used, with the published figures subsequently updated.	Agree, this is unclear. I have simplified this as shown in Section 9.6. I have also revised it to include just the HPL land and the whole of the subject land. I did have difficulties in extracting the rates from the KCDC website and was unsure whether the rates included both parcels. Irrespective, the potential income from either just the HPL land or the whole of the block cannot support the rates if this is for one or both blocks.
15.6	I also note that the economic assessment is based on approximately 0.8 ha of HPL, whereas approximately 1.83 ha of the site is identified as HPL under the transitional provisions of the NPS-HPL. While the assessment provides useful information regarding the productive potential of the assessed area, it does not evaluate the full extent of the mapped HPL.	The economic assessment now covers the full extent of the HPL land on the site- see sections 9.5 and 9.6.
15.7	While the economic assessment provides useful context regarding the productive potential of the site, for the reasons outlined above I do not consider it provides sufficient evidence to demonstrate that the use of the full 1.83 ha of HPL for land-based primary production is not economically viable for at least 30 years because of permanent or long-term constraints, as required by clause 3.10(1)(a).	Now addressed under Sections 9.6 and 10.3.
15.10	The site-specific LUC and soil resource assessment indicates that the productive capacity and versatility of the site are more constrained than suggested by the regional-scale NZLRI mapping. The assessment identifies 0.76 ha of LUC 3 land and no LUC 2 land, with the balance of the site-specific assessment area classified as LUC 4, 6 and 8. The identified wetness and drainage limitations, together with the presence of a natural wetland and the associated regulatory framework, reduce the range of land-based	Now addressed See sections 9 and 10 of the report.

	primary production activities that can reasonably be undertaken on the site.	
15.13	The permanent loss of HPL can only be avoided by retaining the HPL in rural use or by reducing the extent of HPL proposed for rezoning. The applicant has also identified an alternative option involving a deferred residential precinct. However, while this may defer the timing of the loss of HPL, it would not avoid the permanent loss of HPL should urban development ultimately proceed.	This is not covered in my report. The revised report is quite clear the constraints over the whole of the HPL land are long-term or permanent and the proposal satisfies clause 3.10 of the NPS HPL.
15.14	No specific assessment of fragmentation effects has been provided by the applicant. However, based on my review of aerial imagery, district plan mapping and available land resource information (Appendix 2), the site is bounded by land that is not identified as HPL to the east, urban zoned land to the north, and Te Moana Road to the west. Although an area of HPL is located to the south of the site, it is separated from the site by an existing sealed access and is further separated by the Kāpiti Expressway, Te Moana Road and intervening areas of non-HPL. In my opinion, the proposal is therefore unlikely to materially fragment a larger, geographically cohesive area of HPL.	Section 8.7 now shows the surrounding land use and the regional scale NZLRI map, and the natural barriers (express way and road). It is physically impossible for the proposal to create fragmentation.
15.15	No specific assessment of reverse sensitivity effects has been provided by the applicant. Based on my review of the surrounding land uses, the potential for significant reverse sensitivity effects appears to be limited. The site is bounded by existing urban development to the north, Te Moana Road to the west, and land that is not identified as HPL to the east. While an area of HPL is located to the south of the site, it is physically separated from the proposed rezoning by an existing sealed access, with the wider HPL area further separated by the Kāpiti Expressway and intervening areas of non-HPL. In my opinion, this existing land use and physical context is unlikely to give rise to significant reverse sensitivity effects on surrounding land-based primary production.	This assessment has been added. The location of the HPL land pretty much is boxed in by the surrounding roading network and the adjacent residential houses, the area of non-HPL land, and non-productive surrounding land uses. There is no chance of reverse sensitivity as discussed in the revised report in section 10.3. Therefore, I agree with Ms Chambers opinion.
15.16	The loss of HPL contributes incrementally to a reduction in the district's productive land resource. However, based on my review of the applicant's information, aerial imagery, district plan mapping	Agree. See section 9.7 that quantifies the loss of HPL land for the district is negligible.

	and other available land resource information, I consider the cumulative effects to be moderated by the extent of HPL affected, the site's overall land resource characteristics, and its apparent physical separation from other areas of HPL by existing urban development and transport infrastructure.	
15.20	From an agribusiness and land resource perspective, I agree that the site-specific LUC and soil resource assessment indicates that the productive capacity and versatility of the site are more constrained than would typically be expected of unconstrained LUC 2 or LUC 3 land. However, I also note that the applicant's economic assessment considers approximately 0.8 ha of HPL, whereas approximately 1.83 ha of the site is identified as HPL under the transitional provisions of the NPS-HPL. Furthermore, for the reasons set out in Sections 14 and 15.1, I am unable to conclude that permanent or long-term constraints apply across the full extent of the mapped HPL.	The revised report covers the whole of the HPL land with respect to constraints and shows these constraints are present over all the HPL land, albeit contrasting constraints. As a result, the report also goes on to show that the proposal meets the NPS HPL clause 3.10 across the full HPL area.
15.21	Whether the broader environmental, social, cultural and economic benefits of the proposal outweigh the costs associated with the loss of HPL is ultimately a matter for the Hearing Panel, informed by the planning evidence.	These are now addressed in more detail in Sections 9.8 and 10.3. Overall, there is a positive benefit to the environment, social and economic. The cultural benefit is considered neutral.
15.24	However, beyond the matters discussed above, the information before me does not include a comprehensive assessment of the matters identified in clause 3.10(2). Accordingly, I am unable to conclude whether those matters could address the identified permanent or long-term constraints across the full 1.83 ha of HPL identified under the transitional provisions of the NPS-HPL.	The report has been amended to include all land within the area identified as HPL land and not just the IIIw3 land.
15.26	As discussed in relation to clause 3.10(2), the information before me does not comprehensively address the matters relevant to the evaluation of reasonably practicable options. Accordingly, I am unable to conclude whether the evaluation required by clause 3.10(3) has been undertaken in respect of the full 1.83 ha of HPL identified under the transitional provisions of the NPS-HPL.	The report looks at ways of rectifying the constraints in section 9.3 and none of the options were considered practical and/economically viable. The mosaic nature of the constraints and with them being completely contrasting adds to the challenge.

16.1	Approximately 1.83 ha of the site meets the definition of HPL under the transitional provisions of clause 3.5(7) of the NPS-HPL.	There is a slight difference in the area calculated as HPL land between my report and Ms Chambers. This will be brought about by rounding errors in the GIS.
16.3	Based on the information before me, I am unable to conclude that permanent or long-term constraints apply across the full 1.83 ha of HPL identified under the transitional provisions of the NPS-HPL. Accordingly, I do not consider the available evidence demonstrates that the requirements of clause 3.10(1)(a) have been established across the full extent of the mapped HPL.	In reviewing the 2023 document this is a fair assessment and now has been corrected in the revised 2026 document.
16.5	Based on the information before me, I am unable to conclude whether the requirements of clauses 3.10(2) and 3.10(3) have been satisfied.	The revised document now demonstrates that the proposal will meet the requirements of clauses 3.10(2) and (3).