BEFORE THE HEARING PANEL APPOINTED BY KAIPARA DISTRICT COUNCIL

Under the	Resource Management Act 1991
In the matter	Private Plan Change 85 (Mangawahi East) to the Kaipara District Plan

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EVIDENCE OF ROBERT WILLIAM CATHCART ON BEHALF OF KAIPARA DISTRICT COUNCIL

Highly Productive Land

1 December 2025

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1. INTRODUCTION

1.1 My full name is Robert William Cathcart, but I am known as Bob Cathcart. I am a Land and Environmental Management Consultant working with AgFirst Northland. I have been in this position since January 2014.

1.2 My qualifications are:

(a) Bachelor of Agricultural Science from Massey University, majoring in soil science and soil and water management;

(b) Diploma in Business Studies from Massey University; and

(c) Certificate of Soil Conservation issued by the Soil Conservation and Rivers Control Council and Lincoln College (University).

1.3 Additionally, I am:

(a) a Fellow of the New Zealand Institute of Primary Industry Management;

(b) an Honorary Member of the New Zealand Association of Resource Management;

(c) a Member of the New Zealand Soil Science Society; and

(d) recognised as a 'Suitably Competent Mapper' under the National Environmental Standards for Plantation Forestry.

1.4 I have had a wide range of land use capability and urban land use capability assessment, soil conservation works, and land management advisory experience during my professional career, with a large portion of that experience gained in Northland. This experience has included land resource inventory and land use capability mapping for almost 50% of the Northland region, at a 1:63,360 catchment scale, generating data which was purchased from the Northland

Catchment Commission and published by the Ministry of Works and Development as the 1st Edition of the National Land Use Capability Worksheets. This data is now available online as the New Zealand Land Resource Inventory – Land Use Capability digital database.

1.5 At the other end of the scale, I have field mapped several hundred properties at a farm-scale (1:1,000 to 1:7,500) and almost 5,000ha of land owned by a Northland forest management trust, assessing and recording land resource inventory and land use capability, and continue to do so.

1.7 In addition, during my 60 years of local government experience I have been involved in planning flood risk reduction, including flood avoidance, public schemes to mitigate risk and, for almost 20 years, I was the regional civil defence controller for Northland. My risk avoidance work included identifying and quantifying risk from flooding, land instability, erosion and land settlement, and urban land capability mapping, including Molesworth Peninsula and Mangawhai Village

1.6 I have been engaged by Kaipara District Council (**Council**) to provide evidence to this Hearing Panel regarding the effects on highly productive land and versatile soils that are associated with proposed Private Plan Change 85 (**PC 85**). Also, when requested to peer review technical reports associated with PC85, I have commented on previous sand drifts affecting neighbouring land and on how sea level rise will affect stormwater discharge from the PC85 land and how that may affect primary production on the land.

1.7 While I acknowledge that this is not an Environment Court hearing, I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 and have complied with it in preparing this evidence. I confirm that the issues addressed in this evidence are within my area of expertise and I have not omitted material facts known to me that might alter or detract from my evidence.

1.8 I am authorised to make this statement on behalf of the Council. I understand that this statement will be attached to the report under section 42A of the Resource Management Act 1991 (**RMA**) that is being prepared by Jonathan Clease.

2. SCOPE OF EVIDENCE

2.1 In this evidence I will:

(a) Identify the extent of the site that is Highly Productive land, as defined under the National Policy Statement on Highly Productive Land 2022 (**NPS-HPL**);

(b) Assess the actual land use capability classification and productivity of the PPC85 site; and

(c) Assess the matters that apply under the NPS-HPL (relevant to my expertise) relating to rezoning highly productive land to urban and rural lifestyle zones.

2.2 In preparing this evidence I have reviewed the following documents:

(a) "Plan Change (Private) - Mangawhai East Development Area" dated July 2025 (**the Plan Change request**);

(b) submissions on PC 85 raising matters relating to Highly Productive Land;

(c) Blue Grass Limited v. Dunedin City Council [2024], NZ. Env C83.
2025 NZEnvC 330 Townsend Ors v Selwyn District Council
[2025] NZ Env C 058 Gardon Trust v. Auckland Council;

(d) 3rd Edition Land Use Capability Survey Handbook (2009);

(e) Harmsworth, Garth R., 1996. Land Use Capability Classification of the Northland Region, Landcare Research Science Series No. 9; and

(f) New Zealand Land Resource Inventory – Land Use Capability digital database

3. SUMMARY

3.1 Land recorded on the New Zealand Land Resource Inventory – Land Use Capability digital database as Land Use Capability Classes (LUC) Class 1, 2 or 3 is, legally, highly productive land under the National Policy Statement for Highly Productive Land 2022.

3.2 The NZLRI identifies 83% of the plan change site as Class 3w4 and 3s4 land on the nzlri-luc digital database, and therefore highly productive land pursuant to the NPS-HPL. However, while this land is to be treated as highly productive land as defined under the NPS-HPL, the mapping of the land subject to PC85 within the NZLRI is inaccurate, incorporating some hillside land, land already under dwellings, the camping ground, etc., and some areas of salt marsh flats. The nzlri-luc, therefore, exaggerates the area of 'highly productive land'. Instead of the Class 3 land representing almost 83% of the land subject to PC85, a more accurate definition of boundaries of the same nzlri-luc land use capability units reduces to just over 59%.

3.3 In relation to the proposed re-zoning of parts of the site that are defined as highly productive land to "urban zonings", this requires assessment under clause 3.6(4)(c) of the NPS-HPL of the economic costs associated with the loss of highly productive land for land-based primary production. For the reasons set out in my evidence, I consider that due to the various constraints on the productive use of the site's soil resource for farming, the costs associated with its urbanisation are low in terms of the lost productive potential.

3.4 In relation to the part of the site that is proposed to be re-zoned to Rural Lifestyle, this requires assessment under clause 3.10 of the NPS-HPL. In relation to the relevant matters under clause 3.10 I note that the land in question is subject to long term constraints due to the lack of secure and reliable access to irrigation. The ownership of the site is already fragmented. The soil resource does not generally

meet the LUC 3 criteria, and there is not a single contiguous portion of highly productive land that could be put to productive use if ownership were rationalised. The site's neighbours are a campground and lifestyle properties, meaning that the development or rural lifestyle properties is unlikely to result in reverse sensitivity effects. For these reasons I consider there to be insufficient justification under clause 3.10 to decline the rezoning of land to rural lifestyle zone.

4. THE EXTENT OF THE PC85 SITE THAT IS HIGHLY PRODUCIVE LAND UNDER THE NPS-HPL

4.1 This part of my evidence addresses the extent of the PC85 site that is "highly productive land", as defined under the NPS-HPL.

The definition of highly productive land under the NPS-HPL

4.2 Land recorded on the Land Resource Inventory – Land Use Capability digital database as Land Use Capability Classes (LUC) Class 1, 2 or 3 is, legally, highly productive land in terms of the National Policy Statement for Highly Productive Land 2022. This interpretation has been made by the Courts and confirmed in a September 2024 Amendment to the National Policy Statement for Highly Productive Land. *That is, if the nzlri-luc says it is LUC Class 1, 2 or 3, it is, regardless of evidence to the contrary.*

4.3 This will remain the case until the local regional council, in this case, the Northland Regional Council, introduces a change to its Regional Plan, more accurately defining what is 'highly productive land' (HPL) in Northland and delineating it on a map of suitable scale.

4.4 The proviso that delineation of HPL in regional and district plans be on 'a map of suitable scale' is very important. Northland has a very complex geology and an even more complex pattern of soil types, distinct differences in soil type and potential productivity occurring within short distances. As Mr Hanmore explains, the scale of mapping determines just how accurate the delineation of soil types and LUC Classes can be. Unfortunately, some digital databases, including the nzlri-

luc database, can be enlarged to whatever scale the user wishes, despite warnings which may accompany the data.

The parts of the PC85 site that is Highly Productive Land

4.5 PC85 involves some 94ha of land, either side of Black Swamp Road. The nzlri-luc database shows this land to comprise almost 83% Class 3 (62ha, all the land north of the road, mostly Class 3w4, with a small area of Class 3s4, and 16ha of Class 3w4 south of the road, 17% of the total PPC85 land) and the remainder, all south of the road, as Class 4e5. That is, 83% of the land is legally, 'highly productive land' pursuant to the NPS-HPL.

4.6 While the report by Mr Ian Hanmore of Hanmore Land Management explains that, following the procedures and assessment standards of the 3rd Edition Land Use Survey Handbook, 2009, it his opinion that only 60% of the property is Class 3, the Council is required by the NPS-HPL and by case law to use the nzlri-luc assessments.

4.7 Mr Hanmore's reassessment, however, shows the nzlri-luc database, at a scale of 1:50,000, does not identify the considerable variation in the land that there is in reality. His more detailed survey, following the procedures of the 3rd Edition, Land Use Capability Survey Handbook, 2009, and his explanation of the potential productivity of the re-assessed and re-mapped LUC Units will assist in understanding the relative importance of the PC85 land to the productivity of the Mangawhai areas and to the wider Kaipara District.

4.8 If the land shown as Class 3 on the nzlri-luc database, and therefore 'highly productive land,' was to be developed as proposed, what effect would that have on the supply, use and productivity of land for soil-based production within the district? These are the 'test's required under Sections 3.6 and 3.10 of the NPS-HPL.

4.9 Parts of the site that are highly productive land under the NPS-HPL are proposed under PC85 to be rezoned as:

(a) A variety of "urban" zones as defined under the NPS-HPL. These are: Mixed Use Zone, Neighbourhood Centre Zone, Large Lot Residential Zone, Medium Density Residential Zone, and Low Density Residential Zone; and

(b) Rural Lifestyle zone.

4.10 **Attached** to my evidence as **Attachment A** is a map showing the proposed zonings of the PC85 site overlaid on Mr Hanmore's LUC Map. .

5. ASSESSMENT OF THE ACTUAL SOIL CLASSIFICATIONS AND PRODUCTIVITY OF THE PPC85 SITE

5.1 As outlined above, 83% of the PC85 site is classified as highly productive land, as defined under the NPS-HPL.

5.2 My understanding of the case law is that the transitional definition of highly productive land (in clause 3.5(7) of the NPS-HPL) is intended to create a "holding pattern" for protection of land that is mapped as LUC 1, 2 or 3 in the NZLRI, or by more detailed mapping that uses that classification, at the date of commencement of the NPS-HPL, until such time as more detailed mapping is undertaken by regional councils.[1]

5.3 This definition implies that, despite recognised Land Use Capability Assessors undertaking land use capability surveys according to the procedures of the 3rd Edition of the LUC Handbook, the new data will not be recognised because it is not within the nzlri-luc database, maintained by Manaaki Whenua – Landcare Research.

5.4 Notwithstanding this definition under the NPS-HPL, this part of my evidence addresses the actual soil classification and, based on that, the potential productivity of the PC85 site. This is relevant to the matters that the Hearing Panel is required to consider under clauses 3.6(4) and 3.10 of the NPS-HPL regarding the costs of re-zoning the land, and the actual loss in land-based primary production.

[1] See for example *Blue Grass Limited v Dunedin City Council* [2024] NZEnvC 83.

Landform

5.5 The Hanmore Land Management 'Addendum Report for the Cabra Soil and Resource Report, Mangawhai', appended to AgFirst Waikato's Mangawhai East Development NPS-HPL Assessment, April 2025, was prepared by Ian Hanmore of Hanmore Land Management following a peer review of his earlier soils and land use capability report submitted with the application for a Private Plan Change. The following short explanation may help to better understand how the land and soils were formed and how that affects their current and potential use for sustained 'soil-based agriculture', that is, to realise, or not realise their potential as 'Highly Productive Land', as mapped by the land resource inventory land use capability digital database.

5.6 The eastern or hill section of PPC85 is gently rolling to rolling hill country with clay soils developed on banded Waitemata sandstone, the surface rock type in this area. Seaward of this hill country are old sand deposits, dunes and harbour and inshore seabed deposits. Fluctuating sea levels, lower during the last ice age and higher both before and after, have inundated the sand, compacting and cementing it to form what is referred to locally and further north in Northland as 'sandstone'.

5.7 While above sea level, swamps with peat formed in the basins in the cemented sands. Kauri forests grew around the edges of these peat swamps and on the compacted 'sandstone', many falling into and being preserved as 'swamp kauri' in the very acid peat swamps. The low sand ridges, either dunes or higher sections of the estuarine and coastal sand deposits, have Tangitiki sand soils, both moderately podzolised (by kauri) soils or the eroded profiles of more strongly podzolised Te Kopuru soils.

5.8 Podzolisation is an extreme leaching process which occurs under kauri forests. Kauri trees shed their bark, leaves and small branches as they grow, the shed material building up under the tree as 'litter.' The litter is very acid and rather than decomposing to form humus, it accumulates under the tree. Rainwater washing through the acid litter percolates through the soil as a mild acid, leaching out

nutrients and clay particles. Under dense stands of kauri, the soil becomes extremely leached, creating a peaty surface layer of semi-decomposed organic matter, peat, over a layer of almost pure silica.

5.9 This layer of grey to white almost pure silica can become cemented to form a 'silica pan', sometimes deep and dense enough to prevent tree roots penetrating, as hard as concrete in summer. This is 'gumland', sometimes locally referred to as 'pipe clay', land not successfully developed for farmland until the 1950s. Some of it was dug over for kauri gum, further disturbing and depleting what is generally considered one of New Zealand's most difficult and infertile soils.

5.10 The One Tree Point soils (One Tree Point peaty sand) on the PC85 land were not podzolised to the same extent as 'gumland' soils further inland but were clothed in kauri forests long enough to leach nutrients and any clay particles from the soil, leaving a peaty surface layer over leached sand, with a cemented sand basement layer. This cemented sand impeded drainage and encouraged the development of peat. The One Tree Point soils cover most of the flat land within PC85, with Ruakaka peaty sandy loam soils in deeper basins on the flats.

5.11 To help determine the potential productivity of this land, it is important to consider how the landscape was formed.

5.12 There is a series of coastal dunes, backed by remnants of older dunes laid down over cemented sand, with land-locked basins and swales between, some forming lakes and others filled with peat. This is a common landform along the east coast of Northland, with extensive areas between the Ruakaka River mouth and One Tree Point, inland of Tokerau Beach on the Karikari Peninsula, and on the Aupouri Peninsula from the mouth of the Awanui River to Houhora. These basins and swales are at or near sea level and receive runoff from adjoining inland hills or depend totally on rain falling on them. Some basins have been drained for farmland by cutting channels through sand ridges but, because there is little or no grade/fall in these drains, stormwater still ponds in the basins, lying long enough to kill pasture and crops (maize) in some years.

5.13 The watershed boundary between water draining towards the east coast and water draining into tributaries of the Hoteo-Hakaru River system and the Kaipara Harbour is in close proximity to the east coast. The small groundwater aquifers in the hind-dune area along the Mangawhai-Pakiri coast have a very limited catchment, dependent, mainly, on recharge from rain falling on the dunes and wetland systems. Similarly, the remnant indigenous wetlands in the hind-dune area are maintained mainly by direct rainfall rather than recharge from stream flow.

5.14 In summary, the land subject of PC85 comprises:

(a) a section of Class 4e5 hill and other non-HPL land with Mahurangi and Waitemata clay soils west of Black Swamp Road;

(b) a higher terrace with Class 3w4 peaty sand One Tree Point soils, like a blanket of peat and podzolised sand, spread over the land with, in places, a low ridge of former dune sand with Class 3s4 Redhill and Tangitiki sand soils, protruding through the peat overlay; and

(c) a saline marsh, a former arm of the harbour varying from slightly above to slightly below sea levels, with Takahiwai sand soils and areas where no soil has yet formed, which Mr Hanmore has assessed as Class 6w2, but which is not differentiated as such on the nzlri-luc database. That is, the nzlri-luc records all of the land north of Black Swamp Road as Class 3 and, therefore 'highly productive land'.

5.15 Mr Hanmore has assessed the land use capability of the whole property at a more detailed scale to enable a better understanding of the potential productivity of the PC85 land. As he notes in his Addendum Report, he did not have access to all of the land and so his assessments are extrapolations from land he did walk over. Mr Hanmore also notes that, even within his more detailed assessment, while he has assessed almost 66ha of the land north of Black Swamp Road as Class 3, mainly Class 3w4, buts some Class3s4, there are variations within the predominantly Class 3 land. If he was to survey the land at a very detailed scale to, for example, assist a landowner to prepare a farm management plan or an orchard plan, Class 3 may be the dominant Class, but it would not be the only landform and LUC Class he would record. As previously described, the soils have formed on old, compacted sand terraces, either harbour or inshore deposits of sand and silt. Just like the bed

of the adjoining estuary, the land surface is not flat, having basins, sand banks, and old channels. Draining the land for farming has caused the peat to 'shrink' as it dries, accentuating the unevenness of the surface.

5.16 Within the area mapped as predominantly Class 3, there are deeper basins and swales, or at the other extreme, raised cemented sand ridges, of Class 4 to Class 7 land. These include:

(a) Peat basins of Class 4w3, 6w3 or even 7w2, depending on how long water ponds after rain;

(b) Exposed areas Class 4s5 or 6s4 cemented sand or the subsoil of podzolised sand within the matrix of Class 3w4; and

(c) Some of the lower areas on the saline flat, land inundated during Spring tides, would be Class 7w and some Class 8w.

5.17 These swampy basins and swales are scattered at random across the land surface, are of irregular shape and do not conform to surveyed property boundaries – it is a mosaic of land types, most pieces too irregular in shape and/or too small to be separately developed and managed for commercial primary production.

One Tree Point soils showing maize drowned by ponded water (*photograph not on PC85 land*)

5.18 The nzlri-luc identifies 78 hectares or 83% of the PC85 land as Class 3w4 (and 3s4) and, therefore highly productive land. Mr Hanmore, using the same assessments used in defining the Class 3w4 and Class3s4 land on the nzlri-luc database and by

correctly defining the boundaries of the Class 3w4 land, reduces the total area of Class 3 land to 56.4 hectares, or 60% of the PC85 area. This difference is due to the nzlri-luc polygon boundaries being diagrammatic rather than accurately drawn, and to the area of salt marsh being included in the Class 3 land.

5.19 Based on my own surveys in the Mangawhai Area and observations of land use on similar soil types in the Waipu-Ruakaka-One Tree Point area, up to 30% of the area of One Tree Point soils can involve peaty basins and swales in which water ponds, making early cultivation impossible, preventing crops being planted, and if crops are established, they are drowned before harvest. That is, the effective or usable area of land can be less than 70% of the total area in most years. 30% or more of the land correctly mapped as One Tree Point soils by Mr Hanmore may be unusable or detrimentally affected by a high watertable.

5.20 Whereas the nzlri-luc digital database identifies 78 hectares of the PC85 land as highly productive land, in reality, the total area of usable Class 3 and therefore highly productive land is less than 40 hectares and that is in irregular-shaped pieces dispersed across the area the whole 78ha, and on numerous titles.

5.21 ***Questions as to the Land Use Capability Classification of the Land subject of Proposed Plan Change 85***

5.22 Notwithstanding the legal interpretation of Highly Productive Land, that is, that land recorded as LUC Classes 1, 2 or 3 on the nzlri-luc database is 'highly productive land', it is important to understand what that assessment means and how it was reached. This understanding is necessary because not all 'highly productive land' as currently identified is equal. As Mr Hanmore explains, and is quoted in the AgFirst Waikato report, the LUC classification identifies 8 Land Use Capability Classes, Class 1 being the most versatile land type, potentially highly productive and suited to a wide range of crops. 'Crops' in this sense are arable, horticultural, pastoral and forestry crops, plants grown in situ, in the soil or on plants growing in the soil, for food (directly or via animals), fibre, fuel and pharmaceuticals.

5.23 Classes 1 to 4 are soils suited to arable crops, land that can be cultivated, with the potential productivity and versatility, the range of crops which may be grown, reducing from 1 to 4, 1 the most and 4 the least versatile. Class 5, 6 and 7 are not suited to cultivation but are suited to pastoral farming, some tree and vine crops, and to forestry. Class 8 has no productive value but may have biodiversity and watershed protection values.

5.24 The 8 LUC Classes are then subdivided into '**Sub-Classes'** according to their most dominant limitation. If the different limitation types are similar, they are ranked in order of 'e' for erosion, 'w' for wetness (either or both high soil watertable or frequency and duration of flooding, 's' soil limitations like stoniness, extremely free-draining or high mineral content, and 'c', a climate limitation like extreme salt spray, high altitude, etc.

5.25 The most detailed level of LUC Classification, the third level, is a **Land Use Capability Unit** which groups together land type with the same soil characteristics, limitations, potential productivity and requiring the same management. The 91 LUC Units used in Northland are described in detail in Harmsworth,(4) the extended legend for the LUC Units mapped in Northland and that part of the Auckland region north of the city urban boundary. As a result of more detailed mapping, 20 or more new/additional LUC Units have been recorded and described in Northland and Auckland regions by suitably qualified LUC Assessors.

5.26 The protocol and standards for assessing and mapping land use capability in New Zealand and recognised by the NPS-HPL, are set out in the 3rd Edition New Zealand Land Use Capability Survey Handbook,(5) published in 2009, 20 to 30 years after the nzlri-luc database was compiled. That is, the nzlri-luc data is outdated and if assessments were made now, some of the land currently mapped as HPL would not qualify as such, it would not be assessed as Class 1, 2 or 3, particularly in respect of its versatility of land use. For example, I am aware of examples of land in Northland, particularly Class 3 land which, while it may be suited to growing some crops, it is not versatile land and it's limitations have shown up during the wet summer, winter and autumn of 2022/23. During that time kiwifruit vines, avocado

trees, various exotic trees and even some native trees have died due to their roots being deprived of oxygen, they drowned.

5.27 Defining highly productive land as all Class 3 land is too broad, particularly when it is our most versatile land that we must protect, the land that can grow the widest range of crops or is suited to the widest range of soil-based uses as we do not know what we will need to grow in the future to satisfy consumer demands, cope with a changed and more highly variable climate, and to withstand biosecurity (pests and diseases) due to a warmer climate. Certainly, some of our Class 3 soils are versatile, but not all and not all those identified on the nzlri-luc database as Class 3. We are questioning some of the Class assessments, even Class 2, and whether they should be HPL. On the other hand, we have some Class 4 and 6 land that is capable of more intensive land use, particularly if it has access to irrigation water.

5.28 This more versatile land can be identified by a review of the mapped Northland land resource inventory data (with errors corrected) but working, not at the broad LUC Class level, Classes 1, 2 and 3 as in the NPS-HPL but at the Northland **LUC Unit** level.

Potential Productivity of PC85 Land

5.29 As explained in the reports by Ian Hanmore and the AgFirst Waikato consultants, there are limitations to the use of the PC85 land for primary production.

5.30 The AgFirst report considers the most highly productive soil-based potential use of the land is cattle grazing, for convenience treating it as one property while, in reality, it is several separately owned properties. Despite the NPS-HPL advancing amalgamation of land or managing adjoining land parcels as one to enable highly productive land to be developed and realise its potential, the AgFirst Waikato consultants refer to the numerous small blocks within PC85 as non-reversable fragmentation. This may well be true as some of the blocks have buildings and there are no mechanisms available to the Council or to a private landowner to require such amalgamation or joint management of property.

5.31 The AgFirst Waikato consultants advance a strong argument that even as one unit, the land could only be farmed at a loss. The economics of this land as a grazing unit are even further compromised by its high rating value, a speculative value because, historically, Kaipara District Council and its Otamatea County Council predecessor have encouraged small-lot subdivision and owners expect to be able to subdivide. These areas are even described in real estate advertisements as an "opportunity for land banking".

5.32 The AgFirst Waikato report did raise concerns over the risk of pugging and proposed using younger, lighter cattle. Pugging, overgrazing and animal welfare issues are a problem frequently associated with small blocks. They are not large enough to be fenced into sufficient paddocks to provide long spells between grazing. As a consequence, they tend to be either overgrazed and the soil compacted, under-grazed and weedy, or a combination of both.

5.33 Parts of the land would benefit from hump-and-hollow drainage, building broad ridges with swale drains between, but such development is expensive and could not be justified on a block used just for grazing or grazing plus an occasional maize crop. Such a drainage system on peat soils would require regular maintenance and there would still be seasons when the soil in the swales is too wet to be productive.

5.34 A land use option not considered by either Mr Hanmore or by Alexander and Hunt is to totally 'reconstruct' the land for horticulture, smash up the 'sandstone' and old sand deposits, and mix them with the peat to create an 'anthrosol, a man-made soil, a sandy peat growing medium akin to potting mix. This was first done in Northland on a commercial scale on the Aupouri Peninsula to enable vegetables to be grown through winter in a frost-free climate. Large areas were then developed for avocado orchards and, more recently, for avocado orchards west of Te Kopuru.

5.35 This is not a viable option on the PC85 land because development of such intensive growing systems is totally dependent on access to large volumes of water for irrigation. Unlike the Aupouri land which sits above a large groundwater resource or the Te Kopuru development which is serviced by a recently completed irrigation storage reservoir, there are no readily available water resources near the PC85

land, the local groundwater aquifers being extremely limited. Over-abstraction from these aquifers would result in saltwater intrusion into the aquifers, an irreversible process, would detrimentally affect the wetland ecosystems, and possibly increase the risk of coastal erosion on the main beach.

5.36 The other impediment to intensive horticulture on man-made soils or after more carefully engineered land drainage on this site is the proximity of dwellings. Commercial horticulture involves the use of machinery outside of 'business hours', particularly early morning or in evenings when there is no wind or when products are being harvested to meet supply chain timetables. It may also involve the use of agrichemicals which, despite being managed to avoid spray drift and any nuisance to neighbours, create perceptions of risk, generating reverse sensitivity problems. While it is mapped as Class 3 and is, therefore, legally highly productive land, it is impractical, in this locality, to develop the land to realise the potential that classification implies.

6. CONSIDERATIONS UNDER THE NPS-HPL RELEVANT TO RE-ZONING HIGHLY PRODUCTIVE LAND TO URBAN AND RURAL LIFESTYLE ZONES

6.1 In this part of my evidence I address the considerations under the NPS-HPL, that are within my areas of expertise, that apply to re-zoning highly productive land to urban zones, and to Rural Lifestyle.

Matters relevant to re-zoning land to urban zones

6.2 I understand that Policy 5 of the NPS-HPL provides that "*The Urban rezoning of highly productive land is avoided, except as provided in this national policy statement*."

6.3 Clause 3.6(4) of the NPS-HPL provides that where (as here) the territorial authority is not a Tier 1 or Tier 2 territorial authority it may allow urban rezoning of highly productive land only if:

"(a) the urban zoning is required to provide sufficient development capacity to meet expected demand for housing or business land in the district; and

(b) there are no other reasonably practicable and feasible options for providing the required development capacity; and

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

6.4 In addition, the territorial authority must: *"…take measures to ensure that the spatial extent of any urban zone covering highly productive land is the minimum necessary to provide the required development capacity while achieving a well-functioning urban environment.*"

6.5 Matters relating to development capacity in Mangawhai and the District and feasible alternatives to providing this development capacity are outside my areas of expertise, and are addressed in the evidence of Mr Foy and in the section 42A Report by Mr Clease.

6.6 In relation to the costs associated with the loss of highly productive land as a result of the proposed rezoning of this land to urban zones under PC85:

(a) As explained above and supported by the reports of AgFirst Waikato and Hanmore Land Management, while recorded as Class 3 land on the nzlri-luc digital database, the Class 3 land subject of the PC85 proposal has severe limitations to development as highly productive land. It has wetness limitations which cannot be mitigated short of complete reconstruction of the soil and subsoil, construction of a new landscape and installation of an irrigation system. Even if this extensive redevelopment could be achieved, management for primary production would be hampered by reverse sensitivity from surrounding residential development.

(b) At the most, re-zoning the land to urban zonings would result in the loss of cattle grazing on land subject to winter wetness, as explained in the AgFirst Waikato report.

6.7 I therefore consider that due to the above constraints on the productive use of the site's soil resource for farming, the costs associated with its urbanisation are low in terms of the lost productive potential.

Matters relevant to rezoning land under PC85 to Rural lifestyle

6.8 I understand that Policy 6 of the NPS-HPL provides that "*The rezoning of and development of highly productive land as rural lifestyle is avoided, except as provided in this National Policy Statement.*"

6.9 I understand that the re-zoning of land to rural lifestyle land can only be undertaken if the requirements in clause 3.10 of the NPS-HPL are satisfied. These include the territorial authority being 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;*

(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*

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

(iii) *avoids if possible, or otherwise mitigates, any potential reverse sensitivity effects on surrounding land-based primary production from the subdivision, use, or development; and*

(c) the environmental, social, cultural and economic benefits of the 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.

6.10 My view in relation to the above matters is as follows:

(a) As set out above, the land is question is subject to long-term constraints in terms of its productive potential due to the lack of secure and reliable access to irrigation water, which significantly limits the range of crops that could be supported.

(b) The ownership of the site is already fragmented into a series of different landholdings. This is not a case of a single large farm being subdivided into lifestyle blocks but instead comprises the urbanisation of what in effect is already a collection of smaller lifestyle properties.

(c) The soil resource does not generally meet LUC3 criteria, and those areas that do are pockets that do not form a single, contiguous area of HPL that might be able to be put to productive use were ownership to be rationalised.

(d) The site's neighbours are a camping ground and otherwise appear to be primarily utilised for lifestyle properties rather than intensive or large-scale farming operations. As such, development of a portion of the site for rural lifestyle properties is unlikely to create a reverse sensitivity issue to nearby existing farms.

6.11 I therefore consider that from a soil science perspective there are no costs associated with the loss of HPL or other soil-based reasons sufficient to decline either the urban rezoning of a large part of the site or the development of a portion of the site for rural lifestyle purposes.

Robert William Cathcart

1 December 2025

Attachment 1