

**BEFORE INDEPENDENT HEARING COMMISSIONERS APPOINTED BY THE  
KAIKOURA DISTRICT COUNCIL**

**IN THE MATTER OF**

The Resource Management Act 1991 (**RMA** or  
**the Act**)

**AND**

**IN THE MATTER OF**

Proposed Plan Change 4 (**PC4**) to the Kaikoura  
District Plan (**KDP** or **the Plan**) brought by  
Kaikoura Business Park Limited (**KBP**)

**AND**

**IN THE MATTER OF**

The Hearing of Submissions and Further  
Submissions on PC4

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**EVIDENCE OF GEOFFREY DUNHAM FOR THE APPLICANT  
KAIKOURA BUSINESS PARK LIMITED**

Dated: 1 February 2024

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**INTRODUCTION**

- 1 My name is Geoffrey Charles Dunham.
- 2 I am a self-employed Registered (NZIPIM) Farm Management Consultant primarily working in Canterbury but with client base between Central Otago and Nelson, and including Central Plateau, with specialisation in pastoral and arable land use systems and development.
- 3 I hold the qualifications of Bachelor Agricultural Science, Lincoln University
- 4 I work with farmers, local and central government organisations, and industry interest groups.
- 5 I specialise in advising in farm and agribusiness management with particular expertise in grazing and stock management systems, arable farming, irrigation & farm development, financial management, and supervise and contract-manage development projects.
- 6 I am familiar and experienced with all the farming practises, soils, and climate of the Kaikoura and northern Canterbury – southern Marlborough area in general including the site in question.
- 7 I have worked for MAF Advisory Services Division based in Nelson and North Canterbury prior to forming my own consultancy practice, Dunham Consulting Ltd, in 2002
- 8 I regularly research and undertake feasibility and financial viability analysis for potential farming options. This has included land development strategy options for unimproved and irrigated land and intensification of land use through conversion to more intensive land use policies. This work has been over a full range of land types and farming systems.
- 9 I have acted as an expert witness in relation to various issues including land use planning, land development disputes, farm machinery development disputes and animal welfare prosecutions.
- 10 My evidence considers the suitability of the property located at 69 Inland Road, Peketa, Kaikoura for primary production purposes.

- 11 I have read the Environment Court's Code of Conduct and agree to comply with it. My qualifications as an expert are set out above. The matters addressed in my evidence are within my area of expertise, however where I make statements on issues that are not in my area of expertise, I will state whose evidence I have relied upon. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in my evidence.

#### **SCOPE OF EVIDENCE**

- 12 In my evidence I address the following issues:
- (a) The land use capability (LUC) of the site.
  - (b) Classification of LUC Classes 1, 2 and 3 as Highly Productive Soils (National Environmental Standards).
  - (c) The range of pastoral, arable and horticultural options that could be physically operated sustainably on a long-term, 30-year, basis on the site.
  - (d) Consideration of the climate, soils, and water environments of the site.
  - (e) The type and extent and availability of support industries and resources, contractors, and expertise required for a sustainable and viable farming operation.
  - (f) The infrastructure on site or required on site to support a viable farming business.
  - (g) The potential impact of viable land use activities onto neighbouring land.
  - (h) The economic viability of operating a business or use of the land compatible with the site's rural zoning under Kaikoura District Council Operative Plan.

## CONTEXT

- 13 The purpose of this evidence is in support of the application by Kaikoura Business Park 2021 Limited, to change the current zoning to allow use of the site as a business park.
- 14 My evidence assesses land located at 69 Inland Kaikoura Road, Peketa (**site**).
- 15 The site is legally described as LOT 20 DP 578956 and LOT 2 DP 501321
- 16 The site contains 21.5513 hectares in an approximate rectangle shape with a long history of agricultural use, primarily grazing sheep and cattle.
- 17 The site is zoned *Rural* in the Kaikoura District Council Operative District Plan
- 18 The site includes land classified as Highly Productive Land (NPS-HPL)
- 19 The proposed zoning under PC4 is to *light industrial*.
- 20 I am familiar with the locality and the farming policies and practises being used.
- 21 I have earlier prepared a comprehensive report that considers the suitability of the above property for farming purposes "Agricultural Use Report\_Kaikoura Business Park\_8.2.2024". My report is attached as **Appendix 1**.
- 22 The discussion that follows is informed by the Agricultural Use Report and provides a summary of the key findings contained within that document.

## ASSESSMENT OF THE PROPOSAL

### SITE LOCATION

- 23 The Site is located in a corner adjacent to and west of Inland Kaikoura Road, and adjacent to and north of State Highway 1.

### LAND USE CAPABILITY CLASSIFICATION

- 24 The Site contains 3.8 hectares of Class 2 land and 17.75 hectares of Class 6 land.
- 25 The Class 2 land is classified by the National Environmental Standard as Highly Productive Land (NES-HPL).
- 26 The Class 2 land is in a compact "r" shape located on the western side of the site, close to but not bounded by State Highway 1.

27 The Class 2 land is referred to as **Rezone Site** in the attached report.

#### **PHYSICAL REZONE SITE ATTRIBUTES and NEIGHBOURS**

28 The Rezone Site's only access for farm management and support activities such as agricultural contractors is through the Class 6 land from Inland Kaikoura Road. Without provision of this access, the Rezone Site is effectively land locked.

29 The entire Site including the Rezone Site is flat and at the same height as surrounding land to the north, west and south.

30 The Rezone Site is in close proximity to 21 neighbouring residential subdivision lots, averaging 2.0 hectares, primarily located north and west, but also to the south of the Rezone Site. Five immediate neighbouring lots have house-sites located on average 80m from the Rezone Site while the remaining 16 lots are all within 630m direct line to the Rezone Site.

31 There is high potential impact on the Rezone Site's neighbours from byproducts of agricultural activities – noise, dust, chemical spray, and fertiliser drift.

#### **REZONE SITE LUC LIMITATION, SOILS and CLIMATE**

32 The Class 2 land is specifically '**2e 1**' meaning the land has slight limitations to its agricultural uses because of sheet wind-erosion susceptibility primarily when cultivated. This is a primary consideration when evaluating potential land uses.

33 The Rezone Site has more silt and deeper silt (Waimakariri soil), and less stony and shallower loams (Rakaia soils) than the Class 6 soils on the rest of the Site, with a stoneless topsoil and no rooting barriers within the top 100cm of soil compared to rooting depth from 60cm on the Class 6 land.

34 The Rezone Site soils hold more Profile Available Water (PAW) at 123mm compared to 84mm in the Class 6 land.

35 Consequently, pastures and crops on the Rezone Site have a greater soil volume to grow in and when combined with more soil moisture are more drought tolerant than the Class 6 soil on the Site.

36 The annual rainfall is 821mm and Evapotranspiration (ET) is 1029mm, indicating an annual soil moisture deficit of 208 mm primarily occurring December to March.

- 37 This results in the Rezone Site soils hold approximately 50% more soil moisture than the Class 6 land and therefore are more drought resilient and produce more herbage especially over the high ET months, so are able to graze more livestock.

### **PRODUCTIVITY**

- 38 The stocking rates assessed by LandCare [NZLRI Land Use Capability] is that the average farmer on Class 2 Rezone Site land, runs double the stocking rate of Class 6 land (10 su/ha compared to 5 su/ha); and nearly three times the stocking rate for top farmers (17 su/ha and 6 su/ha respectively).
- 39 Current stocking rates, benchmarked against Beef & Lamb NZ Farm Class 6, are assessed at 14 su/ha and 9.5 su/ha for Class 2 and Class 6 respectively.
- 40 The loss of 3.8 hectares of LUC Class 2 land if rezoned is assessed at 53 stock units.

### **REZONE SITE CURRENT INFRASTRUCTURE**

- 41 The Rezone Site is not irrigated and is fenced into two paddocks of perennial pasture. There is no stock water supply (although troughs and reticulation alkathene pipe is in place), due to conversion of an irrigation consent on the Site (CRC183918) to community water supply consent (CRC240909) effective November 2023. This resulted in closing the stock water supply. The Rezone Site has no farming consents, no buildings or stock yards, and no mains electricity supply.

### **REZONE SITE INFRASTRUCTURE ASSUMPTIONS**

- 42 Physical access provided by easement through the Class 6 land.
- 43 Livestock water provided by shallow bore, at cost of approximately \$20,000, including water pump is powered by small diesel or petrol motor and generator.
- 44 Electricity for fencing from small solar panel or batteries.
- 45 Small set of dual-purpose yards and load out ramp for sheep and beef, cost approximately \$10,000.
- 46 Sheep shearing outdoors with electric battery handpiece.

- 47 Any additional fencing required using temporary electric fencing.
- 48 All contractors required to support all feasible land use activities are available in the district.
- 49 Obtaining consents for irrigation water take and water application are considered to be low to very low, given requirements to prove that water take will not diminish or harm current water users, including the community water supply, within approximately 1.5km of the Rezone Site, or the Kowai River approximately <400m to the east of the Rezone Site. Even if consents were successful the total cost is estimated to be between \$200,000 and \$250,000, depending on final drilled depth and electricity supply distances & routes and overground/underground options.
- 50 Annual irrigation running costs are estimated at \$2,000 - \$2,500/yr., and consent administration, water metering, and nutrient & environment planning estimated at \$1,500 - \$2,000/yr. on average. Irrigation interest costs (5%) and principle payments (20-yrs) are approximately \$25,000/yr.
- 51 The irrigation consent applicant would need to put approximately \$60,000 at risk of total loss if consent is not granted (drilling test well, flow rate testing, preparation of application, ECAN application fees, etc)
- 52 It is assessed that being granted an irrigation consent is highly unlikely which precludes viticulture, horticulture and market gardening activities. While these could be pursued as dryland ventures, no prudent land user would undertake the level of investment required with the degree and extent of summer and autumn drought risk involved.

#### **FARMING LAND USE OPTIONS ON REZONE SITE**

- 53 Technically feasible options include dry stock sheep, dry stock cattle, mixed farming (arable crop and livestock), and making & selling of supplementary feed (hay & baleage).
- 54 While dairy heifer contract grazing (14 head) or dairy cow wintering (20 head) could be operated on the site, no dairy farmer would supply the small numbers of cattle that the site could sustain.

**Dry stock sheep**

- 55 District practise dry stock sheep policy is grazing breeding ewes, selling the progeny finished to a processor or store to other farmers to finish, purchasing replacement ewes.
- 56 Stocking rates used have been calculated at +10% higher than the benchmark as small blocks typically run higher stocking rates than larger properties with the same resources.
- 57 At 15.5 su/ha, 59 stock units or 51 breeding ewes would be run.

**Dry stock beef cattle**

- 58 The usual small block cattle policy is to purchase yearling cattle and graze for approximately 12-14 months before sale to meat processors. Including +10% higher small block stocking rate, this site would be expected to carry 12 head.

**Mixed Farming**

- 59 Dryland arable cropping is generally feed barley grain production, sold off the harvester. Given the erosion risk vulnerability of the soils, the crops would need either to be direct-drilled after spraying out with herbicide or minimum-tilled (shallow cultivated) at crop establishment and at pasture resowing.
- 60 Typically, pasture-crop rotations would be either autumn or spring sown barley, to permanent pasture for 4-5 years, then repeat; with sheep or cattle grazing the pasture.
- 61 Dryland barley yields average 5.5 t/ha, and barley straw at 4 medium round bales per hectare; and during pasture years, 51 breeding ewes.

**Supplementary feed hay or baleage**

- 62 Harvesting permanent perennial pasture commonly includes two spring & early summer cuts, followed by two late summer & mid-late autumn cuts provided there has been sufficient autumn rainfall. Harvest is approximately 114 bales of hay or baleage at 30 bales per hectare (9+9+4+8).
- 63 The third cut is the most variable being dependant on summer rainfall while also at high soil moisture deficits, with the fourth cut to a lesser extent.
- 64 Baled crop stored on farm until prices peak, typically wintertime.



## ECONOMIC VIABILITY

65 All four land use options produce enough gross income to cover direct operating expenses averaging an operating surplus of +\$5,200/yr. (range +\$3,000 to \$7,200/yr.)

66 After inclusion of the infrastructure development costs (stock water and yards), and livestock purchase capital, the average capital required is \$22,900 (range \$0 (supplementary feed) to \$30,500 (all other livestock options)

67 Net annual cash result after allowance for capital at 5% and principal payments (5-years for livestock and 10-years for infrastructure), averages +\$900/yr.

|                       | <u>Total investment</u> | <u>Net annual cash result</u> <small>(rounded)</small> |
|-----------------------|-------------------------|--|
| • Dry-stock sheep     | \$30,500                | +\$900   |
| • Dry-stock cattle    | \$30,500                | -\$2,700   |
| • Arable cropping     | \$30,500                | -\$100   |
| • Sale of hay/baleage | \$0                     | +\$2,800   |

68 Only the dry-stock cattle policy is unable to generate sufficient income to cover direct expenses, cost of livestock and cost of infrastructure improvements (interest & principal); dry-stock sheep and mixed farming are essentially at breakeven financially.

69 Supplementary feed policy has the highest net cash surplus at +\$2,800 primarily due to not requiring infrastructure improvement or to purchase any livestock. This \$2,800 cash surplus is considered to be small with low profit resilience as combinations of input cost increases and normal seasonal variations in yield resulting from poor climatic conditions (primarily the 3<sup>rd</sup> summer cut and to a lesser degree the 4<sup>th</sup> mid-autumn cut) easily result in a breakeven position at best in approximately eight years in ten.

70 In this analysis there is no provision for opportunity costs of owner's labour & time committed to managing the farming activities, or other labour costs (excluding contractors labour) and there is no allowance made for cost of capital invested in purchasing the Class 2 land.

## MATTERS RAISED BY SUBMITTERS

71 There are no matters raised by submitters that are relevant to my statement of evidence.

**KEY ISSUES AND SUMMARY OF CONCLUSIONS**

- 72 The area classified as Highly Productive Soil (Land Use Class 2e 1) is small at 3.8ha.
- 73 Land use choices are limited by wind erosion risk primarily during cultivation activities.
- 74 The remainder of the site (17.75 ha) is Land Use Class 6.
- 75 The land has a summer soil moisture deficit of 210mm typically experienced December to March, with the Class 2 land drying out later in early spring than the Class 6 land.
- 76 The LUC 2 land relative to the LUC 6 land has better soils allowing for deeper rooting pastures, with fifty percent more soil moisture, providing greater drought resilience and more herbage productivity and higher carrying capacity.
- 77 The Class 2 land has no infrastructure apart from being permanently fenced into two paddocks.
- 78 Land use options that require irrigation (horticulture, viticulture, vegetables, high performance arable crops) are excluded as the likelihood of obtaining irrigation consent is very low, and the cost is very high at estimated \$250,000.
- 79 After allowance for costs of infrastructure improvements (stock water & stock yards) and livestock purchase capital, dry stock sheep and mixed farming achieve a breakeven Net Cash Result. Dry stock beef cattle, make a small loss. Making & selling supplementary feed shows a small profit but this is reliant on taking a pasture cut at the peak of soil moisture deficit. This is highly unreliable, and the financial resilience of supplement option is low.
- 80 The average Net Cash Result of all options is +\$900/yr.
- 81 There is no financial return on capital for purchase of the land, and no remuneration for owner's time and management of the farming activities.
- 82 No prudent farmer would view any of these options as economically viable on this site.

- 83 Overall, the LUC 2 site is constrained by its small size, erosion risk soils, and high summer soil moisture deficit.
- 84 There are no long-term viable land use options that can be operated on the site.

*Geoff Dunham*

Geoffrey Charles Dunham

Dated: 1 February 2024