

Before the Selwyn District Council

under: the Resource Management Act 1991

in the matter of: Proposed Private Plan Change 80 to the Operative District Plan

and: **Two Chain Road Limited**
Applicant

Summary of evidence of Victor Mthamo (versatile soils and water supply)

Dated: 20 October 2022

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SUMMARY OF EVIDENCE OF VICTOR MTHAMO

- 1 My full name is Victor Mkurutsi Mthamo and I am a Principal Consultant for the environmental science, engineering and project management consultancy Reeftide Environmental and Projects Limited (*Reeftide*). I have been in this role for almost 10 years.
- Highly Productive Soils**
- 2 According to the New Zealand Land Resource Information System (NZLRIS) Portal the PC80 comprises an area that has 18.1 ha of LUC Class 3 soils and 80.2 ha LUC Class 4 soils. Under the NPS-HPL only 18% or 18.1 ha of the soils are classed as highly productive.
 - 3 As the proposal is a plan change, Clause 3.6 of the NPS-HPL will be relevant to the 18.1 ha of LUC3 soils.
 - 4 Clause 3.6(2)(c) requires the territorial authority to consider range of reasonably practicable options for providing the required development capacity, including “ *rezoning different highly productive land that has a relatively lower productive capacity.*”
 - 5 It is my opinion that the LUC Class 3 soils within the PC80 area are the lower productive soils in Rolleston contemplated in Clause 3.6.
 - 6 Although the Applicant relies on Clause 3.6 of the NPS-HPL, my evidence also considered the exemption contained in Clause 3.10. I reviewed the site and considered site specific factors to determine what (if any) permanent or long-term constraints apply to the site under Clause 3.10.
 - 7 I identified the following as long-term constraints that will have an impact on the site’s long-term productivity and economic viability of the 18.1 ha LUC Class 3 soils within the PC80 area:
 - 7.1 Moisture deficits and irrigation availability. I consider the availability of water for irrigation as a long-term productivity constraint on the site. This is because:
 - (a) The zone is fully allocated and there is no new water for irrigation purposes.
 - (b) Transfer of consents for irrigation purposes is getting more difficult due to the lack of readily available irrigation consents for sale. This will only get worse or impossible in future due to the shortage of these consents to transfer and the increases in water demand on properties with consented takes.
 - (c) Dry land farming of land-based activity is not economically viable for this site. Yields are generally

low due to moisture deficits. Water is essential for economic viability. This is discussed in more detail in the evidence of **Mr Mark Everest**.

- (d) Lack of water will get worse over the next 30 years because:
 - (i) There will be no more water for sale because of supply constraints; and
 - (ii) Water deficits will increase with climate change.

7.2 Nutrient Limits. Future nitrogen leaching rates are required to not exceed the baseline rates. Where the leaching rates exceed 15 kg N/ha/year further nutrient reductions are required. I view these limits as long-term constraints because:

- (a) The groundwater nutrient concentrations being observed now within the groundwater catchment are primarily from activities of the past several decades – since the 70s, 80s, 90s and early 2000s. The effects of the more recent (1980s to the present day) intensification in dairying and other farming activities will manifest over the next several decades (20, 30, 40 years). The effects will be considerably worse than what the catchment is experiencing now because of this intensification.
- (b) Mitigation measures being implemented in compliance with the CLWRP will unlikely restore the nutrient levels to the pre-intensification levels. For these reasons, I see limits on nutrient use and applications as a permanent constraint. It is also not unreasonable to expect further policies and regional rules to be tightened to try and reduce the use of nutrients.
- (c) Therefore, nutrient limiting policies and rules are a permanent, long-term constraint for the site.

7.3 Fragmentation.

- (a) The fragmentation of ownership and size of the land parcels around the site means that it will be nearly impossible for large contiguous blocks (>50-100 ha which are more efficient to farm irrigated arable crops) to be available for crop and/or pastoral agriculture. On this basis, it is unlikely that the productive potential of the LUC Class 3 soils will ever be realised for the Two

Chain Road site even assuming other constraints such as lack of irrigation water are addressed.

- (b) The existing fragmentation will persist into the future given the multiple ownership of the land.
 - (c) Therefore, because of the land fragmentation, the site is not as highly productive as the default LUC classes imply.
- 8 The reduction of highly productive land in the region and district as a result of the applicant's proposal will be 0.0022% and 0.013% respectively. I consider these percentages alone to be insignificant.
- 9 The cumulative potential reduction in productive soils since January 2018 (PC49) up to September 2022 and including the proposed plan change site is:
- 9.1 0.77% within the Selwyn District.
 - 9.2 0.13% within the region.
- 10 I consider the above proportions relevant to the assessment under clause 3.10(1)(b)(ii) of the NPS-HPL. It is my view that the changes in the proportion of highly productive land as a result of the proposed rezoning and other plan changes since 2018 is small. There will be no significant loss in the amount of highly productive land in the district.
- 11 I consider there are multiple long-term constraints to the 18.1 ha of LUC Class 3 soils on the PC80 site and that the loss of these soils would not result in a significant loss (even when considered cumulatively) of productive soils to the region.

Additional Comments Relating to the PC80 Productive Capacity

- 12 Since my evidence in chief, I have reflected on the relevance of Clause 3.4 of the NPS-HPL to the PC80 area. I discuss this in the following paragraphs.
- 13 Clause 3.4 relates to the mapping of highly productive soils by regional councils and provides guidance on what can and need not be included as HPL. Of particular relevance to the 18.1 ha of LUC3 in the PC80 site are:
- 13.1 Clause 3.4(1)(c) which states that "*Every regional council must map as highly productive land any land in its region that:... and forms a large and geographically cohesive area.*"
 - 13.2 Clause 3.4(5)(b) which states that "*where possible, the boundaries of large and geographically cohesive areas must*

be identified by reference to natural boundaries (such as the margins of waterbodies), or legal or non-natural boundaries (such as roads, property boundaries, and fence-lines)";

- 13.3 Clause 3.4(5)(d) which states that "*small, discrete areas of LUC 1, 2, or 3 land need not be included if they are separated from any large and geographically cohesive area of LUC 1, 2, or 3 land*".
- 14 I have appended (**Attachment 1**) a plan which shows the extent of the PC80 proposal and the LUC3 areas (green shading) in and around the site.
- 15 In considering Clause 3.4(5)(b), I conclude that the 18.1 ha of LUC 3 area does not form a large or cohesive area with the rest of the other LUC 3 land beyond the site. This is because:
- 15.1 The railway line, State Highway 1 and Rolleston Township all form natural boundaries separating the PC80 LUC3 area from the LUC3 areas to the south and southeast of the site.
- 15.2 The iZone industrial development to the north and northeast also forms a boundary that meets the criteria in Clause 3.4(5)(b).
- 15.3 Two Chain Road isolates the LUC3 area within PC80 from the rest of the LUC 3 mapped land in the area. Wards Road and Railway Road also add to this separation. I am also of the opinion that applying Clause 3.4(5)(b) to the land beyond the site, the LUC 3 mapped land bound by the iZone industrial area, Railway Road, Wards Road and Two Chain Road is not large and cohesive.
- 16 Therefore, when I apply the criteria for boundaries suggested in Clause 3.4(5)(b) I conclude that the 18.1 ha LUC Class 3 land is, under Clause 3.4(5)(d), *a small discrete block of land that must not be included in the mapping of HPL because it is separated from any large and geographically cohesive area of LUC 3 land*. In other words, the 18.1 ha of LUC 3 land within the PC80 area is not highly productive land and is unlikely to be mapped as such by the regional council when it undertakes the required mapping under the NPS-HPL.
- 17 In conclusion, based on my interpretation and understanding of Clause 3.4 of the NPS-HPL I conclude that the 18.1 ha of LUC 3 is not highly productive land.

Water Supply

- 18 There is no site-specific available water supply for the PC80 area. The site does not have any existing consents to take and use groundwater.
- 19 To supply water to the site the applicant is proposing to transfer consents from the groundwater consents it has control over in the Plan Change 69 (*PC69*) area.
- 20 The consents have an estimated annual volume of 856,299 m³/year estimated using the Canterbury Land and Water Plan Schedule 13.
- 21 The PC69 proposal will require 430,664 m³/year. This leaves a surplus of 425,636 m³/year.
- 22 In his evidence, **Mr McLeod** has estimated the required demand within the PC80. This ranges from 36,500 to 182,500 m³ /year.
- 23 Therefore, the 425,636 m³/year surplus available from the PC69 area is more than what is required for the PC80 development.
- 24 For completeness I also estimated the potential volumes that could be harvested from stormwater. I concluded that if stormwater from 10% of the area was collected and stored, this was sufficient to provide the minimum volumes required for firefighting. If the area of stormwater collection was increased >10% there would be sufficient volumes for firefighting, irrigation of lawns/gardens and other non-potable water uses.
- 25 I, therefore, conclude that the proposed PC80 site can be adequately provided with water.

Dated: 20 October 2022

Victor Mthamo

ATTACHMENT 1 – EXTENT OF LUC3 LAND IN AND AROUND THE PC80 SITE

