In the matter of:	**Clause of Schedule 1 – Resource Management Act - Submission on publicly notified plan change – Proposed Waikato Regional Plan Change 1 – Waikato and Waipa River Catchments**
And:	**Hill Country Farmers Group** **Submitter ID 73321**
And:	**Waikato Regional Council** **Local Authority**

Hill Country Farmers Group
Requested Nutrient Budget with Phosphorus Report
Prepared by Bruce Hill, June 27, 2019

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1. During our Block 2 Hearing on Monday 24th June, Mr Robinson queried that Drystock has a low footprint in Nitrogen losses but a large footprint in Phosphorus losses according to modeling by Tim Cox. We haven't reviewed this evidence.

2. We are constantly being told that the Drystock sector loses more Phosphorus per hectare than the Dairy sector because it is generally on steeper land and by default loses more sediment.

3. As requested by Mr Robinson please find attached NRP Year End 2015/16 Nutrient budget and Report which provides evidence to the contrary.

4. This report was commissioned and prepared for AR & DM Allen. I have obtained permission from A Allen to provide this information to the Hearing Commission.

5. This Nutrient budget is for a property in the Waerenga sub-catchment. It has been a sheep and beef farm for many years, then at the time of the report had been used for Dairy support for two years. It is a good example to use because it has 1/3 Flat, 1/3 Rolling and 1/3 Steeper land. This provides a good comparison of different slopes that have been farmed under the same management and the same fertiliser regime. Even the steep land has a high Olsen P with a farm average of 33.

6. Page 7 offers a summary of the Phosphorus Loss risk. It explains the greatest risk is found on the easy to rolling areas of the farm. This reflects the soil type not the slope.

7. On page 17 there is a list of the blocks on the farm. The Block name has the soil type then the last two letters are the slope i.e. FL=Flat, EA=Easy, RL=Rolling, ST=Steep. The highest P loss is from the Mangawheau soil type. Even the steeper Mangawheau RL has a lower P loss than the flatter Mangawheau EA.

8. Our BakerAg Report has a table on page 11 (Table 4). AgResearch suggests Dairy P loss risk could be many times that of Sheep and Beef. A Google search provides many examples suggesting P loss per hectare in Dairying is greater than Drystock.

9. According to 'Changes of farm number, size and type in the Healthy Rivers Plan Change 1 (PC1) catchment between 2006 and 2018.' (Tim Hembrow, Mar 2019), Dairy has 426,454 Ha and Drystock has 289,302 Ha in the PC1 catchment. If Dairy has more land and a higher Phosphorus loss per Ha, we can only conclude that the Drystock sector must have a smaller total P loss than the Dairy sector.

10. We propose that the most important contribution to water quality hill country farming can make is to address our Critical Source Areas. These are predominately higher risk sediment loss areas. Phosphorus loss to water is normally bound to soil particles. By addressing sediment we will also address our Phosphorus loss, thus reducing our already low P footprint.