IN THE MATTER	Of the Resource Management Act 1991
AND	
IN THE MATTER OF	A Resource Consent Application to discharge agricultural effluent to land from up to 840 cows, to take 85,800L/day of groundwater and to use land for two winter barns, a new agricultural effluent storage facility, and to establish a new dairy farm at 444 Springhills-Tussock Creek Road
BY	Capil Grove Limited
REF	APP-20222055

STATEMENT OF EVIDENCE CARL LINDSAY ON BEHALF OF CAPIL GROVE LIMITED

INTRODUCTION

1. My name is Carl Lindsay

2. I am a Director of Arlake Limited, the company formed to run the farm owned by Capil Grove Limited.

3. My evidence is given in relation to the application for resource consent for the conversion of Capil Grove's Farm 444 from dairy support grazing to dairying.

4. I have been dairy farming at our family Capil Road property at Grove Bush since late 2017 with my brother.

MY FARMING CAREER AND FARMING DIRECTION

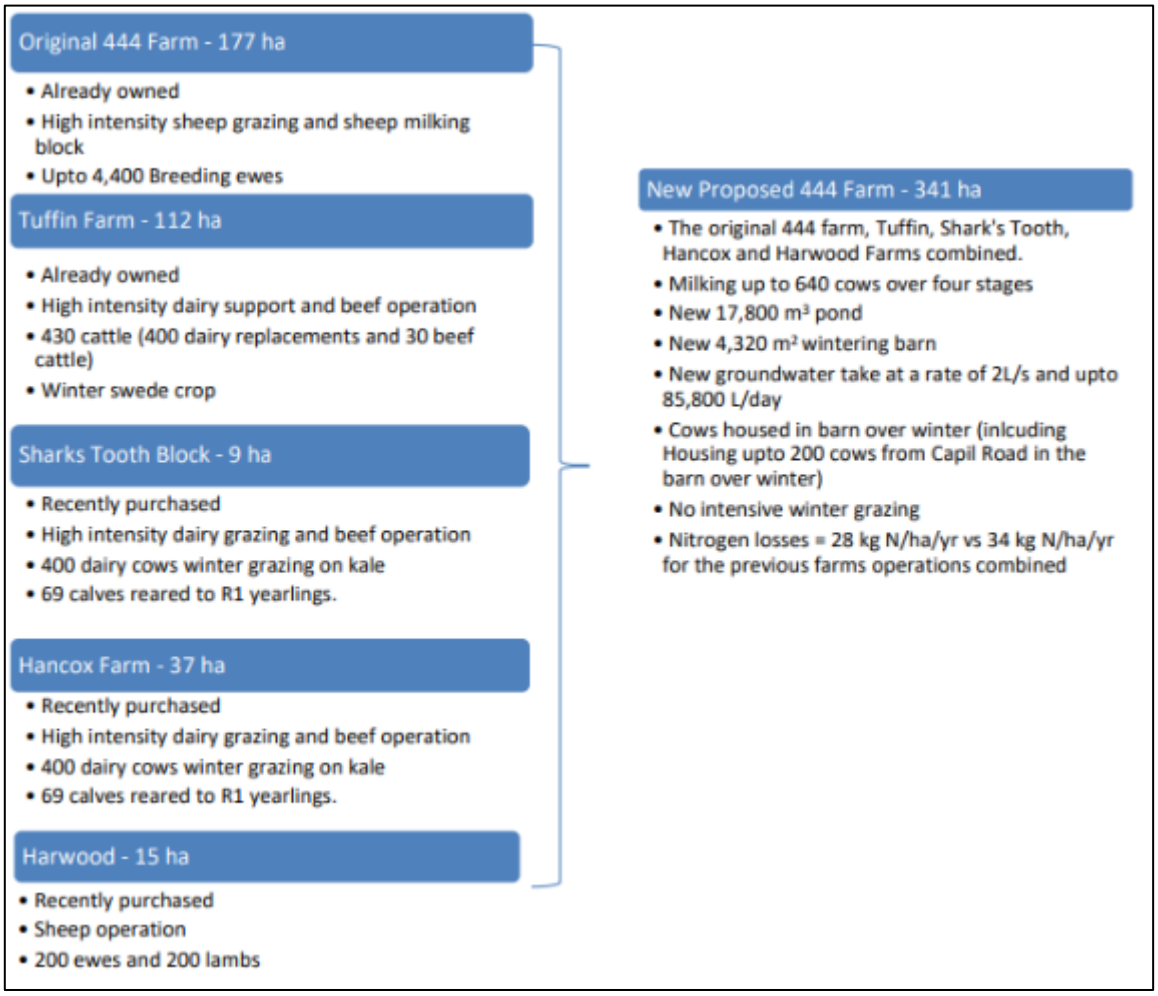
5. I am dairy farming because I love the challenge and am rewarded by knowing I have well looked after animals.
6. In my experience, cows do not produce much milk if they are not happy and well looked after. I also believe there to be a very close correlation between a healthy financial situation on the farm with a healthy local environment. This works both ways, in that:
    - if there are significant nutrients leaking from the property then this is expensive and will increase costs to replace nutrients; and
    - if there is not appropriate capital infrastructure to deal with animals and effluent, then that will result in a detrimental outcome for the local environment.
7. I believe this situation is common throughout Southland where most farms lack sufficient infrastructure to prevent animals being outside and damaging soil during wet periods and at the same time capturing the effluent to be better utilized in dryer months.
8. Our small team on the Capil Grove property have changed our farming practices to become more efficient and overcome multiple hurdles we have face in recent years.
9. An example of a challenge that we have faced and that has influenced our farming direction has been dealing with Mycoplasma Bovis. MPI forced us to winter our whole herd outside in the winter of 2019. This was due to their delays in cleaning our barn after the previous herd was culled due to Mycoplasma Bovis. This gave me experience with intensive winter grazing, an experience I never want to repeat in my lifetime. We have decided that we never again want to farm cows without a barn.
10. A change we have made to our farming system has been stopping the rearing youngstock, and instead buying in otherwise cull cows and breeding beef calves. This has proven to be very effective in reducing costs and increasing efficiency. We also consider this to be good for the environment as it decreases the amount of young dairy animals being reared in the district, reducing nutrient losses from young non-milk producing stock.
11. We plan to extend this farm model, albeit with tweaks to Farm 444. Because we are already implementing this relatively new system on our current dairy farm it this gives me confidence that it will be effective on the 444 dairy farm as well.

PROPOSED FARM SYSTEM

12. Farm 444 has come about as a result of a series of opportunities to purchase land that arose one after the other. Initially we had the opportunity to purchase 444 Springhills-Tussock Rd, a 177 ha property that had amongst other things a sheep milking operation. On 25 June 2021 consent was granted by Environment Southland to use this farm for dairy support.

13. Around the same time, an opportunity arose to buy the adjacent property, Tuffin Block, which was a 112 ha high intensity dairy support and beef operation We intended to manage this as a combined farm with the Farm 444.

14. Subsequently 3 more small parcels of adjacent property became available to purchase and we undertook a reassessment of options available for sustainable use of the combined properties.



15. Prior to purchasing the initial Farm 444 property, (and at each subsequent step), we undertook due diligence investigations. We engaged Lowe Environmental Impact to advise us on before we purchased each the property to assess what we could use it for. Hamish Lowe very clearly noted that whatever we did had to be consistent with the national freshwater reform process. He referred to Te Mana o te Wai and we spent some time discussing freshwater policy reforms and what they will mean to dairy farming. The specific guidance was the rachet was going to get tighter, farming will

need to be cleaner and don't expect to be able to farm like previous generations. He stressed the need to maintain or enhance environmental outcomes.

16. With this guidance in mind we considered options about how our experiences at the Capil Grove property could be used to develop a better farm system at Farm 444.
17. We wanted to develop a farm system that produced a farming footprint that was less than the current farming operations, and ideally better than other farms we've seen in Southland, and at the same time had high milk producer. We believe we can achieve both outcomes.
18. With guidance from LEI we spent considerable time (more than a year in total) trying to find a balance. With the current combined farm size, and adopting more traditional farming methods we estimate we could farm some 900 cows on the property. However, we consider the environmental footprint to be too high. The best solution overall was to combine the operation of all five properties, milk a lesser number of cows on Farm 444, but utilise the additional pasture grown to feed additional cows on the farm but in a barn. Key considerations here were to match the feed grown with cattle, while trying to avoid damage to soils in winter, which then helps to grow more grass.
19. The proposed farm system at Farm 444 is modelled off learnings from the Capil Grove property. Essentially it consists of:
    - large barn for all cows
    - large effluent storage
    - grown on farm feed used for housed stock, including cereals (barley)
    - the use of cull cows avoiding the need for running replacement stock -use winter cows in a barn operation to eat additional feed grown and harvested.
    - avoiding the use of heifers allows greater milk production per cow
    - no young stock wintered on the property
    - re tracking in places to place laneways away from surface waterways
20. A summary of the proposed system was put together in January of 2021 and is attached in Annex A.
21. Following much feed budget discussion and environmental modelling using Overseer, we arrived at a balance of seasonally grazing 640 cows, and wintering an additional 200 from the neighbouring Capil Grove property. This number allows the farm to be financially viable, although requiring significant capital investment, while also ensuring there are sufficient stock numbers to efficiently utilize the feed grown on the farm - all while maintaining a better environmental outcome than the previous farming systems.

BIG PICTURE

22. Environment Southland has made it clear that water quality needs to improve. I observe that they are in a situation where they would like to put much more pressure on dairy farms to decrease the amount of winter grazing and nutrient loss from properties. There is some pushback from industry bodies who consider that dairy

farmers are unable to afford some of the mitigation measures to reduce impacts, such as alternative cattle housing.

23. Despite this regional concern we are excited about this application as it will contribute in a small way by decreasing the amount of winter grazing and nutrients leaving our farm.

COMMENTS ON EXPERT EVIDENCE

24. Below I comment on the evidence provided with the s42A report based on my knowledge and experience of farm management matters.

Statement of Evidence- Mark Hamer

'The addition of up to 840 dairy cows at the property will most likely increase the amount of nitrogen being lost to shallow groundwater and nearby surface water"(see e3 Scientifics water quality assessment).

25. Mark is seemingly not taking into account what is currently happening, including livestock grazing. This is described in the previous farming models, particularly the winter grazing livestock. 840 cows indoors with all effluent captured is most likely environmentally superior to the previous farming models with all livestock outdoors. Note that only 640 of those cows are actually grazed on this property, with 200 only using the barn.

'It has clearly been demonstrated that the more intense the land use the poorer the instream ecological health will be"

26. I do agree with this comment, however I believe that even though we will be investing in infrastructure including wintering barns, the intensification of the land use will also decrease with the low stocking rate of the proposed farming model. The stocking rate is less than most dairy farms in Southland, we are NOT using winter grazing AND we are using a large barn. I consider any winter grazing, including intensive winter grazing to be more intensive than the proposed farming model. The resulting benefit is not simply measured by stocking rate, but there is the need to consider other mitigations, including the barn and waterway protection.

Combined evidence of Alexandra Badenhop, Brian McGlynn and Simon Bloomberg

Using OVERSEER for rain event driven nutrient fluxes was not evaluated since they are too far beyond the design, scope or efficacy of the modelling approach. In the Farm 444 scenario, most nutrient fluxes to groundwater, tile drains, and local streams would be during rain events that are dominant features in the Southland climate.

27. This summary statement shows the above experts view on the inadequacy of Overseer following significant rain events. I tend to agree with these experts. However, it seems as if these experts are unfamiliar with the entire scope of the application, as we are proposing to prevent intensive winter grazing from occurring on this property and instead house cows inside during significant rain events.

28. I believe everyone would be in favour of granting this consent if we all could stand in the paddock on a cold miserable rainy night in the middle of July with mud and effluent up to our ankles and watch all the cows and youngstock huddled in the corner, then compare that to our current wintering barn and watch our milking cows peacefully sleeping on their dry rubber mattresses with all the effluent being stored in the pond until summer.

29. Statements in the Combined evidence of Alexandra Badenhop, Brian McGlynn and Simon Bloomberg highlights inadequacies of Overseer. We know these as we have for some time. However, Environment Southland require us to use it for all resource consents.

> *'the expert scientific advisory panel commissioned by MPI and MfE detailed fundamental issues with the application of OVERSEER to estimate nutrient loss when it is applied to the on-farm agricultural settings for which it was developed.*

30. I agree with this statement and most of the content in the statement of evidence. However, the relevance of telling us that Overseer is not fit for purpose is a little bit lost on me as they have not suggested a better alternative. I agree that if we were applying for consent to transform a farm from native wetland to dairy land then a different process would be needed. This is not the case and we are applying for consent to transition from an intensive winter grazing operation and intensive sheep milking operation to a cow dairy farm with a far lower stocking rate to the other dairy properties in the district. This is intended to make things better.

31. We have used Overseer as the best tool available to compare farming systems. We are not wanting a 100% accurate report on the farms nutrient losses, as this is impossible, but are wanting a reasonable level of confidence that there is an improvement for the environment with the proposed farming system, indicating that we are moving in the right direction. Even with the inadequacies of Overseer the level of confidence to give direct comparisons between farming systems as we have done here should be quite high.

32. I am completely confident that even if we discarded all of the findings from Overseer and everyone here could view the previous farming system, and compare that with the proposed farming system in person in the winter months when the environment is most at risk, then we would all support the application. Hamish Lowe includes in his evidence a further discussion on Overseer and consideration of several other practical alternatives.

NOTES ON SUBMITTER DISCUSSIONS.

33. We have had constructive discussions with Te Ao Marama Inc who submitted against this application. I have been grateful for their constructive addition and refinement of conditions. These are discussed further in Hamish Lowe's evidence.

34. Te Ao Marama Inc have provided useful insights on how we could further improve the environmental outcome beyond what we have proposed in the initial application. This has helped with suggesting more of a 'gold standard' approach to riparian planting, sediment and effluent management. We have adjusted our farm management plans to include these best management practices, including the use of sediment traps and detention facilities. We are also looking at shifting several races away from waterways

and ensuring any drainage water from races, lanes and around gateways travels over land before entering the drains. I am looking forward to implementing these proposed ideas and learning from them so we can continue to develop the farm to reduce the nitrogen and sediment losses in the future.

35. We had some constructive discussions regarding wintering barn design and have looked into some different options including composting barns as a possible alternative. The general consensus was that wintering barns were good and there are a number of internal bedding systems that can be used, such as rubber matting or sawdust. Our preferred system which we believe will be environmentally better, for us, is a rubbing matting system. The key is winter grazing was bad, and we were both agreeing that more could be done to help the environment in the future.

WHY ARE WE APPLYING FOR CONSENT?

36. I have seen the previously separate Farm444 winter grazing properties that we have purchased being pugged from the winter grazing of dry cows and youngstock, including our own stock in previous years, and I asked myself, how can we avoid getting in this situation where we have livestock outside during the winter? The solution we came up with is the proposed conversion to dairying. This will allow us to generate enough income to service the loans required to invest in the proposed infrastructure, therefore giving us the best tools available to mitigate any adverse environmental effects and completely prevent intensive winter grazing from occurring on the property in the future. If we were to rely completely on the wintering of dry cows or the beef production as previously occurring on the properties then we would be unable to generate enough income to service the required loans. There is a direct correlation between sufficient investment and environmental improvement. Most of the intensive winter grazing farmers in Southland are only winter grazing crop paddocks because they lack the ability to invest in better alternatives.

37. Three out of four of the neighbours to Farm 444 own dairy farms and we believe that this proposed model should be looked upon as a way of the future. If all the dairy farms in the immediate vicinity of Farm 444 were transitioned into our proposed dairy farm model then I would expect to see a significant improvement in water quality.

38. The reason we are proposing this farm system is I have seen first-hand the damage to soil and the detrimental effects on livestock health and water quality from intensive winter grazing. I have looked upstream to our neighbours' winter crop paddocks when it has been raining and watched the muddy water flow into the stream and down through our property and I have thought to myself, how is this even legal? How can we improve our current farming practices to make sure we are never in the same situation?

39. There is a lot of stigma around dairying and lots of negative public opinion, and I think this stems from a lack of knowledge and experience from many of the general public. There are also some farmers not doing enough, which isn't helping us who are trying to make a positive change.

40. I understand ES is working in the interests of the general public to improve the environment and I hope that this stigma does not influence the opinion of the ES staff and the numerous experts employed to review this application.

41. With the need to make the needed improvements in our water quality we need to identify alternatives and different ways of farming. We are trying to do that here. In my opinion, Environment Southland should be working with us to make that happen. While we might not have if exactly right, and there may be scope for improvements over time, we would like Environment Southland to be part of the process for looking at options, of which we believe our proposed system at Farm 444 will contribute ideas other farmers could consider.

CONCLUSIONS

42. I believe this whole application and hearing boils down to one question - is the proposed farming system more environmentally friendly than the previous farming system? To which I believe the answer is yes.

43. Environment Southland's Reporting Officer recommend that the application be declined, which to me is completely against what I thought they were trying to achieve. I would have thought they would be looking to encourage a move from intensive winter grazing, as that is the previous farming system. If this consent is not granted there is a high chance that the property will revert to some form of winter grazing operation.

44. I understand the stigma around dairying in New Zealand makes readers of this consent application initially oppose the idea of an increased number of dairy cows in the region. But if the farming practices proposed were fully understood, simply being the replacement of non-milking cows which can be winter grazed and putting the cows in a barn when there are the highest risk of causing environmental damage, there may be a different view.

45. I feel very strongly about the welfare of animals, particularly the ones in my care, and this has been a key driver for change on the Farm 444 property. I could see that the previous farming systems were not animal or environmentally friendly, and am of the opinion that if we were to continue the way we were then I did not want to be farming at all.

46. I am confident and excited about the proposed improvements and hope that Environment Southland can come on board and support this application as I see it as a futureproof farming model from a financial, environmental and animal welfare point of view.

47. We are excited with the prospect of seeing the benefits, specifically high quality stock being wintered with few animal health issues, increased milk production per cow and an improvement in the environment.

Carl Lindsay

23 May 2023

Annex A: Farm 444 Concept

CAPIL GROVE FARM 444 - NEW THINKING

Increasing Production and Decreasing Environmental Effects – New Thinking to Make a Difference

Southland Farmers Nelson and Robyn Lindsay are paving the way to a new approach for sustainable dairy farming, and it's with the use of cull cows.

Increasing environmental pressures are placing limitations on traditional farming methods to increase production and farm profitability. While most environmental mitigations adopt new technologies, the Lindsay's have found a solution through milking cull cows year-round rather than rearing replacement cows, and without compromising production or profitability.

Background

The Lindsay's owned approximately 120 hectares of dairy support farmland in the Springhills area in 2019. Over the next two years they were presented with opportunities to buy additional neighbouring land with the block increasing to 340 hectares. One of the properties had a wintering barn and a dairy shed which had been used for sheep milking.

Dairy Farming seemed the obvious choice for the newly acquired combined properties, especially with the wintering barn and dairy shed. While the Lindsay's were already dairy farming on their current farm, they wanted to do things differently and make sure the impact of their dairy platforms would be less than the current combined farming systems. This included not only the amount of nutrients leached to the environment, but also in a wholistic farm management sense.

Replacements

Typical dairy farm systems see replacement cows raised from calves before becoming in-calf heifers and then being milked following calving. At some point in their life cows are removed from the herd due to a range of reasons, such as inconsistent genetics, poor production, failure to get in calf or simply being late calvers and being out of sequence with calving with the main herd. The proposed system does away with managing replacements, and the extra grass used to grow new animals that are not milking, meaning that grass grown is used to produce milk. It also means that nutrients lost from the non-milking replacement cows can be avoided.

Milk Feed Efficiency

Cows removed from a herd (cull cows) may not be ideal performers, but they often can still be valuable milkers. These cull cows are often already producing, so all the feed they consume is going into milk production. They are also often milking at a higher rate than first year heifers who are still putting energy into body growth. This approach can equate to a better efficiency as grass is used for milk production instead of replacement growth and therefore any nutrients which are lost are done so while producing milk.

Year-Round milking

The cull cows can be given a second chance to get in calf with an extended mating/ calving period. "When most farmers have finished calving by October, our calving period can be pushed out until the end of November/ early December". But this isn't a disadvantage to the Lindsay's as they can milk year-round, meaning that cows not getting in calf can be milked through, or until such time they do get in calf.

Lower Slaughter Rates

"We can put the late calving cows back in the mating herd by January and 80% of those cows get pregnant and are now in sync with the rest of the herd". As a result, less cows are slaughtered.

Wintering Barn Benefits

In combination with cull cows, the wintering barns allow the Lindsay's to keep cows off the pasture in winter and during the wetter months. The generated effluent from the cows is captured and sent to the effluent pond where it is stored and applied in the growing season, providing nutrients to the pasture. There is no intensive winter grazing taking place on the property. Supplements can be grown during the drier, warmer months and fed in the wintering barn, reducing both wastage of the feed and nutrients leached onto the paddock. And if that wasn't enough, the barns provide an opportunity to capture rainwater to be used on farm, reducing the amount of water required to be sourced elsewhere.

The Environmental Benefit

The combination of the above actions can see more milked produced per hectare of property, and with a lower leaching rate. This is in addition of other farm environmental mitigation practices, such as grazing management, waterway protection and standoff facilities. When compared to the existing collective of farms being incorporated as part of this project, there is an improvement from the reduction of intensive sheep and beef grazing and dairy support.