BEFORE THE COMMISSIONERS APPOINTED ON BEHALF OF THE OTAGO REGIONAL COUNCIL

UNDER	The Resource Management Act 1991 (the **Act** or **RMA**)
IN THE MATTER	of an original submission on the Proposed Regional Policy Statement for Otago 2021 (**PRPS**)
BETWEEN	**OTAGO WATER RESOURCE USER GROUP**
	Submitter OS00235 and FS00235
	FEDERATED FARMERS NZ INC
	Submitter OS00239 and FS00239
	DAIRY NZ
	Submitter FS00601
AND	**OTAGO REGIONAL COUNCIL**
	Local Authority

SUMMARY OF EVIDENCE OF BRENDAN SHEEHAN

DATED 1 MAY 2023

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Summary of evidence

1. My name is Brendan Sheehan, I am a Civil Engineer and I hold a New Zealand Certificate in Civil Engineering, a Bachelor of Civil Engineering, and a Master of Science. I refer to my experience and expertise, as outlined in my evidence.[1]

2. My company Mt Aurum Engineering Consultants Ltd provides specialist engineering advice to multiple irrigation and hydro companies.

3. My evidence's purpose is to provide the reader with an understanding of irrigation storage and water distribution in the Maniototo Irrigation Scheme, in the Maniototo Catchment, and Ida Valley Irrigation Scheme, in the Manuherikia Catchment.

4. Despite touching on water availability and security issues, this evidence is directly relevant to the non-freshwater provisions because the points of discussion relate to land use.

Importance of infrastructure[2]

5. Infrastructure is heavily relied upon by farmers and their ongoing business viability make is impossible to contemplate maintenance or upgrade work that would prevent its operation.[3]

6. Delivery of irrigation water to farms is much more critical with the installation of modern irrigation methods. Crops will fail if water demand does not keep up, which has a flow on effect for livestock reliant on this supplement feed.[4]

7. Dams and storage facilities store water when flood events occur. In the Taieri context, this assistance (supplement flows) from Loganburn reservoir reduces the peak of river flooding. Without it, there would be significant effects on lower catchments.[5]

Infrastructure's challenges

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[1] At [1]-[5].
[2] At [64], [89]-[91], [94].
[3] At [94].
[4] At [64].
[5] At [87]-[88].

8. Otago's irrigation infrastructure has a complicated history, and it can be impractical and expensive to retrofit and install upgrades on old infrastructure. However, this infrastructure is heavily relied upon by farmers to ensure business viability.[6]

9. Irrigation infrastructure in Otago is complicated because of its size, age and complexity. The ability to significantly alter or upgrade is severely constrained by both practical difficulties and cost.[7]

   e.g. Upper Manorburn Dam built in 1914

   Poolburn Dam built in 1931

10. Retrofitting old infrastructure is expensive and there is no guarantee that the desired outcomes can be achieved without serious time delays, additional cost incurred and negative impact on irrigators.[8]

11. Any changes to operations will require wide ranging changes on farm. Potentially, reduced irrigation areas, establishment of buffer storage and the likes. This will inevitably take time.[9]

12. Cost of on farm storage has increased considerably over the past two years, and not all farmers are in a financial position to meet this cost.[10]

Upgrading infrastructure

13. Some of the upgrades required would need to be completed while the reservoirs are full but must be managed carefully to minimise the impact to farmers relying on irrigation water. This is because of inaccessibility of reservoirs in winter due to snow and ice.[11]

14. The existing irrigation infrastructure has developed over a long period of time and there are physical limits to the existing infrastructure. Significant investment would be required to undertake these potential

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[6] At [24], [79]-[82], [92]-[97].
[7] At [92].
[8] At [92].
[9] At [95].
[10] At [96].
[11] At [24] and [51].

changes, and these can only be managed across a sufficiently large timeframe.[12]

15. **I would be happy to answer any of the Panel's questions.**

Dated 1 May 2023

Brendan Sheehan

[12] At [97].