

**Technical Comment**

**To:** Rebecca Robertson  
**From:** Michael Killick (Technical Specialist –  
Soils and Groundwater Quantity)  
**Date:** 14 March 2019  
**Map References:** NZTM2000 1242000E 4926000N  
**File Reference:** APP-20181676  
**Subject:** *Further Technical Comment following  
response to RFI*



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Dear Rebecca

I have looked at the information supplied on behalf of the applicant in response to the further information request.

According to the information presented in the response and in the original application, it is likely a take of the size proposed from Lumsden aquifer at the approximate locations proposed will not cause unacceptable interference with existing bores, and that hydraulic connectivity with surface water bodies will be no more than Moderate. I have not assessed whether this would restrict the proposed take due to surface water allocation limits. I consider it possible that a take from bore site 7 could have 'High' hydraulic connectivity to the Oreti River, meaning it would be subject to a low flow cutoff condition which I understand the proposal seeks to avoid.

As per my earlier comment, I consider that more conservative (i.e. higher) values of stream bed conductance than those presented in the response and in the original application can be supported by literature and evidence (which I have not had time to fully assemble and reference for this comment) and as this is a difficult parameter to directly measure, conservative values are appropriate. It is possible this would result in 'Moderate' hydraulic connectivity to Murray Creek or the Oreti River, or 'High' connectivity to the River from bore site 7 or a similar location.

The further information response does not assess effects of full consented use in E44/0300, the Environment Southland monitoring bore at Castlerock, as requested, neither does the assertion that

drawdown in that bore has been consistent appear correct from the figure referred to – Figure 5 of the Hydrogeological Assessment – which shows greater drawdown under the drought conditions of the 2017-18 summer. Nonetheless, the assertion that additional interference from the proposed take would add an insignificant amount to existing interference in this bore appears correct. Interference with E44/0300 is therefore expected to be acceptable.

There is little point in going into any further detail with assessments of effects while the exact location(s) of the proposed bore or bores, and results of pump testing, are unknown. I recommend that any allocation granted in advance of this information should be subject to assessment of the information when provided i.e. that effects of the proposed take are still found to be acceptable in light of the actual bore locations and testing.

Let me know if you need any clarification or further comment.

Best Regards

Michael