



FORM 5

SUBMISSION ON A PUBLICLY NOTIFIED PLAN CHANGE/ VARIATION

CLAUSE 6 OF FIRST SCHEDULE RESOURCE MANAGEMENT ACT 1991

To: Mackenzie District Council  
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*(name and designation, if applicable)*

This is a submission on:  
**Proposed Plan Change 15 (Twizel) and/or Variation 1 to Plan Change 13, Mackenzie District Plan**

The specific provisions of the proposal that my submission relates to are:  
*(give details)*  
Twizel Water Supply Protection Area (Twizel Sheet 51, 52)  
Section 8, pg 8-10 Harker Lane Rural / Residential Zone.

My submission is:  
*(include whether you support or oppose the specific provisions or wish to have them amended and the reasons for your views)*  
Attached.

### Twizel Water Supply Protection Zone

The Environment Canterbury Natural Resources Regional Plan, Chapter 4 - Water Quality, Schedule WQL2, Community Drinking Water Supply Protection Zones, page 4-443, states:

“The dimensions of a protection zone around a well used as a source of community drinking water supply are to be determined using site specific information, including the depth of the well, pumping rates, the type of aquifer, the type of contaminant and the potential risk to water quality”.

A site specific assessment has not been undertaken to determine the dimensions of the Twizel water supply protection zone. Instead a provisional water protection zone has been used for the plan change. The following site specific information indicates a much smaller protection zone is required than the provisional zone dimensions shown in the plan change.

The Twizel Hydrogeology and Soils Investigation report prepared for Mackenzie District Council by URS in March 2001 gives the results of of stepped drawdown pumping tests on the town water supply wells. The resulting estimated specific capacities suggest high yielding wells. The wells are approximately 15 metres deep and drawdown is only 2 to 3 metres of more than 10 metres available.

The proposed protection is a zone of rising groundwater, with a water table at about 2 metres below ground level. Likewise the Fraser Stream above the wells is a gaining reach due to the rising ground water levels. It is considered that there is no risk of contamination of the 15 metre deep water supply wells from septic tank outlets above the shallow groundwater in the proposed protection zone.

Environment Canterbury water quality monitoring results for the Fraser Stream since October 1993 show E.coli levels ranging from 8 to 580 MPN/100mL with an average of 102 MPN/100mL. Mackenzie District Council results of Twizel water quality monitoring show no E.coli in the well water tests and some minor contamination occurring at the reservoir. There is no evidence of contamination of the Twizel water supply from either the surface water or shallow ground water upstream of the wells.

I ask that the provisional water protection zone be removed from the Plan Change and a site specific assessment be undertaken to determine the dimensions of the Twizel Water Supply Protection Zone.

