

FORM 5

SUBMISSION ON A PUBLICLY NOTIFIED  
PLAN CHANGE/ VARIATION

CLAUSE 6 OF FIRST SCHEDULE  
RESOURCE MANAGEMENT ACT 1991

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(name and designation, if applicable)

This is a submission on proposed Plan Change 18/ Plan Change 19 to the Mackenzie District Plan (please select Plan Change)

The specific provisions of the proposal that my submission relates to are:  
(give details)

Plan Change 28 - Hazards & Risks, Historic Heritage  
and Notable Trees  
Hydro Inundation

My submission is:

(include whether you support or oppose the specific provisions or wish to have them amended and the reasons for your views)

opposed - please see attached  
submission paper

Continued overleaf

*If you have any queries about this form or the proposed plan change or variation, please contact Karina Morrow, Group Manager Planning and regulation, Mackenzie District Council.*

# Submission on MDC District Plan Change 28

Name – Anthony Honeybone

Date – 16 January 2025

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**Submission** - My submission is **opposed** to the proposed section on hydro inundation in the plan change for the reasons set out below.

**Submission Hearing** - I **do** wish to be heard in support of my submission

## Summary

The proposed PC28 Hydro Inundation section of the District Plan does not follow a robust, evidence-based approach to the management of hazards. A robust, evidence-based approach would consider the risk of inundation happening. The proposed changes do not consider risk, only the consequences of an event happening. This is not a sound approach to hazard planning.

The Hydro Inundation policy statement starts from a baseline assumption that the hazard will occur in an undefined timeframe and makes a sweeping statement that all development should be avoided which increases the likelihood or scale of harm.

The policy statement does not consider likelihood of the hazard occurring. This likelihood could be a 1 in 100,000 annual exceedance event therefore the risk of the hazard occurring is well within acceptable planning criteria.

The Hydro Inundation Overlay will have significant financial, cultural and lifestyle impacts on ratepayers in the area yet is being proposed without following national guidance on planning. The National Planning Standards require a risk based policy framework to underpin local planning. Section 6 of the Resource Management Act obliges territorial authorities to manage the risks from natural hazards not just focus on worst case scenario consequences. Managing risk requires a robust understanding of that risk which MDC have refused to demonstrate they have.

This submission proposes that MDC

- A. Remove the Hydro Inundation section from the District Plan until MDC have completed a robust risk based policy development process and fully understand the risk of hydro inundation or
- B. Rewrite the Hydro Inundation section to ensure that it takes a risk based approach (aligning with natural hazard management) that allows sustainable development rather than starting from a baseline worst case scenario that immediately avoids development and ignores the likelihood of the hazard occurring.

## Introduction

Hydro inundation is a hazard in the Mackenzie District. Research by Damwatch states that modern water retaining structures such as dams and large canals are very safe with an extremely low likelihood of failure. The Pukaki dam and canal structures are already operated to the highest Potential Impact Classification (PIC) safety standard that exists. The Safety Evaluation Earthquake (SEE) for a high PIC dam is a 1 in 10,000 annual exceedance probability (AEP) event. Damwatch

suggest that failure of hydro infrastructure while extremely low would most likely be caused by a natural hazard such as an earthquake event.

Given this, my submission proposes that the hydro inundation hazard in the District Plan should be treated in a similar manner to the management of a natural hazard. This is reinforced by the MDC S32 PC28 report that directly equates a hydro inundation event with a natural hazard event.

National planning standards require that Territorial Councils take a risk based approach to the management of natural hazards commensurate with the sensitivity and scale of development, whereby the level of risk is assessed as the combination of the likelihood of a hazard event occurring and the consequences of that event, for people and communities, property and infrastructure.

The implementation of a hydro inundation zone has a significant negative effect on people's property rights with the following examples likely to occur:

- Insurance premium hikes and difficulty getting insurance
- Issues getting mortgages with banks on land with District Plan hazard overlays
- Loss of value of land and buildings if potential buyers of land/houses in the inundation zone, are discouraged by the seemingly catastrophic consequences of hydro inundation, and if banks become reluctant to lend to build on the land
- Building restrictions and activity restrictions that the council may impose under regulatory controls to mitigate the risk of loss of life and property in the unlikely event of Pukaki Dam Breach – for example
  - Restrictions on where buildings are sited
  - Restrictions on foundation heights
  - Restrictions on use of buildings
  - Restrictions on the number of habitable buildings

Given the significant financial, lifestyle and cultural impact that the proposed hydro inundation overlay and policy statements will have on land owners across the region this submission proposes that the hydro inundation hazard should be managed utilising a risk based approach so that the risk can be adequately assessed against acceptability criteria. Without an understanding of the risk which comes from understanding the consequence and likelihood of an event occurring significant restrictions could be imposed on property rights for an “extremely unlikely event”.

Specifically, this submission proposes that the District Plan Hydro Inundation section follows the same risk-based approach as natural hazard management. This would result in activities being avoided in areas where the risk of harm from hydro inundation to people, property and infrastructure are assessed as being unacceptable, and activities being allowed where the risk is demonstrated to be acceptable. This approach needs to start from a robust understanding of the consequences of an event and the likelihood of a hydro inundation event occurring. This fundamental work has not been undertaken by MDC who appear to be proceeding based on a worst-case scenario approach, not an evidence-based analysis of risk.

The current PC28 proposed policy approach starts from the status that any development that might increase the likelihood of harm to people or property should be avoided. It completely fails to put the policy into an appropriate risk framework that sets out the actual risks of a hydro inundation event. This is in contrast to other sections of the plan that quantify risk through consequence and likelihood modelling, for example the natural hazard flooding section which has been based on robust modelling of consequence, likelihood and risk undertaken by Environment Canterbury. The

proposed Hydro Inundation policy starts from an unsubstantiated basis that the Annual Exceedance Probability (likelihood) of an inundation event is unacceptable.

#### *PC28 Overarching Policy*

*HI- P1 Development in Hydro Inundation Areas avoid as far as practicable, changes to existing land use activities in the hydro Inundation Hazard Overlay that may increase the likelihood or scale of harm to people or property from hydro inundation or the potential for reverse sensitivity effects. Where it has been demonstrated that avoidance is not practicable, minimise the potential for harm.*

A risk based approach to the hydro inundation zone would assess the hazard based on the sensitivity and scale of the development, whereby the level of risk is assessed as the combination of the **likelihood** of a hydro inundation event occurring and the **consequences** of that event, for people and communities, property and infrastructure.

#### **Background**

MDC Plan change 28 is proposing introducing a hydro inundation zone that overlays a number of Mackenzie District properties that will have severe financial, cultural and property rights impacts on landowners.

The proposed hydro inundation policy fails to take an evidential risk based approach to the management of the hazard. The policy has an underlying assumption that a hydro inundation event will occur therefore all development should be assessed against this certainty. The proposed policy sets out that all development should be avoided that may increase the likelihood or scale of harm. By focusing on avoiding an increase in likelihood it fails to contemplate that the likelihood of the hazard event could be so remote it is inconsequential. Using an extreme example this approach would suggest that a hazard event of a meteorite hitting Twizel exists. To avoid increasing the likelihood of harm to people or infrastructure of a meteorite strike all development should be avoided.

Given that all of the research undertaken indicates that a natural hazard event is the most likely cause of a hydro inundation event, the current PC28 Hydro inundation policy approach ignores basic National Planning Standards for local governments to utilise a risk based framework to improve risk-based land use for natural hazards in NZ.

The PC 28 hydro inundation change is driven solely on the research that was commissioned from Damwatch by Meridian. The research only develops worst case consequence scenarios without any consideration of likelihood. A range of maps have been developed which show the potential impacts of these worst case scenarios. MDC have taken these maps and proposed policies to avoid the consequences of a hazard event without any consideration of the likelihood of the hazard occurring. There has been no basic risk assessment work undertaken which assesses the acceptability of the risk of the event occurring.

The research from Damwatch categorically states that it is only considering consequence without any robust understanding of likelihood. If a similar approach was taken across other regulatory areas then there would be no development allowed as the use of hypothetical worst case flood, wind or snow events would ensure that because a major catastrophic event could occur sometime in the future impractical building location and structure restrictions would be required.

Evidence shows MDC have been aware of the hydro inundation hazard since 2013 when Damwatch prepared a report showing the consequences of a Pukaki Canal embankment failure<sup>1</sup> Since this time MDC have failed to undertake any robust risk assessment of the known hazard nor has it consistently included this into LIMs of all potentially affected landowners since this period.

Territorial Authorities are obligated to include information relating to hazards in a LIM. Legal precedence in this area suggests that this obligation is heightened when the information will have a significant financial impact on owners. Based on the way in which the Hydro Inundation section is proposed to be implemented it suggests that MDC are fully aware of the hazard and furthermore believe that the risk of harm to people, property and infrastructure is unacceptable. Hence the requirement to avoid development in the area. On this basis MDC have failed to disclose this information to a number of purchasers and will expose itself to substantial claims for damages due to negligence and breach of statutory duties where purchasers have purchased a property in reliance on a LIM where MDC has failed to disclose known hazards.

In cases<sup>2</sup> related to Coastal Erosion Hazards Courts have said that a LIM needs to provide disclosure of sufficient information to put the recipient on notice of;

- a) Any more specific, identifiable, risk posed to the land known to the TA
- b) The existence of any further relevant information about the risk on the TAs files that might be of interest to a recipient and how it might be accessed

The importance of including this information in a LIM is critical when this information has not been adequately covered by the District Plan. The current proposal to include a Hydro Inundation Overlay to the District Plan for specific areas fulfils MDC's statutory duty but this must be exercised on the basis of a robust risk based policy process. There is significant risk of "doubling down" on the litigation exposure if MDC cause ratepayers significant financial loss by implementing a planning approach that lacks a robust policy foundation.

MDC has been asked on numerous occasions to provide robust information on the likelihood of a hydro inundation event occurring. MDC have referred to statements by Meridian, Damwatch and MDC that use terms such as "unlikely", "very unlikely", "extremely low likelihood" etc but have failed to provide any information that might quantify what these mean. There is no understanding or assessment if a hydro inundation event is a 1 in 500 year event, a 1 in 10,000 year event or a 1 in 30,000 year event. The Pukaki Hydro infrastructure already operates on the basis of being safe in a 1 in 10,000 year earthquake event. There has been no work undertaken to assess risk acceptability through the policy development process and the policy itself starts from the unsubstantiated assumption that the risk is unacceptable.

Requests under LGOIMA for the policy assessment documentation related to hydro inundation have resulted in MDC providing publicly available Damwatch reports on consequence but nothing on risk. This failure to meet legislative requirements under the LGOIMA appears not to concern MDC managers.

The PC28 Section 32 Report "*Part A Contaminated Land, Hazardous Substances, Natural Hazards and Hydro Inundation*", 5 November 2024, p16, 5.7 outlines the rationale for the introduction of the

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<sup>1</sup> MDC provided Damwatch Memorandum dated 08/03/2013 outlining the consequences of Pukaki canal embankment failure on Bendrose and Omahau Downs farm base areas.

<sup>2</sup> See *M & V Weir v Kapiti District Council*, NZHC 3522/13, NZHC 43/15

Hydro Inundation Hazard areas as being that there are areas not identified as being subject to potential inundation in the event of a canal failure. It then states the following

*"In these zones there are no provisions to address the risk associated with hydro inundation" (p16 s5.7)*

*"it is prudent that potential areas of inundation that could occur following infrastructure failure are mapped, and property owners are aware of the inundation risk in such areas." P17 s6.6*

The PC28 proposed hydro inundation assessment standard again talks of risk

*The objective is considered the most appropriate way to achieve the purpose of the Act because it:*

*Addresses an identified resource management issue, by:*

- *Having a stand alone chapter to address the risks of hydro inundation within the Hazards and Risks section of the District Plan;*
- *providing an up to date planning framework to assess the risk to people and property being impacted by natural hazard events resulting in hydro inundation and managing that risk within the areas at Pukaki Airport, Flanagan Lane and Lyford Lane which are not in the Operative District Plan hydro inundation overlay;*
- *Recognises matters in s6 of the RMA through seeking to manage significant risks from natural hazards, which in relation to hydro inundation could be the trigger for the dam or canal wall failure. p22-23*

The section is summarised as follows

*Overall, the proposed objective for the Hydro Inundation Chapter is considered to provide clear direction in relation to managing the risks associated with hydro inundation in the event of a dam or canal breach which is an event with low probability of occurring. The objective will align with Strategic Objective ATC-O5 as it enables adaptation of natural hazard risk management which will result in greater resilience to the risks of natural hazards for the community.*

The policy development process and the proposed Hazard Inundation section of the District Plan fail to deliver what they propose in the S32 report and fail to meet the requirements of RMA S6 or NPS relating to taking a risk based approach. The S32 report emphasises the importance of understanding the risk of hydro inundation but the proposed policy and MDC's approach completely fails to understand the risk. The proposed section is completely based on consequence with no robust understanding of likelihood and therefore no adequate risk assessment. It starts from the underlying assumption that the hazard will occur in an unacceptable timeframe without any evidential basis for this assumption or robust risk assessment process.

By solely relying on a worst case consequence approach MDC is ignoring its duties under the RMA and to Mackenzie ratepayers to take a risk based approach to managing hazards in the region and follow a sustainable development ethos across its planning framework. It is imposing significant restrictions on property rights without any evidential policy process.

To meet its obligations under the RMA MDC PC28 changes needs to be based on a robust understanding of the risk of an inundation event to property, people, infrastructure and

communities. The work on worst case scenario consequences has been done but there has been no robust understanding of the likelihood of these consequences occurring therefore no understanding of the risk and therefore no ability to make assessments of the acceptability of the risk.

My submission is to

- a) Remove the Hydro Inundation section from the District Plan until MDC have completed a standard policy development process and fully understand the risk of hydro inundation or
- b) Rewrite the Hydro Inundation section to ensure that it takes a risk based approach (aligning with natural hazard management) that allows sustainable development rather than starting from a baseline worst case scenario that immediately avoids development and ignores the likelihood of the hazard occurring.