

Planning Provisions for Debris Flow Risk Management on the Awatarariki Fanhead, Matatā

Issues and Options
Prepared for Whakatane District Council

10 August 2017



Boffa Miskell

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CONTENTS

1.0	Purpose	1
2.0	Background	1
3.0	Issues	3
3.1	Susceptibility and Risk from Debris Flows on the Awatarariki Fanhead	3
3.2	District Council Role in Managing Natural Hazard Risk	3
3.3	Regional Policy Statement on Natural Hazards	4
3.4	District Plan	4
3.5	Existing Use Rights	5
3.6	Effect of Proposed District Plan or Regional Plan Rules	6
3.7	New Building Work	6
3.8	Dangerous Buildings	7
3.9	Land Acquisition	7
3.10	Issues Summary	8
4.0	Options	9
4.1	Evaluation of Plan Provisions	9
4.2	Evaluation Criteria and Method	9
4.3	Previously Excluded Options	10
4.4	District Plan Options	10
4.5	Regional Plan Options	17
5.0	Conclusion	21

1.0 Purpose

The purpose of this report is to set out the background, issues and options for possible changes to District and Regional Plans for the management of the debris flow risk on the Awatarariki fanhead at Matatā.

2.0 Background

A severe rainfall event on 18 May 2005 triggered a large debris flow in the Awatarariki Stream at Matatā, causing significant damage to land, buildings and infrastructure on the Awatarariki fanhead. While no injuries or deaths occurred, it is evident that the destructive force of the debris flow was such that this could easily have been an outcome.

After the event, a range of alternatives were identified in developing an appropriate way forward. The assessment of alternatives included:

- Assessment of causes of debris flow event (June 2005);
- Initial identification and assessment of options (June - August 2005);
- Consultation with community (August 2005);
- Refinement of options (August 2005).

The choices identified were between:

- “Retreat” – relocation of houses that would be in the path of potential future events;
- “Dam Options” - debris detention in the catchment with a flood channel on the fanhead;
- “Fanhead Options” - directing debris flows with a flood channel on the fanhead.

In August 2005, the District Council approved “in principle” a debris dam and debris flood channel as the preferred mitigation measure for the Awatarariki Catchment. In considering the preferred mitigation measure, consideration was given to the protection of existing dwellings. A cost benefit analysis was then undertaken, which confirmed that the debris dam and debris flood channel option offered the greatest overall benefit.

After formal confirmation of the preferred option in December 2005, a process of design development followed including:

- Technical assessments and reports to develop and refine the preferred option (January 2005 – May 2009);
- Community consultation (May 2009);
- Recommendations on final concept (June 2009);
- Independent technical reviews (2009 – 2010).

During the design development process, a range of debris detention structures in the upper catchment were presented to the Matatā community for consultation. The community expressed concerns about the structures proposed, including the potential impact upon culturally important sites. The community feedback resulted in the preferred engineering design being a flexible ring net proposal in the upper catchment with deflection bunds and raised building platforms on the fanhead. This proposal minimised the environmental and cultural footprint concerns raised by the community.

Independent technical reviews of the ring net proposal during the detailed design phase raised concerns about the durability and stability of the structure, which ultimately could not be satisfactorily resolved through the final design without substantially increasing construction costs.

A comprehensive review of the project was initiated in 2012. The recommendation of the review was that WDC take no further action to implement the ring net, which was the current design solution for the debris detention structure.

Later in 2012, the District Council, because of a re-evaluation of lower catchment solutions identifying no viable solution, determined there were no viable engineering solutions to manage the debris flow risk to people and properties on the Awatarariki fanhead, and decided to pursue planning-based options.

In 2013, the District Council completed hazard and risk assessments for landslides and debris flows at Ōhope, Whakatāne and Matatā. Work also commenced on investigating options for District and Regional Plan Changes to manage landslide and debris flow risks. However, this work was placed on hold until new natural hazard policies under the Regional Policy Statement (RPS) became operative and provided appropriate guidance to Council on how it should manage significant natural hazards. The RPS became operative in 2016.

At the beginning of 2015, the District Council formed a Consensus Development Group, including six landowners, to investigate all options. From this, the Council developed the Awatarariki Debris Flow Risk Management Programme.

The Awatarariki Debris Flow Risk Management Programme is a unified approach comprising ten work streams to manage the loss-of-life and property damage risks from future debris flows within the Awatarariki Stream catchment.

The ten work streams are:

1. Review hazard and risk modelling;
2. Property valuations;
3. Alternative escape routes;
4. Early warning systems;
5. Review rates and rates remissions;
6. Right turning hazard;
7. Managed voluntary retreat package;
8. Building Act determination;
9. District plan changes;
10. Legal quality assurance.

These work streams are now significantly advanced. The most effective measure to reduce risk is covered under work stream 7, the Managed Voluntary Retreat Package. A detailed business case to support funding of this is being negotiated through District, Regional and central Government.

Under work stream 9 (District Plan changes), the resource management approach for the Awatarariki fanhead area needs to be changed to more appropriately recognise and provide for the management of the significant risk from debris flow hazards.

3.0 Issues

3.1 Susceptibility and Risk from Debris Flows on the Awatarariki Fanhead

Susceptibility and risk from debris flows on the Awatarariki fanhead have been carefully studied and assessed in a series of peer-reviewed reports undertaken since the May 2005 event.

This work has been difficult because of acknowledged uncertainties caused by the limited records of past events and the consequent difficulty in assigning return periods to event magnitudes (i.e. how often debris flows are likely to occur and how big they are likely to be). Assessments have been based on a combination of sophisticated computer modelling, aerial photography and geospatial plotting of individual boulders, as well as professional insights from recognised independent experts in the field of geological science on issues that are not readily quantified in modelling.

A debris flow is a significant threat to life and property due to the presence of large boulders and trees in the debris flow, combined with the volume, density, and velocity of the flow. The levels of uncertainties and threat risk means a precautionary approach has been adopted for the identification of a high risk area. A precautionary approach is appropriate in that it ensures the level of risk is not underestimated. The high risk area is the area where loss-of-life risk significantly exceeds levels that are generally acceptable, both internationally and nationally¹.

The area susceptible to debris flows outside the high risk area is not free of risk from debris flows. Debris flow events could result in loss of life and damage to property outside of the high risk area. Council also has a duty to control development in those wider areas.

The extent of the area susceptible to damage from a debris flow (yellow area), the area subject to high risk (the pink area) and the area subject to medium risk (the orange area) is shown on the plan in Appendix 1.

3.2 District Council Role in Managing Natural Hazard Risk

Under the Local Government Act 2002, the avoidance or mitigation of natural hazards is one of the core services that councils must have “particular regard to”.

The functions, powers and duties for local authorities under the Resource Management Act 1991 include the management of significant risks from natural hazards as a Matter of National

¹ Annual loss of life risk modelled at greater than 10^{-5} but considered to be higher due to limitations of the model

Importance. Under recent legislation changes, Council is now required to recognise and provide for the management of significant risks from natural hazards. Debris flow hazards on the Awatarariki fanhead are significant and the Council is required to recognise and provide for their management.

The District Council, as a building consent authority under the Building Act, must refuse to grant building consents if land is subject to a natural hazard, or if the building will accelerate, worsen or result in a natural hazard on the land or on any other property.

The District Council has a wide responsibility to manage natural hazards for the community, including controls on development in hazard prone areas to minimise risk.

3.3 Regional Policy Statement on Natural Hazards

The Regional Policy Statement includes a risk-based approach to natural hazard management. Of relevance is the requirement in high risk natural hazard risk zones to reduce the level of risk to medium, and lower if reasonably practicable.

The Regional Policy Statement imposes a duty on city and district councils within the region for land use planning, susceptibility mapping and detailed risk assessment for “extreme (prolonged or intense) rainfall hazard” that can result in landslides, debris flows/floods (flooding).

Accordingly, the District Plan must give effect to the Regional Policy Statement through:

- Identifying areas susceptible to natural hazards;
- Assessing natural hazard risk;
- Managing natural hazard risk.

The Regional Policy Statement requires the District Council to take steps to reduce risk to an acceptable level. The District Council must give effect to a policy in a Regional Policy Statement.

3.4 District Plan

3.4.1 Objectives and Policies

The Operative District Plan contains objectives, policies and rules relating to the management of hazards, including falling debris and debris flow hazards.

The District Plan objective is to manage subdivision, use, development and protection of land so as to avoid or mitigate the adverse effects of natural hazards on the life and wellbeing of people, and significant environmental values².

Any development in an identified hazard area requires resource consent where the risk to life and property is assessed in each case.

Some falling debris and debris flow hazard areas are shown on the Planning Maps. However, at present, this is limited to areas at Whakatāne and Ōhope and no hazard areas are shown at Matatā.

² Objective Haz 1

At the time the District Plan Review was publicly notified, Council had not completed the assessment of landslide and debris flow risks at Matatā. This is explained in an advice note in the District Plan document³ (including on the face of the Planning Maps)⁴, which says that it is likely that the District Plan Maps and rules that control land use and subdivision in areas affected by landslide and debris flow hazards will need to be changed once the risk assessment has been completed.

3.4.2 Zoning

The land on the Awatarariki Fanhead at Matatā is zoned “Residential” with no debris flow hazard overlay.

3.4.3 Land Use Rules

Under the operative District Plan rules, residential use is a permitted activity on the Awatarariki fanhead. There is no rule in the District Plan that restricts the use of land on the Awatarariki fanhead related to the management of risks from debris flows.

3.4.4 Subdivision Rules

There is a general subdivision standard in the District Plan⁵ that requires each lot to contain a building platform that is located to *avoid* natural hazard events such as inundation, falling debris, and subsidence.

This criterion applies to an application for a “controlled activity” in the Residential Zone where no hazards are shown on the Planning Maps. Normally, such an application must be granted consent, but may be subject to conditions.

However, under Section 106 of the Resource Management Act⁶ the District Council may refuse subdivision consent in circumstances where *there is a significant risk from natural hazards*.

This means that where a subdivision is unable to provide building platforms that avoid a natural hazard, the District Council is within its powers to refuse to grant subdivision consent, including when it is a controlled activity under the District Plan.

Based on the information the District Council has about the debris flow hazard risks affecting the Awatarariki fanhead and the inability to adequately mitigate the hazard through physical measures, it is highly unlikely that the District Council could grant consent to any subdivision on the Awatarariki fanhead.

3.5 Existing Use Rights

Existing use rights apply to any activity that contravenes a rule in a District Plan if the use was lawfully established and the effects of the use are the same or similar in character, intensity, and scale to those existing before the rule came into effect.

³ Planning Map 101B

⁴ 18.2.6 Falling Debris and Debris Flows

⁵ Rule 12.3.1.1 d

⁶ S106 Consent authority may refuse subdivision consent in certain circumstances

This means that any new hazard controls in a District Plan cannot be applied retrospectively and the current residential activities and buildings can continue on the land, even though they may be contrary to district plan rules.

A Regional Council can control the use of land for avoidance or mitigation of natural hazards under a Regional Plan rule. Existing use rights do not apply to land uses controlled by a Regional Plan. However, there are currently no Regional Plans that include natural hazard objectives, policies and rules.

The RPS policy on allocation of responsibility for land use control for natural hazards identifies that city and district councils have the primary responsibility for developing any natural hazard rules. However, this policy has the following footnote which identifies circumstances where the Regional Council may intervene:

“Under section 30(1)(c)(iv) of the Act, the Regional Council has the function to control land use for the avoidance or mitigation of natural hazards. The Act allows the Regional Council to exercise that function in such a way as to override any existing use rights available under section 10(4) of the Act. The allocation of responsibilities under this policy does not remove the right of the Regional Council to exercise its functions and powers in that regard. Should it choose to do so, any such provisions will be subject to a plan or plan change process under Schedule 1 to the Act.”

3.6 Effect of Proposed District Plan or Regional Plan Rules

Proposed plan rules relating to hazards normally have no legal effect until decisions on submissions have been made and publicly notified. The Operative Plan rules apply until that time.

A local authority may apply to the Environment Court for a rule to have legal effect from an earlier date. Given the current high risk that exists, it may be prudent for such an application to be made to the Environment Court to provide for any new rules to have legal effect at the date of public notification of a plan change.

Timely implementation of new rules can also be enabled by prioritising hearings for submissions and possible appeals.

A provision of a plan that renders any land incapable of reasonable use, and places an unfair and unreasonable burden on any person, can be challenged to the Environment Court.

In the context of the Awatarariki fanhead high risk area, the issue is whether it is reasonable to allow residential use to continue in an area where there is high risk of loss of life and property damage which cannot be reduced by any practicable measures.

Provided planning controls are based on rigorous analysis and are justifiable and consistently applied, they will not be likely to be deemed “unreasonable”.

3.7 New Building Work

The District Council has refused to grant waivers under the Building Act which would allow new building work on land on the Awatarariki fanhead which is subject to high risks from debris flow hazards.

The District Council's decisions were subject to a determination by the Ministry of Business, Innovation and Employment (MBIE) in 2016⁷. The MBIE determination accepts that the high-risk area of the Awatarariki fanhead is subject to a natural hazard as defined under the Building Act and that building work has the potential to worsen the hazard through mobilisation of buildings during a debris flow. The granting of a waiver to allow new building work was not found to be reasonable because of the high life safety risk and the inability to mitigate that risk.

Based on this determination, the District Council can reasonably expect to be supported by MBIE in refusing other similar waivers that would allow additional buildings within the Awatarariki fanhead area that is subject to high debris flow risk.

3.8 Dangerous Buildings

In 2006, the District Council applied to the Department of Building and Housing for a determination on the appropriateness of Dangerous Building notices it issued under the Building Act on eight houses affected by the debris flow on the Awatarariki Fanhead.

A “dangerous building” is one where in the ordinary course of events, the building is likely to cause injury or death to any persons in it or to persons on other property. Where a dangerous building notice has been issued, no person may use or occupy the building.

The Department of Building and Housing determination⁸ concluded that the eight houses were not dangerous because the storm event that would trigger another debris flow was less than a 200-year event and could not be said to occur “in the ordinary course of events”.

3.9 Land Acquisition

3.9.1 Compulsory Acquisition

Council has no current legislative powers to compulsorily acquire land to enable retreat from high risk hazard areas. Current legislative powers only enable compulsory acquisition of land for public works and for heritage sites.

Compulsory acquisition of hazard-prone land has been mandated by central government in the past. Examples include Little Waihī village at the southern end of Lake Taupō in 1846 and 1910; Franz Joseph in 1993; Aoraki Mount Cook village in 2004; and the Port Hills red zone in Christchurch where owners of properties exposed to a very high boulder roll risk were paid to retreat from the hazard following the Canterbury earthquakes.

While advocacy to change legislation to provide for such a power is possible, this is highly uncertain and unlikely to provide any timely resolution of issues at Matatā.

3.9.2 Voluntary Acquisition

Given the functions and obligations it has to manage risk from natural hazards, the reality that planning rules cannot easily reduce that risk on the Awatarariki Fanhead; and the stress and

⁷ Determination 2016/034

⁸ Determination 2006/119

financial burden property owners and occupiers face, Council has developed a managed retreat package.

The managed retreat package involves the provision of financial assistance to affected property owners to leave the high risk area.

The financial assistance involves property purchase of affected sites based on the current market value of properties, ignoring the debris flow risk. The financial assistance includes additional contributions towards legal expenses for the sale of each property and purchase of a new property, a contribution to relocation costs (where applicable), mortgage break fees (where applicable), updated valuations prior to any formal offer being made, optional valuations by a second independent party, and an appeal process.

The District Council considers that this solution offers a realistic incentive for affected property owners to relocate away from the high natural hazard risk and fairly recognises the private cost that accrues.

The funding needed to support the voluntary retreat package is currently being negotiated between local, regional and central government. If funding is approved, formal offers will be made to affected land owners to realise the retreat in the shortest reasonable timeframe.

The land acquired under the managed retreat package would be set aside for future public use. The land would likely form part of the Coastal Reserve and come under the related coastal reserve management plan. Future activities would include those associated with passive use, including, access, walkways, fencing, and landscape development.

The managed retreat package will not be effective if only some of the affected sites are acquired. If this were to happen, the high risk to life and property would remain and future public use of the land would be compromised.

3.10 Issues Summary

The District Council has a responsibility to manage natural hazards in areas that are subject to significant risk. The Awatarariki fanhead area is known to be subject to high loss-of-life risk from a debris flow event. Council has an obligation under the Regional Policy Statement to take steps to reduce this risk to an acceptable level.

While the District Plan does not yet identify the debris flow risk on the Awatarariki fanhead, the current situation is that no subdivision or building can occur on the land, as this would not comply with mandatory provisions of the Resource Management Act and Building Act. Under these provisions, the risk from the debris flow hazard is unlikely to increase. However, these provisions do not enable any reduction of risk.

Given the difficulty in reducing risk using current regulatory measures, a key solution proposed by Council for the Awatarariki fanhead is a managed retreat package which is based on offering affected property owners the current market value of properties.

Despite the proposed managed retreat package, two issues remain outstanding.

First, although the current legal situation means that Council is highly unlikely to grant subdivision or building consent within the Awatarariki fanhead high risk area (and hence increase risk), the District Plan does not reflect that reality. Further the District Plan does not adequately manage the risk that remains outside the high risk area.

Second, there is the potential for some risk to continue inside the high risk area if there were incomplete take up of the managed retreat package.

The balance of this discussion document considers the planning options available to address those two issues.

4.0 Options

4.1 Evaluation of Plan Provisions

Under section 32 of the RMA, where the Council is considering a change to a Plan, it must prepare an evaluation report which examines the extent to which the objectives of the proposal are the most appropriate way to achieve the purpose of the Act and must examine whether the provisions are the most appropriate way to achieve the objectives by:

- Identifying other reasonably practicable options for achieving the objectives;
- Assessing the efficiency and effectiveness of the provisions of achieving the objectives;
- Summarising the reasons for deciding on the provisions.

An evaluation report must be prepared which contains a level of detail which corresponds to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated upon implementation of the proposal.

The options identified below provide the basis for an initial evaluation of reasonably practicable options. The evaluation will need to provide further details to support any future plan change.

4.2 Evaluation Criteria and Method

Options can be evaluated on their effectiveness and their efficiency.

Effectiveness generally means consideration of the extent to which an intended outcome will be achieved. In this case the intended outcome is to reduce the level of debris flow risk from high to medium (and lower), if reasonably practicable.

An option must be assessed as reasonably effective and not fatally-flawed before its efficiency is considered.

Efficiency generally means consideration of the costs and benefits of management measures.

In this case, the efficiency of the options can be evaluated and compared by assessing the following:

- Costs and benefits of establishing the provisions;
- Costs and benefits of compliance with the provisions.

4.3 Previously Excluded Options

4.3.1 Risk Acceptance

Although residents have indicated varying degrees of acceptance of natural hazard risk; the District Council, Bay of Plenty Regional Council, and the Government all have overarching legislative responsibilities to act on behalf of communities to reduce or mitigate risk to life safety from natural hazards.

4.3.2 Engineering Options

As noted in the background, engineering or structural options to reduce risk have been thoroughly investigated and proven not to be reasonably practicable.

This includes protection work undertaken on an area-wide basis such as debris dams, bunds and channels; and works to protect individual development sites such as raised building platforms and debris barriers.

4.3.3 Evacuation Options

An early warning system was investigated as a mechanism to warn road and rail users and any dwelling occupants of the possible imminent hazard of a dangerous debris flow in the catchment.

Based on advice from GNS, it was concluded that an early warning system was not a viable risk mitigation option for the debris flow hazard from the Awatarariki Stream catchment.

4.4 District Plan Options

Although the current legal situation means that the District Council is highly unlikely to grant subdivision or building consents within the Awatarariki fanhead high risk area (and hence increase risk), the District Plan does not reflect that reality. Further the District Plan does not adequately manage the risk that remains outside the high risk area.

Options for District Plan changes are directed toward addressing these issues.

4.4.1 Option 1 - Business as usual

Retain the District Plan provisions as they are, as described in the issues section.

4.4.2 Option 2 - Residential Zoning with "NHAZ4" Policy Overlay

Retain the Residential Zone and identify all the land susceptible to debris flow with an NHAZ4 (falling debris and debris flows) notation on the District Planning Maps.

The effect of this would be to make any future development within the area susceptible to debris flow hazards a "discretionary activity" and subject to a hazard risk assessment.

This is primarily a change to the Planning Maps and would use existing District Plan methods for development control. No changes to objectives, policies and rules would be required.

4.4.3 Option 3 - Rural Coastal Zoning with “NHAZ4” Policy Overlay

Rezone the areas of high debris flow risk (retreat area) to **Rural Coastal** and identify all land susceptible to debris flow hazard with an NHaZ4 (falling debris and debris flows) notation.

Properties susceptible to debris flow outside the high risk area would retain a Residential Zone/NHaZ4 notation as for Option 2.

The effect of this would be to make any future development within the area susceptible to debris flow hazards a “discretionary activity” and subject to a hazard risk assessment.

This is primarily a change to the Planning Maps and would use existing District Plan methods for development control. No changes to objectives, policies and rules would be required.

4.4.4 Option 4 - Rural Coastal Zoning with Prohibited Residential Activities (“Awatarariki High Risk Debris Flow” Policy Overlay)

As for Option 3, but create a new Awatarariki High Risk Debris Flow hazard overlay on the Planning Maps and make residential use, development and subdivision a Prohibited Activity under the District Plan.

Properties susceptible to debris flow outside the retreat area would retain a Residential Zone/NHaZ4 notation as for Option 2.

Changes to Planning Maps, and some objectives, policies and rules would be required. The current natural hazard objectives and policies allow development to “avoid or mitigate” natural hazard effects, whereas a prohibition rule requires a supporting policy of “avoidance” for high risk areas.

4.4.5 Option 5 - “Awatarariki High Risk Debris Flow” Zone with “Awatarariki Medium Risk Debris Flow” Policy Overlay

Create a new Awatarariki High Risk Debris Flow hazard zone on the Planning Maps and make residential use development and subdivision a Prohibited Activity under the District Plan.

Properties susceptible to medium debris flow risk outside the high risk area would retain a residential zoning and would be subject to a policy overlay, restricting the ability to further develop those properties.

New zoning will allow future opens space uses as a permitted activity.

Changes to Planning Maps and a new zone and overlay with related objectives, policies, and rules would be required. The current natural hazard objectives and policies allow development to “avoid or mitigate” natural hazard effects, whereas this prohibition rule requires a supporting policy of “avoidance” for the Awatarariki high risk areas.

4.4.6 Excluded District Plan Options

Consideration has been given to other District Plan options including:

- Incorporating the changes for Awatarariki in a District-wide Plan Change to update Planning Maps, objectives and policies and rules relating to all areas that have been identified and assessed as having falling debris and debris flow hazards (i.e. at Ōhope, Whakatāne and Matatā);
- Incorporating the changes for Awatarariki in a District-wide Plan Change to the entire Hazards Chapter to give full effect to the RPS Hazards Policy.

These options have been excluded at this stage because of the discrete nature of the issues at Awatarariki and the desire to align the work streams within the Awatarariki Debris Flow Risk Management Programme. The programme for the plan change to give full effect to the RPS is likely to continue through to at least 2022, given the extent of investigation of multiple hazards and consultation that will be required.

4.4.7 Evaluation of District Plan Options

The table below evaluates the options in terms of their effectiveness and efficiency.

Criteria		Option1 - Business as usual	Option 2 - Residential Zoning with “NHAZ4” Policy Overlay	Option 3 - Rural Coastal Zoning with “NHAZ4” Policy Overlay	Option 4 - Rural Coastal Zoning with “Awatarariki High Risk Debris Flow” Policy Overlay	Option 5 Awatarariki High Risk Debris Flow” Zone with “Awatarariki Medium Risk Debris Flow” Policy Overlay
Effectiveness	Hazard Reduction in High Risk Area	<p>Low</p> <p>One dwelling per lot generally permitted.</p> <p>Zoning is ambiguous given very low likelihood of being able to develop.</p> <p>Reliant on Building Act process to limit development.</p> <p>Inconsistent with other plan provisions.</p>	<p>Low/Moderate</p> <p>Existing use rights apply so residential activities can continue.</p> <p>Can prevent further development and subdivision.</p> <p>Discretionary activity consent for any new development or subdivision enables risk to be assessed as part of consent process. Likely to be considered disingenuous being a residential zone but with a very low likelihood of gaining consent for residential</p>	<p>Low/Moderate</p> <p>Existing use rights apply so residential activities can continue.</p> <p>Can prevent further development and subdivision.</p> <p>Discretionary activity consent for any new development or subdivision enables risk to be assessed as part of consent process. However, this is likely to be considered disingenuous due to a very low likelihood of gaining consent for</p>	<p>Moderate</p> <p>Existing use rights apply so residential activities can continue.</p> <p>Will prevent further development and subdivision in high risk area.</p> <p>Can prevent inappropriate development in medium risk area.</p> <p>No ambiguity in plan provisions as rule reflects level of risk which is not capable of mitigation.</p>	<p>Moderate</p> <p>Existing use rights apply so residential activities can continue.</p> <p>Will prevent further development and subdivision.</p> <p>No ambiguity in plan provisions as rule reflects level of risk which is not capable of mitigation.</p>

Criteria		Option1 - Business as usual	Option 2 - Residential Zoning with “NHAZ4” Policy Overlay	Option 3 - Rural Coastal Zoning with “NHAZ4” Policy Overlay	Option 4 - Rural Coastal Zoning with “Awatarariki High Risk Debris Flow” Policy Overlay	Option 5 Awatarariki High Risk Debris Flow” Zone with “Awatarariki Medium Risk Debris Flow” Policy Overlay
			use.	residential use. Zone purpose is more aligned with long term use.		
	Hazard Reduction for Land Use outside High Risk Area	Low No reduction in risk – reliant on Building Act process. Inconsistent with other plan provisions.	Moderate Existing use rights apply so residential activities can continue. Can prevent further development and subdivision. Discretionary activity consent for any new development or subdivision enables risk to be assessed as part of consent process.	Moderate Existing use rights apply so residential activities can continue. Can prevent further development and subdivision. Discretionary activity consent for any new development or subdivision enables risk to be assessed as part of consent process.	Moderate Existing use rights apply so residential activities can continue. Can prevent further development and subdivision. Discretionary activity consent for any new development or subdivision enables risk to be assessed as part of consent process.	Moderate Existing use rights apply so residential activities can continue. Can prevent further development and subdivision. Discretionary activity consent for any new development or subdivision enables risk to be assessed as part of consent process.
	Long term Use of Public	High Provisions are	High Provisions are	High Provisions are	High Provisions are	High Provisions are

Criteria		Option1 - Business as usual	Option 2 - Residential Zoning with “NHAZ4” Policy Overlay	Option 3 - Rural Coastal Zoning with “NHAZ4” Policy Overlay	Option 4 - Rural Coastal Zoning with “Awatarariki High Risk Debris Flow” Policy Overlay	Option 5 Awatarariki High Risk Debris Flow” Zone with “Awatarariki Medium Risk Debris Flow” Policy Overlay
	Reserve	generally enabling for likely uses.	generally enabling for likely uses.	generally enabling for likely uses. Sends clearer signal of future land use intent. This is the zone that applies to all other land in the adjacent coastal reserve.	generally enabling for likely uses. Sends clearer signal of future land use intent. This is the zone that applies to all other land in the adjacent coastal reserve.	generally enabling for likely uses. Sends clearer signal of future land use intent.
Efficiency	Establishment process	High Provisions are unchanged	Moderate Changes are over a discrete area with robust technical basis.	Moderate Changes are over a discrete area with robust technical basis.	Low - Moderate Changes are over a discrete area with robust technical basis. Prohibited activity status in High Risk Area is likely to result in opposition from property owners as it will remove any potential for future development of increased intensity or scale.	Low - Moderate Changes are over a discrete area with robust technical basis. Plan amendments to create new zoning and overlay are more extensive than for other options. Prohibited activity status in High Risk Area is likely to result in opposition from property owners as it will remove any

Criteria		Option1 - Business as usual	Option 2 - Residential Zoning with “NHAZ4” Policy Overlay	Option 3 - Rural Coastal Zoning with “NHAZ4” Policy Overlay	Option 4 - Rural Coastal Zoning with “Awatarariki High Risk Debris Flow” Policy Overlay	Option 5 Awatarariki High Risk Debris Flow” Zone with “Awatarariki Medium Risk Debris Flow” Policy Overlay
						potential for future development of increased intensity or scale.
	Implementation process	Low If landowners remain in High Risk Area, provisions are convoluted and unclear.	Moderate Ambiguous approach in high risk area where there is no realistic prospect of resource consent being granted.	Moderate Ambiguous approach in high risk area where there is no realistic prospect of resource consent being granted.	Moderate – High Provides unambiguous control on new development in High Risk Area. Introduces consideration of risk for new development in Medium Risk Area.	Moderate – High Provides unambiguous control on new development in High Risk Area. Introduces consideration of risk for new development in Medium Risk Area.

4.4.8 District Plan Option Evaluation Summary

Option 1 (Business as Usual) does not reflect the actual natural hazard risk that is present and is inconsistent with the RPS and other District Plan provisions. Successful implementation of hazard risk management outcomes relies on the general requirements of the Building Act and RMA that apply to building and subdivision.

Options 2 and 3 (Residential or Rural Coastal with NHaz4 notations) are very similar in terms of activity status and assessment criteria for hazard management. A plan change for Option 2 or Option 3 would be limited to Planning Map amendments.

Retaining a Residential Zone in the high-risk hazard area is ambiguous, given the very low likelihood of gaining consent for actual residential use.

The Rural Coastal Zone is the zone that applies to all other land in the adjacent coastal reserve, so this should promote a more consistent, long-term approach to land use decisions in the retreat area.

Options 2 and 3 are both ineffective in reducing high loss-of-life and property risk. Existing use rights would continue to apply, although would be effective in areas susceptible to debris flows that are outside the high-risk area.

Option 4 (Prohibited Activity for residential use development and subdivision in the high-risk hazard area) provides a clear statement on the nature and implication of the natural hazard risk. However, as existing use rights would continue to apply, this option on its own is also ineffective in achieving the objective of reducing high loss-of-life and property risk.

Option 5 (Awatarariki High Risk Debris Flow Zone with Awatarariki Medium Risk Debris Flow Policy Overlay) has the same effectiveness as Option 4. As for Option 4, existing use rights would continue to apply, so this option is also ineffective on its own in achieving the objective of reducing high loss-of-life and property risk. The additional complexity of adding a new zone and overlay does not increase effectiveness and marginally reduces efficiency of the Plan Change process. A separate zone would, however, provide a clearer message to landowners and the wider community.

4.5 Regional Plan Options

There is the potential for high risk to continue in the high risk area if there was an incomplete take up of the managed retreat package. Regional Plan changes are directed toward addressing this issue.

All options centre on the application of a prohibited activity status for residential use on the high debris flow risk area.

As a change to a Regional Plan can only be made by Bay of Plenty Regional Council, the District Council would request a Plan Change under Part 2 of the Schedule 1 to the Resource Management Act as a "Private Plan Change".

4.5.1 Option 6 - Residential Use of High Risk Sites a Prohibited Activity on Awatarariki Fanhead

A change to the Regional Water and Land Plan would make all residential development on sites subject to high risk on the Awatarariki Fanhead a Prohibited Activity. Natural hazard provisions would be added to the Operative Regional Water and Land Plan including an issues summary, and objectives, policies and rules.

Affected sites at Awatarariki subject to high risk would be specifically identified in a schedule. The prohibition would apply only to affected sites that are currently in residential use.

The rule would specify the date when the prohibition is to take effect. The prohibition would most likely take effect following the anticipated completion of the managed retreat package property acquisition process (e.g. Mid to late 2018).

The prohibition would require residential use of identified sites to cease on the specified date.

The prohibition would be enforceable under the provisions of the RMA through an abatement notice or enforcement order, both enforced by the Regional Council.

4.5.2 Option 7 - Residential Use of High Risk Sites a Prohibited Activity on Awatarariki Fanhead – Defer Effect of Rule

This option is the same as Option 6 except that the prohibition would take effect at a date tailored to circumstances of the owners of the affected sites. This could be achieved through scheduling of specific dates in the District Plan or through an agreement with a landowner to cease residential use at a defined date within a defined maximum timeframe (say 5 years).

4.5.3 Option 8 - Defer Regional Plan Change until outcome of the managed retreat package is known

This option would defer action on a Regional Plan Change until the outcome of the managed retreat package is known. The rationale for this is that if all owners were to reach a settlement, the need for a Regional Plan Change would not eventuate.

4.5.4 Excluded Regional Plan Options

A Regional Plan Change that addresses mitigation of high risk sites on a region-wide basis (i.e. at locations other than Awatarariki) has not been considered.

This option has been excluded because of the discrete nature of the issues at Awatarariki and the desire to align the work streams within the Awatarariki Debris Flow Risk Management Programme.

The programme for the plan change to give full effect to the RPS across the region is likely to continue over several years given the extent of investigation of multiple hazards and consultation that will be required.

4.5.5 Evaluation of Regional Plan Options

The table below evaluates the options in terms of their effectiveness and efficiency.

Criteria		Option 6 - Residential Use of High Risk Sites a Prohibited Activity on Awatarariki Fanhead	Option 7 - Residential Use of High Risk Sites a Prohibited Activity on Awatarariki Fanhead – Deferred Effect of Rule	Option 8 - Defer Regional Plan Change until outcome of the managed retreat package is known
Effectiveness	Hazard Reduction in High Risk Area	<p>High</p> <p>No residential activity permitted.</p> <p>Current residential activities in the high-risk area must cease, and property owners retreat from the area.</p> <p>No ambiguity in plan provisions as rule reflects level of risk which is not capable of mitigation.</p>	<p>High-Moderate</p> <p>No residential activity permitted.</p> <p>Current residential activities in the high-risk area must cease, and property owners retreat from the area.</p> <p>No ambiguity in plan provisions as rule reflects level of risk which is not capable of mitigation.</p> <p>Delayed retreat means high risk remains for a longer period. Effectiveness depends on how long the delay is for.</p>	<p>Moderate</p> <p>No residential activity permitted.</p> <p>Current residential activities in the high-risk area must cease, and property owners retreat from the area.</p> <p>No ambiguity in plan provisions as rule reflects level of risk which is not capable of mitigation.</p> <p>Delayed retreat means high risk remains for a longer period. Effectiveness depends on how long the delay is for. Implementation would be dependent on securing funding.</p>
Efficiency	Establishment process	<p>Low</p> <p>Likely to be highly contentious for those directly affected at Awatarariki and likely to generate region-wide interest.</p> <p>Even though locality specific, the change is still likely to generate some</p>	<p>Low - Moderate</p> <p>Likely to be highly contentious for those directly affected at Awatarariki.</p> <p>Flexibility in how the prohibition would apply offers wider scope to address affected landowner issues and concerns.</p>	<p>Moderate</p> <p>This option could completely avoid the cost of a plan change.</p> <p>If a change were ultimately required, this may have a narrower scope with fewer parties affected.</p>

		<p>region-wide interest given the potential precedent that will be established.</p> <p>Additional process costs will arise from two parallel plan changes.</p> <p>Costs will fall on either BOPRC or WDC depending on how the process is taken forward. (i.e. Council vs Private Plan change).</p> <p>There are no known examples of a regional plan rule being used in this specific manner.</p>	<p>Additional process costs will arise from two parallel plan changes.</p> <p>Costs will fall on either BOPRC or WDC depending on how the process that is taken forward. (i.e. Council vs Private Plan change).</p> <p>There are no known examples of a regional plan rule being used in this specific manner.</p>	
	Implementation process	<p>High</p> <p>Once in place, provides unambiguous control on development in High Risk Area.</p>	<p>High</p> <p>Once in place, provides unambiguous control on development in High Risk Area.</p>	<p>High</p> <p>Once in place, provides unambiguous control on development in High Risk Area.</p>

4.5.6 Regional Plan Option Evaluation Summary

All options are effective at achieving the objective of reducing high risk hazards, albeit with varying timeframe outcomes.

An overly stringent approach could lead to significant land owner opposition which might ultimately delay Regional Plan provisions becoming operative with a reduced overall effectiveness in achieving the objective of risk reduction.

In this context, Option 7 may offer an appropriate balance between flexibility to accommodate land owner issues and the need to make progress towards achieving managed retreat from the high-risk area.

5.0 Conclusion

The District Council has a responsibility to manage natural hazards in areas that are subject to significant risk. The Awatarariki Fanhead high risk area is known to be subject to high loss-of-life risk from a debris flow event. Council has an obligation under the Regional Policy Statement to take steps to reduce this risk to an acceptable level.

While the District Plan does not yet identify the debris flow risk on the Awatarariki Fanhead, the current situation is that no subdivision or building can occur on the land in the identified high risk area, as this would not comply with mandatory provisions of the Resource Management Act and Building Act. Under these provisions, the risk from the debris flow hazard is unlikely to increase. However, these provisions do not enable any reduction of risk and therefore do not give effect to the Regional Policy Statement.

Given the difficulty in reducing risk using regulatory measures, a key solution proposed by Council for the Awatarariki fanhead high risk area is a managed retreat package, which is based on offering affected property owners the current market value of properties.

Despite the proposed managed retreat package, two issues remain outstanding.

First, although the current legal situation means that Council is highly unlikely to grant subdivision or building consent within the Awatarariki Fanhead high risk area (and hence increase risk), the District Plan does not reflect that reality. Further the District Plan does not adequately manage the risk that remains for land susceptible to debris flows outside the high risk area.

Second, there is the potential for the level of risk to remain high if there were incomplete take up of the managed retreat package.

District Plan Change options, on their own, all have very limited effectiveness in reducing high risk from debris flows as existing use rights continue to apply. However, a District Plan change that introduces a natural hazard zone and/or overlay and appropriate rules to control any new development, will ensure there is consistent information on the nature of the hazard and degree of risk, and will be effective in managing areas susceptible to debris flows that are outside the high-risk area.

A District Plan Change, in combination with a Regional Plan Change to prohibit residential use on the high debris flow risk area, is an effective approach if the present high risk cannot be

reduced through the managed retreat package. An overly stringent approach to implementing a prohibition on residential activity could lead to significant land owner opposition and ultimately delay implementation. This could reduce overall effectiveness in achieving the objective of risk reduction. An approach that provides some flexibility to accommodate land owner circumstances may achieve greater overall progress towards risk reduction.



Legend

Debris Flow Risk Area

- High Risk Area
- Medium Risk Area
- Low Risk Area

Appendix 1: Awatarariki Debris Flow Risk Area



Path: G:\DATA\GIS\ArcGIS\Maps\Planning\AwatararikiFanhead\PlanChangeDiscussionDocument.mxd
 Date of issue: 10/08/2017

Scale: 1:3,088
 Author: CB

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