

Draft Awatarariki Fanhead Strategy

Issues and Options

1.0 BACKGROUND

A severe rainfall event on 18 May 2005 in the catchments behind the coastal settlement of Matatā triggered debris flows, debris floods and flooding.

The resulting deposition of large quantities of sediment and debris through parts of Matatā caused widespread damage to homes and disruption to services including key rail and road links.

The largest and most destructive of the debris flows was generated within the catchment of the Awatarariki Stream. These debris flows and their associated floodwaters destroyed road and rail links and 10 houses, and damaged many more, within the immediate vicinity of Awatarariki Stream. Nobody was killed during the 2005 event but a fatality could easily have occurred.

In the year after the event, the Council investigated a range of options for regenerating the town to its former state and reducing the risk of damage from future events. Engineering works were put in place for the Waitepuru and Waimea Streams to protect residents in the central and eastern parts of Matatā against future debris flows and floods.

A proposal for an Awatarariki Stream Debris Control System was developed as the preferred option. However, following a lengthy and comprehensive design review in December 2012, the Council reconsidered the options for management of debris flow hazards. Engineering and planning options were evaluated in terms of cost, feasibility and environmental factors. From this, the Council decided to abandon further studies of engineering options and to develop detailed planning options (information provision and hazard zones). In deciding to consider planning-based options, assessments of landslide and debris flow hazards and risk were carried out to enable the most appropriate planning measures to be put in place. A risk based approach is current best practice for managing natural hazards (e.g. this approach is also being used in the Port Hills in Christchurch) and is used in the Proposed Regional Policy Statement, which the Council must ultimately give effect to. It is also the approach promoted in pending changes to the natural hazard provisions of the Resource Management Act.

The recently completed assessment of debris flow risk concludes that in some areas on the Awatarariki Fanhead, the risk to people and property is at a level that would not normally be tolerated based on national and international best practice standards. There are currently no levels of risk to natural hazard events prescribed in any New Zealand regulation or standard.

2.0 PURPOSE

The purpose of this Issues and Options Report is to provide information to the community and other stakeholders on the issues relevant to future management of debris flow risks on the Awatarariki Fanhead.

Three planning options are identified to promote discussion and feedback on the most appropriate outcome for the community.

Feedback on this Issues and Options Report will form part of an overall Landslide Risk Reduction Strategy currently being developed for the District. The Landslide Risk Reduction Strategy will unify regulatory (such as District Plan provisions) and service delivery activities (management of catchments and escarpments) of the Council and other agencies aimed at reducing risk.

3.0 ISSUES

3.1 Current Situation

Some land owners affected by the debris flow on the Awatarariki Stream have taken the initiative to clean up their own sites, and to reinstate buildings and other improvements.

Other owners have been waiting for more certainty before deciding what to do with their land.

The rail bridge was reconstructed and a new state highway underpass developed.

There are still significant volumes of debris material and invasive weed species remaining in the area. As a result, parts of the Awatarariki Fanhead area have an unkempt and neglected feel.

3.2 Community Feedback

Council has received ongoing feedback on issues affecting the Awatarariki Fanhead area.

The key issues that have been raised by residents recently include:

- Support for the decision not to proceed with debris control works (a Debris Control System) due to the long term cost and unaffordability.
- Extreme frustration with ongoing delays and uncertainty.
- The effect of uncertainty on the ability to sell and move on.
- Risks being over-stated. Why worry about a debris flow with a 200-400 year return period when there are more pressing local concerns - "life just goes on".
- More immediate flooding risks are of greater concern to some, including from the Waimea and Awatarariki streams.
- Road noise from trucks on the State Highway at Moore's Bridge is a major issue for nearby residents. The uneven road surface causes loud bangs and crashes from trailer units all through the night.

Some residents have suggested physical mitigation works such as building a bund right across Kaokaoroa Street to divert a future debris flow, and to take access along MacPherson and Tohi Streets.

Local residents are very concerned about the current state of the area with rocks, rubbish etc. in the area of Kaokaoroa Drive. The Matata Residents Association has formally requested action from the Council to address this. They see that the rest of Matata is starting to heal over the scars of the 2005 disaster, but this area is still an eyesore and a painful reminder to the residents and not a good first impression for visitors or tourists coming into the Eastern Bay.

Residents believe that the roading authorities removed debris immediately after the 2005 debris flow, particularly from the State Highway, as part of opening up the road as quickly as possible and disposed of it onto private sections and the Reserve in the Kaokaoroa Drive area. This was intended to be a temporary measure only. Some residents see the NZ Transport Agency (NZTA) having responsibility to assist in the clean-up.

3.3 Debris Flow Risk Assessment

The recently completed risk assessment for the Awatarariki Fanhead has been based primarily on detailed numerical modelling calibrated to the 2005 event but using the latest contour data. The results of the modelling have been used to prepare a series of maps that estimate the extent of the debris flow within the Awatarariki Fanhead for a range of magnitude events recognising that debris flows smaller and larger than the 2005 event have occurred in the past. These debris flow intensity estimates have in turn been used to estimate individual loss of life (the risk to a single person), societal loss of life (the risk to a number of people) and property loss risk, both for the current property density and a possible future higher density scenario.

The results of the analyses are as follows:

- The area affected by the 18 May 2005 event is considered to be a high hazard zone;
- Generally west of the Awatarariki Stream (except for the few most distant properties), a person has a 1 in 10,000 chance or greater of being killed by debris flow in any year;
- The few most distant fanhead properties west of the stream have a lesser risk (1 in 100,000 or less frequent chance);
- The risk for a person to the east of the Awatarariki stream is significantly lower than the west (although those properties closest to the stream have a risk of 1 in 10,000 or greater);
- The risk to the existing (or future estimated) population living in the Fanhead as a whole are significant, with cumulative risk being in excess of 1 in 1,000 (or there is a 1 in 1,000 chance that one person or more from the population living in the Fanhead would be killed in a debris flow similar in size to the 2005 event).

These risk estimates exceed the values commonly adopted as defining what an acceptable level of risk is. However, New Zealand (nationally or regionally) currently does not have any established criteria for determining whether a particular risk is acceptable, tolerable or unacceptable.

3.4 Development

The draft report supports the view, based on historic evidence and projected modeling, that the Awatarariki Fanhead is likely to be subject to future debris flow events that pose a potentially significant risk to people in the vicinity of the fanhead, if a debris flow occurs at a scale similar to or larger than that experienced in 2005. As such the Council has an obligation to manage the risk to people and property under a range of legislation.

Existing residential uses are protected by existing use rights under the Resource Management Act, i.e. residential use can continue provided the effects remain of a similar character, scale, and intensity.

The Council is planning to change its District Plan to acknowledge the extent of the hazard zone over the affected area. Within the hazard zone, there will be restrictions on new development where this could increase overall risk from debris flows. The changes to the district plan are likely to permit upgrading and alterations to buildings and protection works where this will reduce the risk to occupants from a hazard. The Plan Changes will not affect existing use rights.

Changes to the District Plan will most likely be initiated in 2014 and will be open to public submissions. These changes will apply not just to the Awatarariki Fanhead, but also to other land at Matata, Whakatane and Ohope in areas where landslide hazards are potentially significant. However, there are differences between situations at the Awatarariki Fanhead and the other hazard areas;

- Rules exist in the Whakatane District Plan to control development near the Whakatane/Ohope escarpments, but there are currently no rules for the hazard areas at Matata; and
- The proposed rules to control future development in the Awatarariki Fanhead are anticipated to be more stringent than those for the Whakatane/Ohope escarpments and the rest of the Matata hazard area, recognising that in most cases, an individual property owner is unlikely to be able to avoid or mitigate the effects of a debris flow.

An Issues and Options Paper was released in July 2013 that sets out the issues and options for landslide hazard management in the District. Any changes will not take effect until and submissions have been heard and decided on.

Regardless of what is in a District Plan, the Building Act states that a Council must refuse to grant a building consent for construction of a building or a major alteration if the land is subject to a natural hazard or if the building work is likely to accelerate, worsen, or result in a natural hazard on that land or any other property. However, a building consent may be granted for a building where a natural hazard has been identified and not mitigated, subject to a condition requiring a notation to be recorded on the property title and the building consent authority deeming it reasonable to grant a waiver for non-compliance with one or more provisions of the building code. In the case of the majority of the Awatarariki Fanhead properties, a waiver is unlikely to be given by the Council due to the levels of risk that have been identified.

Overall, it is unlikely that significant further residential development will be possible on the Awatarariki Fanhead sites that are currently vacant unless measures can be established to achieve

acceptable risk levels. Therefore the extent of residential development within the area is likely to remain largely as it is at present.

3.5 Warnings, Monitoring and Evacuation

The potential advantage of warnings systems is that they can provide a relatively immediate reduction of loss of life risk where there is sufficient warning and residents have been educated on the risk and what action to take.

The Awatarariki Stream is a small, relatively confined catchment. Any early warning system in this catchment is likely to provide minimal warning of a debris flow hazard, meaning that formal evacuations are unlikely to take place. Self-evacuation is a more likely scenario based on good preparedness, an ability to disseminate information about weather conditions and observation by residents.

With rapid advances in remote sensing and personal communications technology warning systems could, over time, become an increasingly effective measure to manage the loss of life risk.

Monitoring of macro scale data, such as weather forecasts, is generally helpful but does not forewarn people at an individual site level. Information of this type requires interpretation, taking into account the current state of the hazard in a particular location. Annual inspections of landslides and debris flow catchments could, over time, assist in developing the appropriate responses.

The procedures for issuing warnings in hazard zones require careful consideration. Indicators or thresholds for taking this course of action need to be agreed ahead of time. The “cry wolf” syndrome may arise if thresholds are set too low. Lives may be put at risk if thresholds are set too high. Who would take the responsibility for the action and the continued operation of the monitoring equipment and warning system also needs to be agreed.

Debris flow hazard effects are of a larger scale and extent than landslide hazard effects. Land owner self sufficiency is more problematic as the event is likely to be generated in a catchment distant from the property.

It is highly desirable to reduce risk in areas of existing development by having warning systems in place. However, they cannot be seen as a guarantee so a warning system will not be relied upon as a sound basis for allowing new development in areas of significant hazard.

The risk estimates exceed those values commonly adopted as defining what an acceptable risk is. However, that being said, New Zealand currently does not have any established criteria for determining whether a particular risk is acceptable, tolerable or unacceptable. The risk assessment criteria used in the assessment have been adopted internationally and have also been applied in the assessment of rock fall risk in the Port Hills in Canterbury. Whether the same risk criteria should be applied to the community of Whakatane, or Matata in particular, is a matter the Council will need to consider very carefully.

3.6 Restoration

An initial clean-up of the area was proposed as part of a proposal for stream works and lagoon restoration in 2006. The Environment Court decision on the Awatarariki Stream and Lagoon

restoration appeals specifically excluded the general clearance and removal of debris from the Clem Elliot Drive area on the basis that the works could have an adverse impact on Koiwi (human remains). The Court also had concerns about the works having no clear hazard mitigation benefit and of enabling construction in an area at risk from future debris flows¹.

Later proposals for the Awatarariki debris control system included the raising of building platforms and restoration earthworks in the Clem Elliot Drive and Kaokaoroa Street area in conjunction with diversion berms. The works were to use the material taken from the spillway constructed on the escarpment to take overdesign debris flows. Surplus material was also to be placed on Lot 20 DP 306286 (21 Clem Elliot Drive) to enable restoration to a condition suitable for passive recreational use. A concept plan was developed for this. The proposed landscape enhancements on the site include carvings, decking and ramps, surface treatments, and planting. The proposals had general community support including agreement from Iwi.

The debris control proposal, including the proposal for Clem Eliot Drive restoration, was subsequently abandoned due to cost and engineering feasibility.

To clean up the area and restore it to a reasonable condition could require up to 20,000m³ of material to be removed. Depending on the level of restoration it is highly likely that these earthworks will require resource consent.

Under the Operative District Plan the following consents are likely to be needed:

- Restricted discretionary activity for earthworks in the Rural 4 Settlement Zone that exceed performance standard 4.1.2.1(b)(i)
- Change in consent conditions for the Debris Disposal Area if there is a need to dispose of the material off-site.

Under the Regional Water and Land Plan Discretionary activity consent is required for land and soil disturbance as a result of earthworks where the activity cannot meet permitted, controlled or restricted discretionary performance standards (Rule 1C).

The recent risk assessment has been undertaken using ground contours as they currently exist. Proposals that alter contours may lead to change in the distribution of risk and modelling would need to be carried out to assess any impact this may have as part of an Assessment of Environmental Effects for earthworks.

Cultural effects will also need to be addressed, relating to the management of any finds of koiwi or archaeological material.

Resource consent may also be needed for a disposal site for unsuitable material.

Previous applications for restoration were to obtain comprehensive district and regional consents on behalf of all owners over the whole area. A similar concept would be logical for future works with the Council being the consent holder. Work on private properties could be undertaken either by

¹ Environment Court Decision 035/2009 Para 35, 61 and 67

landowners or by Council on their behalf under the resource consent. This would save individual owners the cost of obtaining consent and spread the burden of costs.

There is no current proposal or funding for any restoration works in the area. Funding will require approval through the Council's Annual Plan (2014/15) or Long Term Plan (2015 to 2015).

3.7 Infrastructure

The Awatarariki Fanhead is an existing urban area with water supply, roads and other urban services.

The Council has a proposal to provide reticulated wastewater to the Matata community. Planning includes provision for these services to be extended into the Kaokaoroa Drive area. If current residential use is to remain, this may be desirable. However, it may not be prudent to assume there will be further residential development on currently vacant land.

3.8 Property Purchase

Purchase of property prone to debris flow hazard and reuse as recreation reserve was considered by Council in 2006 alongside other options, but was not taken further as an option due to cost.

The Council has no legal obligation to purchase land, nor does the Council have any powers of compulsory purchase in these circumstances. Any purchase of land would therefore need to be on a "willing seller, willing buyer" basis.

The funding of land purchase is a major constraint on this method of risk reduction. Given the level of loss of life risk that has been established, there may now be scope to seek assistance from central government. The level of loss of life risk is similar to that applying to land in Christchurch. The chance of further central government assistance is currently under investigation by Council.

Another method of making property purchase more affordable is to make this a long term programme, with timing priority targeted to the most at risk properties.

There is no current proposal or funding in relation to land purchase. Any decision to purchase land would be a significant decision and be subject to the formal Local Government Act consultation process.

3.9 Rating

Residents in the Awatarariki Fanhead area (and Matatā generally) have expressed very strong concerns about the high level of rates they face, particularly since Council decided not to proceed with the construction of a Debris Control System.

Following the debris flow in 2005, the Council developed a Disaster Mitigation Funding Policy that allocated the costs of the engineering works between the Matatā community and the wider District. In 2012 the Council undertook a rates review and changed its rating philosophy with a stronger emphasis on affordability. The disaster mitigation rate was removed and disaster mitigation costs for Matatā (included in the stormwater activity) were spread 75% across the district. However the level of rates is an on-going cause of concern for Matatā residents.

The Council currently has a Rates Remission and Postponement Policy for a Rating Unit Affected by Natural Calamity. Depending on the option chosen, this policy will need to be reviewed. This is most likely to happen alongside the development of the 2015-25 Long Term Plan. For example, the policy currently only applies where there was a residence at the time of the 2005 event that was then unable to be re-occupied (i.e. a house needed to be existing before the disaster). It does not apply to a vacant site. It is drafted on the basis that the natural calamity is generally of a temporary nature.

4.0 OPTIONS

4.1 Decision Making

In making any significant decision, the Council is required to consider all reasonably practical options to achieve its objectives.

In this case, the objective is to provide a long term strategy for managing land use on the Awatarariki Fanhead while avoiding or mitigating natural hazards. The “core services” that Council must have particular regard to under the Local Government Act include the “avoidance or mitigation of natural hazards”.

Options need to be considered in terms of:

- the benefits and costs of each option in terms of the present and future interests of the district or region;
- the extent to which community outcomes would be promoted or achieved in an integrated and efficient manner by each option;
- the impact of each option on the local authority's capacity to meet present and future needs in relation to any statutory responsibility of the local authority;
- any other relevant matters that, in the opinion of the local authority, are relevant.

The Council is also required to take into account the relationship of Maori and their culture and traditions with their ancestral land, water, sites, waahi tapu, valued flora and fauna, and other taonga.

4.2 Common to all Options

The options outlined below recognise:

- The findings of the recent debris flow risk assessment.
- The extent of residential development within the area is likely to be no greater than it is at present.
- Structural options have already been excluded in previous Council decisions.
- All options should include hazard zoning under the District Plan, catchment monitoring, warnings and evacuation protocols.

Hazard zoning and rules would be put in place to manage any future development and avoid an increase in overall risk. Rules would allow existing residences to be upgraded or extended where this did not increase the level of risk. Protection works would be allowed without the need to get

resource consent. Risk would reduce over time as owners undertook measures within their own property, such as relocation of habitable rooms to safer locations, strengthening buildings and raising building platforms.

Warnings systems could be in place and enhanced as technology allowed. The local community would be provided information on evacuation protocols.

4.3 Options

Maintain

This option would leave the debris as it is and leave it to property owners (including Council) to initiate clean-up and weed control on an individual basis.

Council would revise its rating policy to remit rates on land that was undeveloped within the areas of intolerable risk.

Costs of this option would be relatively low for the Council, limited to regular maintenance costs and rates remissions.

Benefits would include minor improvement of the local environment.

Restore

This option would involve tidying up rocks, rubbish and other debris in the area of Kaokaoroa Drive and grassing. This work would extend to all vacant land, both public and private where owners are in agreement.

Informal public access over vacant land could be provided by landowner's agreement but land ownership would remain unchanged. Council may be able to maintain the vacant land under such an arrangement.

Costs of this option would be moderate. Costs would be incurred in the design, assessment consenting and undertaking of restoration earthworks. Initial capital cost estimates for this option are in excess of \$200,000. There would be annual maintenance costs.

Benefits would include an improved entry to the township, improved amenity for current residents, and an enhanced informal open space for local people to enjoy.

Restore and Retreat

This option would involve a long term plan to purchase hazard prone land as a public recreation space.

Land purchased for reserve would be restored to a condition suitable for passive recreational use. Design options would be explored, and their implementation would require varying extents of ground levelling.

Costs of this option would be high, and would vary significantly depending on what land is purchased and developed for reserve. For example, the extent of land purchase for Reserve could include:

- current vacant land subject to intolerable loss of life risk that is unlikely to be capable of development;; or
- all land that is deemed to be subject to intolerable loss of life risk; or
- all land that is undeveloped between Kaokaoroa Street and Toru Street.

All purchases would need to be on the basis of willing seller/willing buyer.

For the lowest cost option based on the purchase of just the current vacant land that is subject to intolerable loss of life risk the capital cost is likely to be in excess of \$2M (to be confirmed).

Costs would also be incurred in the design, assessment consenting and undertaking of restoration earthworks.

Benefits are as for the Restore option, with the additional benefits of providing an exit strategy for owners who currently have no ability to use their land. A permanent, high quality coastal recreation resource would be provided for local residents, the wider community and visitors. There is currently relatively limited safe and convenient public access to the coast.

However, without central government funding support, this option would be a long term proposition.