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Stream 3)

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Introduction

The Whakatāne District Council are progressing nine work-streams under the Awatarariki project banner. Opus International Consultants have been commissioned to investigate and report on work-stream 3, Escape Routes.

The project scope includes:

- identification and scoping of proposed alternate escape routes,
- an assessment of any RMA implications,
- identification of any project risks together with proposed mitigation measures,
- an estimate of costs to complete the work including any resource consent fees or other approvals required.

Background

A severe rainfall event on 18 May 2005 triggered a debris flow in the Awatarariki Stream at Matata.

In 2012 the Council determined there were no viable engineering solutions to manage the debris flow risk to people and properties on the Awatarariki fan head and agreed to pursue planning-based options, which include: information provision, rezoning and retreat from the site.

Since the beginning of 2015, Council officers have worked as part of a Consensus Development Group including six landowners to investigate all options.

An important point of agreement among the group was that a high risk of debris flow exists, while recognising that individual personal tolerance of this risk varies.

Doing nothing is not an option for Council given the loss of life risk at Awatarariki.

The group also identified that the only access route in a flood/debris flood/debris flow event from Clem Elliott Drive is via Kaokaoroa Street, and from the western end of Richmond Street via Arawa Road. However, the ability of residents to utilise these escape routes during



an emergency is directly relational to timing and event magnitude. Additional escape routes should be accessed by vehicles if at all possible.

Following on from the work of the Consensus Development Group, the Council is progressing 9 workstreams under the Awatarariki project banner. This workstream has a close relationship with workstream 4 (early warning systems).

Investigation

Alternate Escape Routes

The identification and evaluation of escape routes was carried out in two phases – an initial desktop study to identify potential routes utilising GIS, followed by a site visit to assess constructability. A key constraint identified was the escape route could not intrude through land held in private ownership.

Through the desktop phase it was quickly identified that for residents on Richmond St and State Highway 2 to the east of the Awatarariki Stream that the best and only viable escape route remains the existing roads heading east away from the stream.

For those residents to the west of the Awatarariki Stream on Clem Elliott Dr an alternative route was identified via unformed public roads to the west. This includes an extension of Clem Elliott Dr into Tohi St and onto McPherson St to higher ground (McPherson St was formed as a State Highway by-pass to facilitate the replacement of the railway underpass in 2006 and is now unused).

The proposed route is shown in Figure 1 below.

Figure 1: Proposed Escape Route



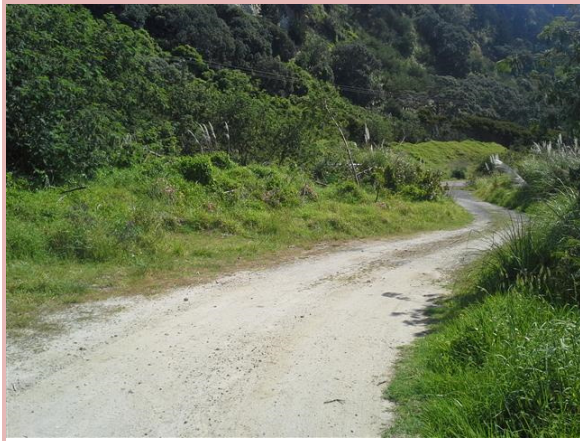
The unformed section of the route is approximately 280m long. A site visit revealed that the extent of physical works required to construct an all-weather metalled access suitable for vehicles was relatively minor and includes:

- Survey to establish the actual boundary of the public road reserve.
- General clearing of vegetation.
- Earthworks to clear debris flow material from an 80m length of the route (debris to remain on site).
- Shaping the subgrade (existing ground) on the full route to address drainage.
- Constructing a granular pavement to provide for all-weather vehicle access.
- Relocating the locked gate on McPherson St to a position closer to the rail crossing to allow access to the area of higher ground.

Photos of the route indicating the extent of works are shown in Table 1 below:

Table 1: Photos

	
<p>Looking west along unformed section of Clem Elliott from current end of seal.</p>	<p>Debris flow material that requires removal to enable route.</p>
	
<p>Looking east from western end of unformed section of Clem Elliott.</p>	<p>Looking south along Tohi St towards McPherson</p>



Southern end of Tohi St where it meets McPherson – potentially needs to be straightened to stay within road boundaries.



Looking west along McPherson St towards higher ground and gate that requires relocation.

RMA and Other Planning Implications

Under ordinary circumstances the proposed works would be permissible on road reserve under the existing regulatory regime and could simply proceed. Given the site, advice was sought from Council planning staff familiar with the history at this location. A 2009 Environment Court decision over works on the Awatarariki Fanhead appears to have a significant bearing on the proposed works and requires consideration. Council Staff member Pete McLaren provided the following commentary:

“Here is the relevant Environment Court decision that is relevant to works on the Te Awatarariki debris fan at Matata (Attached as Appendix A). You will note in paragraph 16 of the decision Judge Smith describes the 'central area' as the Clem Elliott Drive area, and then uses this name for the rest of the decision. Even though you are proposing to do works at the far western, uninhabited end of Clem Elliott Drive I have no doubts that your site is within the area covered by this decision.

The decision is long and encompasses many subjects, including the veracity of evidence presented and comments on the credibility of witnesses. The main part that concerns you is found in paragraphs 124 - 130.

The works you propose have a different emphasis to the works proposed in the application this decision relates to. Judge Smith notes in paragraph 124 "From the evidence we have seen there is little to commend the works as providing any natural hazard mitigation..." and this echoes the first sentence of paragraph 35. Clearly this matter carried considerable weight in forming Judge Smith's opinion that works in the Clem Elliott drive area should be limited to the formation of a drainage swale. However, the current proposal is on a much smaller scale and is solely to provide mitigation against the existing hazard - a way for people to escape from the area quickly.

It could be argued that as the scale of the works are permitted under the earthworks rule, and the reason for the works puts it outside the concerns of Judge Smith, that the works could simply proceed. However, I feel the court's decision set a clear expectation that no earthworks would occur in this area, and certainly that any earthworks

associated with debris removal elsewhere would be subject to archaeological and cultural safeguards.

Perhaps a way to proceed is to speak to the appellant parties and put it to them that these small-scale works proposed have a much wider community benefit and that if they agreed to the same archaeological and cultural safeguards being used, council could proceed without a resource consent.”

The archaeological and cultural safeguards referred to are attached as Appendix B.

A further consideration is the ownership of the land McPherson St is constructed on. To the west of Tohi St (last photo in series above) McPherson St is construct on railways land. Permission to relocate the gate and utilise McPherson St would need to be sought from Kiwirail.

Project Risks

Table 2: Project Risks

Risk	Consequence	Mitigation Measures
1. Obtaining agreement from appellant parties to proceed without resource consent.	If agreement cannot be reached a resource consent will be required	Approach appellant parties and seek agreement as per Pete McLaren advice prior to any further commitment on this work stream.
2. Obtaining permission from Kiwirail to relocate the gate and utilise rail land (Licence to occupy?).	If permissions cannot be obtained the project will not be able to proceed as planned.	Approach Kiwirail and gain appropriate permissions and licence prior to committing to physical works.
3. Discovery of archaeological sites or koiwi.	Delays to the physical works contractor resulting in claims for cost to cover stand down time and re-establishment. Extent or probability is unknown, but evidence indicates strong likelihood of discovery during works.	Allow a contingency of at least 30% on the physical works costs to cover potential costs. Engaging the road maintenance contractor on established day works rates will reduce potential exposure as they will be able to move onto other WDC work if stood down, reducing potential downtime and cost.
4. WDC exposure to costs arising from applying archaeological and cultural safeguards.	Significant increases in project cost relating to meeting commitments to Iwi, HTP and BOPRC. Extent or probability is unknown, but evidence indicates strong likelihood of discovery during works.	It is difficult to assess what costs may arise from HPT, Iwi or BOPRC in relation to finds. Early engagement with Iwi and other parties to assess expectations and quantify potential cost exposure is recommended.

Cost Estimates

The physical works costs are set out in table 3 below.

Table 3: Physical Works Costs

Description	Cost
Survey & setout	\$500
Contractor's establishment	\$1,500
Archaeologist on site and reporting. 40hrs @ \$150/hr	\$6,000
Earthworks – move debris flow material, shape subgrade and drainage. Excavator 16hrs @ \$125/hr	\$2,000
Pavement – construct road pavement 4m wide by 150mm deep with TF40 maintenance metal. 165m ³ @ \$75/m ³	\$12,375
Subtotal	\$22,375
Contingency @ 30%	\$6,713
TOTAL	\$29,088

It is proposed that the works be undertaken by the existing road maintenance contractor at existing competitively tendered dayworks rates. It is unlikely any further potential savings (if any) gained through a tender process will offset the cost of tendering the works. A further benefit of engaging the road maintenance contractor is it will reduce potential claims for standing time and re-establishment, as we can programme road maintenance work in the area at that time to keep them working if discovery of archaeological sites or koiwi halts work on site. Ongoing maintenance will be included within existing road maintenance budgets.

Professional fees for briefing the contractor and monitoring the work are not included as it is anticipated these activities will be carried out by Transportation One-Team staff under existing fees.

Costs related to obtaining agreement from the appellant parties or permissions required from Kiwirail have not been assessed. If these processes prove to be straight forward then costs will be minimal. It is proposed that Council proceed with initial engagement with these parties and make an assessment of likely costs from there.

Costs associated with risk 4 in Table 2 have not been evaluated. It is important that Council engage with the relevant parties and attempt to quantify this risk prior to proceeding with the proposed works.

Conclusions

The proposed route provides an effective alternative escape route to residents on Clem Elliott Drive.

The construction of the physical works themselves is a relatively straight forward task with risks that can be appropriately managed.

Progressing the physical works is contingent on several as yet unknown factors including:

- Obtaining agreement from the appellant parties to progress the works without resource consent.
- Obtaining the relevant permissions from Kiwirail to relocate the locked gate and utilise rail land as part of the escape route.
- Evaluating the potential cost implications arising from applying the proposed archaeological and cultural safeguards.

The physical works should only proceed once the unknown factors described in the above three bullet points are addressed to the satisfaction of Council.

Recommendations

- 1) That Council commence consultation with the various parties as required to obtain the agreements and permissions needed to progress the works.
- 2) That Council engage with relevant Iwi, the Historic Places Trust and BOPRC to assess the expectations and cost implications from applying the proposed archaeological and cultural safeguards.
- 3) That Council only proceed with the physical works once recommendations one and two have been completed to the satisfaction of Council.



Appendix A – Environment Court Decision A035/2009





Appendix B – Archaeological & Cultural Conditions

- 16.1 The consent holder shall implement the following procedures to initiate the protocols set out in the "Tangata Whenua of Te Awa o te Atua Cultural Impact Assessment" dated 18 December 2006:
- A suitably qualified and experienced archaeologist familiar with the Matata area and proposed activity locations shall be on site during all earthworks operations authorised under this consent.
 - The consent holder shall provide for a training session on the protocols with the archaeologist, iwi representatives and earthwork contractors to ensure all parties know what will happen on site, who must be contacted and who is responsible for works to cease and to re-start.
 - In the event of any archaeological site or koiwi being uncovered during the exercise of this consent, activities in the vicinity of the discovery shall immediately cease, and the site supervisor and archaeologist shall be notified immediately.
 - The archaeologist shall notify the Tangata Whenua representatives including Ngati Awa, Ngati Tuwharetoa ki Kawerau, Ngati Rangitihī and Te Rangatiratanga o Ngati Rangitihī as soon as possible.
- 16.2 The consent holder shall notify the Regional Council as soon as possible following discovery of an archaeological site or koiwi.
- 16.3 The consent holder shall not recommence works in the area of the discovery until the relevant Historic Places Trust approvals or other approvals to damage, destroy or modify such sites have been obtained, where necessary.
- 16.4 Prior to commencement of works authorised by this consent, the consent holder shall give an opportunity to the governing body of Ngati Rangitihī to carry out a ceremony at the site as deemed appropriate by Ngati Rangitihī. For the purposes of this condition, the governing body of Ngati Rangitihī shall be deemed to be the Ngati Rangitihī Marae Committee unless otherwise advised to the Regional Council. The opportunity shall also be given to Ngati Awa and Tuwharetoa ki Kawerau to take part in the ceremony or conduct their own ceremony or ceremonies as deemed appropriate by them. The consent holder shall confirm by notice in writing to the Regional Council that the opportunity to conduct a ceremony or ceremonies has been given and that a ceremony or ceremonies have been undertaken where desired by the iwi.
- 16.5 The consent holder shall provide reasonable opportunity for tangata whenua to be involved in future reporting and decision making in respect of on-going monitoring, management and maintenance of the works. For the purpose of implementing this condition Te Rangatiratanga o Ngati Rangitihī Incorporated shall be considered as one of the groups to be consulted. This shall include but not be limited to a person nominated by tangata whenua to be on site during all earthworks to ensure the protocols for the discovery of koiwi, artefacts or archaeological features is complied with.