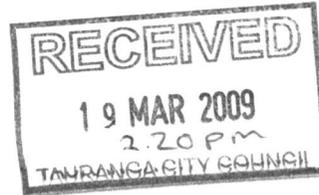


Our Ref. 3071  
19 March 2009

Tauranga City Council  
Private Bag 12-022  
TAURANGA



Attention: s 7(2)(a) ... Private

Dear s 7(2)(a)

## SLIPS, MAUAO BASE TRACK

Further to your request we have inspected the recent landslips on the base track of Mauao, and summarise the main observations and recommendations in the following sections.

### 1.0 GENERAL

The heavy rainfall on the afternoon of 17<sup>th</sup> March resulted in a number of slips along the base track of Mauao. The rainfall followed a series of heavy rainfall events in Tauranga since 18<sup>th</sup> February, with total rainfall over the last month being over 500mm<sup>1</sup>.

An inspection of the slips was undertaken on 18<sup>th</sup> March. A sketch location plan is attached to this report. The scope of the assessment was a visual inspection. No subsurface investigations were undertaken.

### 2.0 LANDSLIPS

There were at least twelve slips along the southern half of the base track. All were within manmade cut batters on the uphill side of the base track. Most were very small (< 2m<sup>3</sup>) and of no significance. Three slips were inspected in detail;

#### Slip 2009-1:

- Previous slippage occurred at this location in May 2005 and in August 2008 ("Slip 1" as given in our report dated 13<sup>th</sup> August 2008);
- Comprises a 8m wide soil-and-debris fall within a 6 metre high cut batter formed within highly weathered, thinly bedded tuffs (volcanic ash and lapilli deposits). The slip has peeled back to a large root extending from the pohutukawa tree along the top of the cut batter;
- The paddock upslope from the slip looks unchanged since August 2008. No overland flow was present;

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<sup>1</sup> This is a typical value for Tauranga - the maximum recorded for 18<sup>th</sup> February to 18<sup>th</sup> March is 585mm in Welcome Bay.

- Considered to be a minor event. The pohutukawa tree has not been materially affected;
- Can expect ongoing slippage, however it should remain shallow-seated.

Recommendation: Just remove the slip debris (as per the August 2008 conclusion).

#### Slip 2009-2:

- Comprises a slump within the cut batter on the upslope side of the base track. Approx. 6 m wide;
- Geology comprises slope wash /colluvium. Three boulders are exposed at the top of the scarp;
- Some groundwater seepage;
- No significant tension cracking within the area immediately upslope of the scarp, however given the loose nature of the soils there is a risk that some fretting of the top of the scarp may occur.

Recommendation: Remove debris, remove boulders at top of scarp, do minor trimming of the face to give vegetation a chance to cover the scarp.

#### Slip 2009-3:

- Immediately adjacent to "Slip 3" in August 2008;
- Comprises a small (3 m wide) shallow-seated soil-and-vegetation fall. Notable for being limited to the upper half of the face - the lower half remains intact;
- Some tension cracking within the area immediately upslope, however appears to involve a very small volume.
- This part of the face is formed within relatively soft sands and silts, consequently relatively high surface erosion evident;
- The head scarp of the new slip is overhanging and clearly unstable. Otherwise, can be considered a minor event.

#### Recommendations:

Remove debris. OK to use as filling within the small gut on the downslope side of the base track. Essential that the outer face comprises boulders, otherwise it will rapidly erode.

There is no real benefit in removing the overhang at the top of the face as it is similar to numerous banks elsewhere around Mauao and its removal would not materially affect the level of risk at base track level.

The exposed face in this location comprises relatively highly erodible soils. As per the August 2008 report, suggest re-establishing a vegetation cover as quickly as possible.

### 3.0 CLOSURE

This report has been prepared for Tauranga City Council with respect to the brief given to us. Conclusions and recommendations provided herein shall not be used in any other context without our prior review and written agreement.

We trust this report is sufficient for your present purposes. Please contact the undersigned on ph 07-579 9708 if there are any queries arising.

Yours faithfully  
TERRANE CONSULTANTS LTD

s 7(2)(a) ... Privacy

#### Attachment:

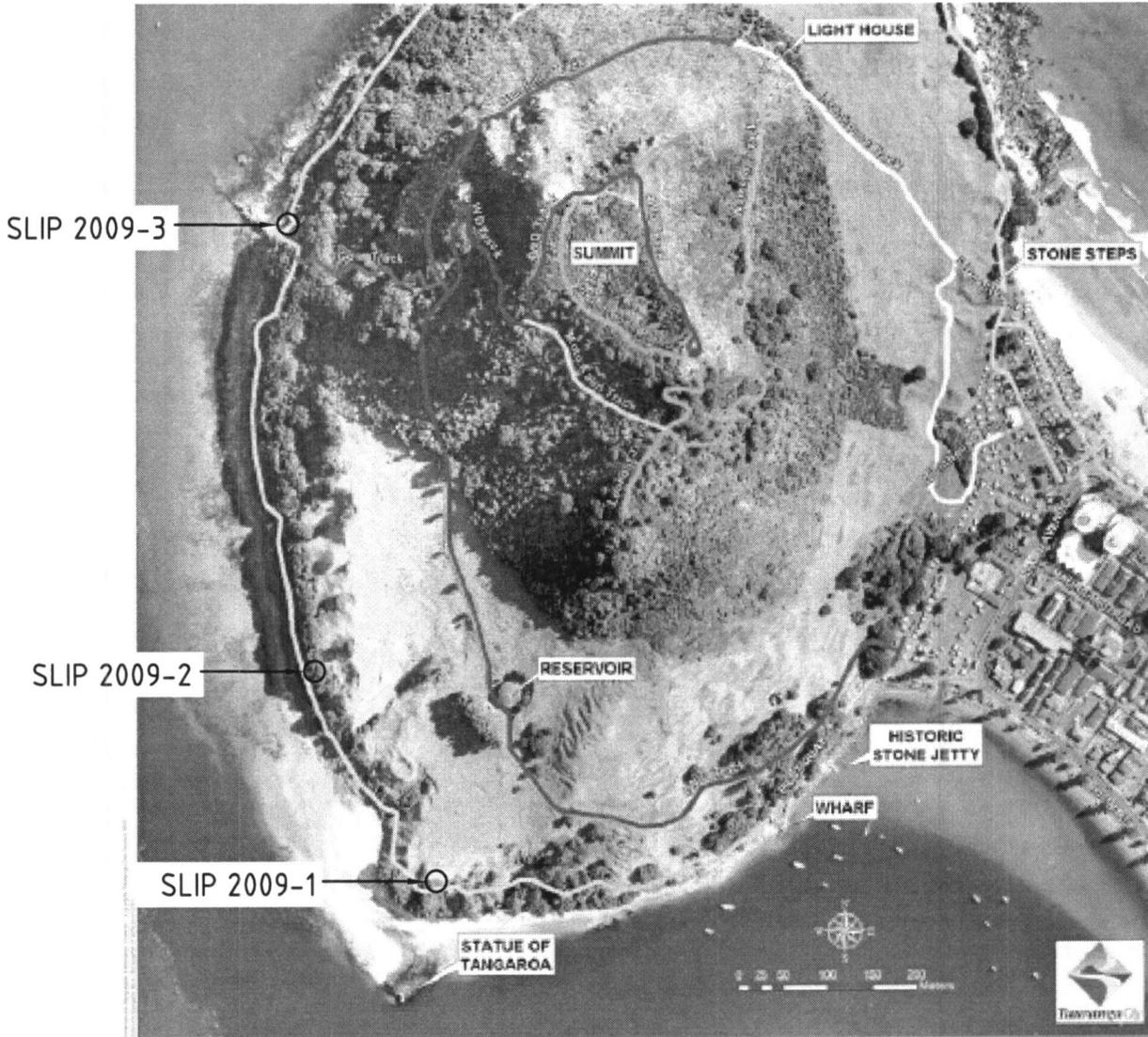
- Figure 1 - Location Plan

19 March 2009  
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NOTES:

- Locations are approximate.

RevNo	Revision note	Date	By
0	Assessment Report		



<p>Terrane Consultants Ltd PO Box 13-607 TAURANGA Ph 07-579 9708 Fax 07 579 9702</p>	Des: <b>S7</b>	Project: TAURANGA CITY COUNCIL MAUAO BASE TRACK SLIPS, MARCH 2009	Scale: n.t.s. at A3 size	
	Dwg:		Title: LOCATION PLAN	Rev: 0
	Chk:			Dwg. FIGURE 1
	File ref: 3071.0903.slips.dwg	Date: March 2009		