



## STAFF REPORT

Attachment 7

**TO:** Environment & Planning Subcommittee

**FROM:** Eric Verstappen – Resource Scientist Rivers & Coast

**REFERENCE:** RM060419

**SUBJECT:** **ST ARNAUD TRUSTEE SERVICES LIMITED – REPORT EP07/05/13** – Report prepared for 14 May 2007 hearing

---

### 1. INTRODUCTION

The purpose of this report is to comment on the flood risk exposure of the proposed house site and to recommend minimum building platform and finished floor levels (FFL) for a proposed dwelling on the site, sufficient to avoid flood hazard risk exposure in a 2% annual exceedence probability (AEP) rainfall event.

### 2. ASSESSMENT

The applicant proposes to subdivide land that is traversed by the Black Valley Stream. The proposed house site is located on a small terrace in the SW corner of the site, elevated above the main floodplain of the stream. In Easter 2005, the locality experienced intense rainfall that resulted in severe flooding in the stream. NZ Met Service rainfall records from 1933-1980 indicate that the Easter 2005 24 hour total of 137mm exceeded the 20 year return period total (123mm) and almost reached the 50 year return period total of 141mm. Thus it is likely that in 24 hour total rainfall terms, the Easter event would likely have been approximately a 2% AEP event (50 year return period on average).

The applicant was fortunate enough to note the flood level soon after the event occurred. The limit of flooding in the vicinity of the proposed building site was assessed as having reached RL 643.3m. The minimum proposed floor level of the dwelling is RL 644.2m, providing 900mm clearance to the maximum flood level reached in Easter 2005. Assuming that a dwelling with a concrete slab foundation is proposed to be built, a minimum building platform level of RL 643.95 can be achieved, allowing for 250mm slab clearance above ground. Thus a minimum building platform clearance of 650mm above very severe flooding levels in the stream is potentially available.

### 3. CONCLUSION

Given the width of the floodplain of the stream opposite the proposed house location and the relatively small size of the catchment (approx 13 sq.km), larger floods than the Easter 2005 event are considered extremely unlikely to inundate the building platform, let alone enter the house. A desirable minimum of 500mm FFL clearance above the Q50 flood level is readily able to be achieved. A minimum building platform level of RL 643.9 also ensures that the building platform is likely to be free of flooding hazard in a similar event (thus avoiding a Section 72 Building Act hazard notice being placed on the title).

#### **4. RECOMMENDATION**

It is recommended that to ensure flooding hazard to the building platform and house in a 2% AEP event is avoided, a condition be included in any consent granted requiring a minimum building platform level of RL 643.9m and a minimum FFL of 644.2.

Eric Verstappen  
**Resource Scientist Rivers & Coast**