

Comments for Upper Hutt City Council 4 November 2020 re Pinehaven Stream Works

Pinehaven Stream

The major limitation of the rainfall runoff modelling process for the Pinehaven stream is the lack of calibration data, (neither GWRC or WW have instigated stream flow data collection in the years since the original model was constructed). Although one calibration event has been used there are uncertainties around the accuracy of the recorded data as the high flow rating is unconfirmed.

The result is that the hydraulic model will have incorporated large uncertainties which is why the model outputs look nothing like the real world when actual floods are compared to the model. vis storm of 8 Dec 2019.

Every consultant hired by GWRC has requested in their reports that flood flow data be collected and that the models be updated with the collected data, but this has never happened.

Conclusion

My conclusion from all the reports is that the hydrological data input to the Hydraulic model is so unreliable that it should not have proceeded. It needs further data collection in order to produce a reliable flood rating curve, and the model results should have been compared to real world events as a check on the models veracity once the updated flood rating curve had been produced.

Economic considerations

Initially the cost of the project was around \$10M however that has now ballooned out to about \$30M. The majority of the repayments are to be paid by Upper Hutt residents.

Pinehaven Road Culvert

I inspected this culvert on 2/9/2020 and it appears to be in good condition, with I estimate 35 years of life left in the structure. (I enclose the report of the inspection).

The capacity of the culvert appears to be of the order of 11.5 cumecs it is 3m wide by 1.5m high.

The proposal by WWL is to demolish and replace this good condition culvert with one that has over 100% more capacity. (4m wide by 2.5m high) 25 cumec capacity.

Yet the 25 year storm on 8 December 2019 the existing culvert handled the flow easily.

So why spend a very large sum replacing a perfectly good culvert?

A.K. Ross
Retired Civil Engineer

I am a retired civil engineer and live on Pinehaven Road. During my career I have worked for Hauraki Plains Council in charge of works for three land drainage boards. Hawkes Bay Catchment Board on land drainage projects. Egmont County Council as County Engineer, South Taranaki District Council as Technical Services Manager. Apex Consultants as Quality Manager, and on secondment to Rangatikei District as Asset Manager.