IN THE MATTER OF SUMMERSET VILLAGES (LOWER HUTT) LIMITED

AND

HUTT CITY COUNCIL

EVIDENCE OF BENJAMIN HUGH FOUNTAIN FOR WELLINGTON WATER LTD

17 September 2018

INTRODUCTION

1. My name is Benjamin Hugh Fountain, and I am the Chief Advisor for Stormwater at Wellington Water Limited.

2. I am a Chartered Professional Engineer with 20 years' experience in the area of municipal engineering and flood risk management

CODE OF CONDUCT

3. I have read the Environment Court Code of Conduct for expert witnesses and agree to comply with it. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed. I have specified where my opinion is based on limited or partial information and identified any assumptions I have made in forming my opinions.

SUMMARY OF EVIDENCE

4. My evidence addresses the concerns relating to stormwater raised by the submitters on the Resource Consent Application for the Summerset Boulcott Street Development in Lower Hutt (2018) and matter of discretion (vii)(a)-(d) of Rule 4A 2.3(m) of the City of Lower Hutt District Plan.

5. A number of the submissions raised concerns around the potential for the Summerset Boulcott Street Development Lower Hutt to increase the flood risk to surrounding properties. The two main issues identified in the 27 submissions that had flooding concerns was the concern should the proposed stormwater network and pumpstation fail during heavy rain and the concerns regarding the impact that filling this low lying area would have on the overland flow paths that drain the surrounding area. In addition to these main concerns a small number of submissions also raised as an issue the impact that the development may have on groundwater.

6. A number of the submissions also related to the flooding from the Hutt River, the failure of the Hutt River stop bank adjacent to the site as well as compliance with the Greater Wellington Regional Council (GWRC) Regional

Policy Statement (Objective 18, Policy 29). These concerns are not addressed in my evidence and have not been assessed by Wellington Water Ltd.

7. In my opinion the applicant has undertaken a thorough assessment of the stormwater using qualified and experienced engineers. The engineering firm consulting on the development (Beca Group Ltd) has assessed the existing flooding risk and the impacts of the development using appropriate methodologies that includes detailed analysis using hydraulic modelling.

8. In my opinion the application has met Wellington Water Ltd's expectations and standards for the management of stormwater flood risk. The proposal provides for the target level of protection which is for a 1% annual exceedance probability event (1:100 year rainfall). The applicant has also undertaking sufficient analysis to demonstrate that the development can manage the surrounding flood risk so that it is not exacerbated by the development in rainfall events up to the 1% annual exceedance probability event (1:100 year rainfall).

9. Submitters have raised concerns that the proposed development could increase the flooding risk should the proposed stormwater network and pumpstation fail. The applicant has considered this possibility and has included in their proposed design the measures that Wellington Water Ltd would expect to reduce this risk to an acceptable level. These measures are in line with other recent pumpstation designs in the Wellington Region.

10. The site and surrounding area is not dependent on the pumpstation and will continue to be serviced by extension and enhancement of the existing gravity network. The pumpstation will only be required to operate during heavy rainfall events or when the Hutt River is in flood and it is not possible to drain the site by gravity.

11. The proposed pumpstation design also manages the risk of failure by including 3 pumps with non-clogging impellors which reduces the flooding risk associated with partial blockage. The pumpstation has redundancy as only two pumps are needed to pump the design flow with one of the pumps being a standby.

12. In case of power outage the design includes a plug-in point for a portable emergency generator.

13. In my opinion I consider that the design appropriately manages the risk of failure of the pumpstation.

14. Submitters have also raised concerns regarding the impact that filling this low lying area would have on the overland flow paths that drain the surrounding properties. The main area identified as being impacted is 22-32 Hathaway Road. Rainfall runoff from these low lying properties currently drains to the proposed development site.

15. The applicant's engineers have considered the drainage from this area and have included in their proposed design a pipe to collect this runoff and provide drainage in events up to the 1% annual exceedance probability rainfall event. This is consistent with Wellington Water Ltd standard for flood protection.

16. A small number of submissions also raised the potential impact that the development may have on groundwater levels in the surrounding area. The main area identified is 1-7 Boulcott Street. This low lying area is currently in a depression between the street and the existing stop bank. A small number of submitters have identified that this area already has high groundwater following extended periods of rain.

17. The proposed development is considered by Wellington Water Ltd to have a negligible impact on the drainage of these properties. This un-drained low lying area will remain un-drained and low lying post development. In my opinion I consider that the applicant has taken appropriate steps to prevent runoff from their site draining to this area and that the adjacent earthworks will not exacerbate the flood risk relating to ground water levels.

18. I do not consider the proposed development to impact on the flood risk in the low lying area surrounding 1-7 Boulcott Street. However the development does present an opportunity to help reduce the damp ground conditions and surface ponding experienced in this area. At the applicants discretion they could make available a connection in their proposed stormwater network to

allow for the property owners to install and connect a private sump and a small sump-pump in the low lying area to help drain their sections.

CONCLUSION

19. In summary, I am of the view that:

(a) The applicant's engineers have undertaken a thorough assessment of the impact of the proposed development on the local stormwater related flood risk.

(b) That the applicant has proposed a design of stormwater upgrades that meets Wellington Water Ltd's Standards for flood protection.

(c) That the applicant's engineers have included in their proposed design appropriate measures to manage the risk of pumpstation failure as well as flooding relating to overland runoff from the surrounding properties.

Dated this 17th day of September 2018

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Ben Fountain