

*Verbal Summary Statement of Maurice Mills*

[1] My name is Maurice Mills. I prepared a statement of evidence relating to the potential effects of Proposed Plan Change 28 (PPC28) on Water Supply, Wastewater and Stormwater to support the PPC28 application., and jointly prepared the Stormwater section of the Stormwater Management Plan submitted as part of my evidence. I also prepared a statement of rebuttal evidence on Stormwater.

I do not require any corrections or additions to be made to my submitted evidence.

[2] As part of pre-hearing conferencing discussions, Joint Witness Statements were prepared for Water Supply and Wastewater. It was agreed that the measures proposed in the PPC28 application are appropriate to service the development. I do not propose to make any further comment on Water Supply and Wastewater; however, am happy to answer any questions you may have.

[4] The main outstanding matters of contention between the various experts relate to the proposed provisions for on-site management of stormwater quantity and quality, effects on the downstream receiving environment, with particular emphasis on the Maitahi River, and insufficient information provided in the Stormwater Management Plan to support the PPC28.

[6] The assessment of effects of stormwater from PPC28 within the development and the receiving environment has been an evolving process throughout the master planning process, consisting of a multi-disciplinary approach which included inputs from Urban Design, Landscape, Ecology, Stormwater, Water Sensitive Design, and Flooding.

As a result of the pre-hearing conferencing discussions, a Stormwater Management Plan (hereafter referred to as the SMP) has been submitted by the Applicant. The SMP has taken a conservative approach to assessing stormwater runoff quantity by applying a percentage impervious area for each zoning area. This method assumed that the full extent of each zoning

area would be developed and did not consider any effects of topography or design which may limit development intensity. This gave an overall impervious area for the PPC28 of 22%, or 65ha.

[7] After the SMP was issued, a Masterplan has been prepared for the PPC28, identifying a conceptual subdivision layout. The impervious areas were recalculated using the Masterplan layout, giving an overall impervious area of 16%, or 46ha.

[8] The impervious areas in the Masterplan layout are approximately 35% less than what was previously estimated in the SMP, which equates to a reduction in total impervious area of approximately 19ha.

[9] The reduction in impervious area will significantly reduce the post-developed peak flow estimates from the site, as well as reduce attenuation requirements and water treatment device footprints. This demonstrates the level of conservatism in the peak post-development stormwater modelling carried out in the in the SMP. Updating the runoff modelling, and subsequent attenuation and treatment demand and footprints will be undertaken as the masterplan is further refined through the planning and consenting process.

[10]

[11] In order to demonstrate the feasibility of the stormwater approach and ability to comply with the NTLDM detention requirements, preliminary sizing and potential location of attenuation devices were identified in the SMP, which included both offline and online options. The purpose of this was to demonstrate that it is spatially feasible that stormwater detention can be provided in the PPC28 area, the exact provision of online and offline stormwater detention will be determined as part of the future design and planning process as the Masterplan is further developed.

Online attenuation typically provides, higher storage volumes compared to offline, as they better utilise natural topography. Online storage also typically requires more ecological and fish passage considerations. While there is a general preference for offline storage as they typically have smaller footprints and less ecological considerations, online storage can sometimes

be preferred, given specific site constraints and opportunities such as road crossings.

[12] Water quality mitigation measures have been provided in the SMP to demonstrate that there is sufficient area available to accommodate these. The footprints shown in figure 4 of the SMP are based on either raingarden or wetland options providing 100% of the treatment capacity. Therefore, not all the footprints are required, but a combination of these areas will be utilised at suitable locations within the site.

[13] Raingardens are typically located ‘close to source’, which is a preference for stormwater treatment. Wetlands are generally located in low slope areas, therefore wetlands within the PPC28 area may be required to be located within riparian zones and open space/recreation zones. The final selection of treatment devices, layout and distribution will be determined as part of the future design and planning process as the Masterplan is further developed.

[14] While a detailed assessment of the effects of stormwater discharge from the PPC28 on the Maitahi River receiving environment has not been undertaken as part of the SMP, the current land use for the pasture areas of the lower Kākā Stream catchment primarily consists of grazing cattle with unfenced waterways. This type of farming leads to the run-off and leaching of nutrients into rivers, streams, estuaries and underground water. With livestock having direct access to waterways within the Kākā Stream catchment, they can pollute more directly and can add sediment through the breaking down and erosion of stream banks.

[15]

[16] With the removal of grazing and changing land use in these areas, together with proposed water sensitive design measures in the Kākā Stream Catchment, there is a real opportunity to increase the quality of water entering the Maitahi River.

The SMP was prepared at the request of various experts during the conferencing phase, to provide a “high level” document outlining proposed stormwater management processes.

[17] The SMP provides a set of stormwater management principals and objectives for PPC28; outlining the site-specific constraints and opportunities; and demonstrating how stormwater management related expectations under the Nelson Resource Management Plan (NRMP) and Nelson Tasman Land Development Manual (NTLDM) could be met. The SMP clearly demonstrates that the associated effects of the development within the site and the receiving environment can be appropriately managed and where possible, enhanced, as it changes from the current land use to a mixture of residential, recreational, and commercial.

[18] I acknowledge that there is further work to do on the SMP during future stages of the planning and consenting process, in conjunction with refinement of the Masterplan. Some of this further work will include:

- Guidance and framework regarding the integration of a staged development within a site wide approach
- Clear definition of the stormwater management requirements for the site based on future iterations of the Masterplan layout, and demonstration of how this will be achieved.

[19]

I am happy to answer any questions.