

**BEFORE THE INDEPENDENT HEARING PANEL APPOINTED BY THE
QUEENSTOWN LAKES DISTRICT COUNCIL**

UNDER the Resource Management Act 1991 (RMA)
IN THE MATTER of the Te Pūtahi Ladies Mile Plan Variation in accordance
with section 80B and 80C, and Part 5 of Schedule 1 of the
Resource Management Act 1991.

**REPLY TO QUESTIONS ASKED OF JOHN FRASER GARDINER
24 November 2023**

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Introduction

- 1 My full name is John Fraser Gardiner. I am a Director of Candor³ consultants. I prepared a statement of evidence on behalf of Queenstown Lakes District Council (**QLDC** or **Council**) dated 29 September 2023 on the submissions and further submissions to the Te Pūtahi Ladies Mile Plan Variation (**TPLM Variation**). I also provided rebuttal evidence dated 10 November 2023.

Response to Questions

- 2 My response to the questions filed by Glenpanel Developments Limited and the Anna Hutchinson Family Trust are set out in **Attachment A** below.

John Fraser Gardiner

24 November 2023

Attachment A:

Joint questions on behalf of Glenpanel Developments Limited (73) and Anna Hutchinson Family Trust (107)		
#	Question	Response
	Broad Topic: Stormwater	
4	<p>Do you intend for:</p> <p>(a) the proposed SMG to serve as an informational guidance to QLDC and Landowners about possible stormwater approaches that may be suitable for different circumstances, or as a requirement that must be met:</p> <p>(b) the SMG to be this be developed by QLDC alone, or will landowners (and their experts) have input into the contents of the SMG?</p>	<p>I was intending for the SMG to be informational guidance for stakeholders as a support for good decision making as existing Council rules and processes are already contained within Engineering Standards (such as the Code of Practice), the District Plan, (e.g the Guiding Principles for stormwater management under assessment matter 27.9.8.1) etc.</p> <p>However, there are certain specific matters within this catchment that have the potential to cause issues if not well managed. The Guiding Principles for stormwater management address many of these issues.</p> <p>In reality the SMG would not impose rules or requirements on people that do not already exist within QLDC standards and rules but having them recorded together in one document as they specifically relate to the TPLM Variation Area may be appropriate. I remain flexible as to the best means of ensuring a sound engineering outcome.</p>

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		I have started to prepare an SMG as a basis for discussion and I am open to all stakeholders having input as the purpose of the document in the first instance is to educate. In my opinion, the more parties that engage, the better, however I acknowledge that the development of the SMG would be a matter for QLDC.
5	<p>While the development of a SMG is ideal, do you agree, in its absence:</p> <p>(a) QLDC would be capable of working with individual land owners to collaboratively ensure an integrated stormwater solution?; and</p> <p>(b) an Integrated Stormwater Assessment could be done via information requirements or matters of discretion.</p>	<p>(a) It is possible for QLDC to work with individual landowners to develop a collaborative solution. However, for a number of reasons based on the work that Candor3 have completed for the TPLM Variation Area I increasingly believe that the potential for things to go wrong is high and a SMG is a mechanism that will reduce that risk.</p> <p>(b) Potentially, however I think trying to record the key elements in words is difficult to do and the SMG that I have drafted relies heavily on diagrams, etc. as a stronger mechanism to convey the issues that need to be addressed in order to arrive at an holistic solution that does not penalise any individual landowner nor QLDC.</p>
6	When you say that "it is also sensible to minimise the size of devices", do you agree that:	(a) There is a correlation between soakage rates in soils and volumetric requirements to attenuate flows.

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	<p>(a) there is a correlation between the infiltration rates of the soils and the volumetric requirements to attenuate flows (sizing) based on the catchment area for each device; and</p> <p>(b) the sizes will accordingly not be any less than that which is determined by engineering design for each device?</p>	<p>(b) I do not understand the question entirely but I anticipate that each device will be sized via engineering design based on actual soakage rates, catchments, etc. with appropriate reserve areas, etc. Undersizing devices isn't appropriate.</p>
7	<p>Do you agree that:</p> <p>(a) the provision of a swale which is designed for infiltration to land at an elevation below a nominal 'crust' of 1.5-2.5m, will serve as an acceptable solution for the disposal of stormwater from Slope Hill; and</p> <p>(b) that any stormwater that does not infiltrate into the soils will be routed towards Lake Hayes in accordance with existing conditions; and</p> <p>(c) systems that are interconnected by pipes will naturally convey stormwater to the lowest point, and may not achieve the optimal disposal rate for the overall site on account of inequitable distribution of stormwater from 'uphill' properties to those which are 'downhill'.</p>	<p>(a) Yes – have drafted some criteria and typical type details for inclusion in the SMG catering for this.</p> <p>(b) Ideally the 1 in 100 year ARI event should be discharged to ground and not run to Lake Hayes however it is prudent to allow for unforeseen events, blockages, possible areas of poor soakage, events larger than the 1 in 100 year ARI event, etc. and structure the swale so that any overflow runs in a controlled manner to Lake Hayes as per the fall of the natural catchment.</p> <p>(c) I am not entirely sure what is being asked in this question. I agree that any piped network will convey water to the lowest point of the network.</p>

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		<p>However, I am not sure what is meant by optimal disposal rate. Optimal disposal rate in one sense is logically where you get the greatest soakage but this may not be at the low point of a site and to get stormwater to this point might require increased depth of pipework and thus bigger basins.</p> <p>The optimal “solution” might be something different given all of the constraints at play. The principle of natural servitude is based on the premise that water naturally runs downhill and properties lower down a catchment will be taking water from above. I am not sure about the comment re “inequity” fits in if natural catchments are respected which they should be. It is certainly possible to introduce “inequity” by modifying catchments, etc. but this is a matter for QLDC to address through appropriate processes.</p>
8	<p>Do you agree that:</p> <p>(a) a "coordinated planning framework" (included any SMG) should allow for some flexibility?; and</p> <p>(b) the word 'connected' refers to the overall approach of disposing of stormwater to land, and not to the piped connection of different stormwater devices?</p>	<p>(a) I agree a "coordinated planning framework" (including any SMG) should allow for some flexibility. The real question is how far that flexibility extends before it undermines a “coordinated solution” and this is what the planning framework and a SMG (if this concept is ultimately accepted) must define.</p>

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		(b) Either / or. The overall SW solution will be a mix of piped networks and ground level devices such as swales, attenuation and soakage basins. They must be connected in some way. Not every device needs to connect to every other device with the exception of overland flowpaths which also form a part of the stormwater system.
9	<p>Do you agree that:</p> <p>(a) each land parcel within the TPLM Variation area is a different size and different orientation, and while there may be similarities in topography and geotechnical profile, each parcel is different from the others?</p> <p>(b) each landowner is likely to develop their land at a time and rate that is largely independent of any other landowner?</p> <p>(c) therefore, a flexible approach is required, rather than a prescriptive one prepared without the benefit of subsequent investigation and design that fully accounts for the unique features and plans for each site?</p>	<p>(a) I agree each parcel is different.</p> <p>(b) I agree.</p> <p>(c) I agree a flexible approach is required. However, stormwater is not the only driver of development and access via roading is seen as a critical aspect of being able to develop. I repeat comments above – while flexibility should be allowed there has to be some limit to this or there may be serious repercussions for the community in the future if a coordinated approach is not taken and too much flexibility is provided.</p>
	Do you agree that:	(a) Land value is one component of any decision making process. It may or may not be significant and in some cases may have no relevance at all. For example, where you have

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10	<p>(a) the value of land has a significant bearing on a developers willingness to consider underground storage in lieu of at-grade stormwater solution;</p> <p>(b) there is a finite amount of land that is suitable for housing development, and at-grade stormwater solutions will reduce the number of sections that can be sold as compared to any stormwater solution that only utilises the road corridors; and</p> <p>(c) there is insufficient information to determine whether any specific stormwater solution would be advantageous or cost prohibitive on any TPLM site at this stage?</p>	<p>a range of workable solutions that all require the same area of land the land no longer becomes a factor in the decision.</p> <p>(b) I agree the TPLM Variation Area has a finite area. Within that area significant infrastructure, parks, housing, etc. has to be accommodated(e.gthere is also a minimum desirable density expressed in the rules of 40 <u>dwelling</u>s per Ha on the LDR precinct). Dwellings is different to “sections” and there is no reason that at grade stormwater solutions reduce the number of “dwellings” on an individual landholding, that is a matter of dwelling typology. There are many factors to take into account when defining optimal solutions however in general terms I don’t support large scale attenuation / soakage solutions within the road corridors for a variety of reasons not the least of which is the ability to get flows from a 1 in 100 year ARI event into such devices without causing issues throughout the roading network. Maintenance is also a major issue with devices within road corridors.</p> <p>(c) It is too early in the process to determine whether any specific stormwater solution would be advantageous or cost prohibitive on any TPLM site at this stage hence the need for some (not total) flexibility in the Variation rules.</p>

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11	<p>Do you agree that:</p> <p>(a) other councils have utilised or allowed underground stormwater disposal devices, including in road reserve?</p> <p>(b) it is possible to locate an underground stormwater device within a road corridor that does not require the excavation of the road for maintenance, and with good design can be maintained with minimal interruption to traffic?</p>	<p>(a) Other Councils have utilised underground stormwater disposal devices including in road reserves. However, as a result of subsequent maintenance issues many Councils have steered away from devices within road corridors but this is location specific and relates in part to ground conditions.</p> <p>(b) I disagree strongly. I have not seen any example where this has worked but have seen many examples where this has not worked. Traffic management is a big cost in any maintenance and anything within the road corridor will be expensive to maintain.</p>
12	<p>Do you agree:</p> <p>(a) with the Rebuttal evidence of Jeffrey Brown (10 November 2023) paragraph [28], which proposes the wording of "minimising the number of devices within the integrated system"?; and</p> <p>(b) that QLDC can work with individual land owners to achieve this goal of minimising the number of devices (without specifying a specific number)?</p>	<p>(a) I agree with the statement that the number of devices needs to be minimised.</p> <p>(b) Based on the work that I have done in drafting a SMG I increasingly think that it is important to specify (possibly a range to give some flexibility) a maximum number of devices. I do acknowledge that in the JWS the stormwater experts agreed to amend the reference to 1-4 devices to "the fewest number of stormwater facilities" However, on reflection I do consider that there is a risk that if a number is not specified that it is highly likely that there will be a</p>

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		proliferation of devices because there are too many areas where a decision by one landowner can seriously impact on others forcing more and more compromises throughout the catchment. This is particularly true if a SMG is not produced which outlines what must be considered when determining stormwater solutions. The JWS statement might be better stated along the lines of "the fewest number of stormwater facilities possible but not exceeding 7 in total".