

**Ulrich Glasner for QLDC – Summary of Evidence, 7 October 2016**

**Residential Chapters – Hearing Stream 06**

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1. A key finding from my evidence is that there is capacity in the infrastructure network to accommodate additional growth proposed through the notified residential zones.
2. The Long Term Plan 2015-25 and Annual Plan 2016/17 are already covering major upgrades and renewals to cater for increased densities. Additional upgrades will be addressed through a Long Term Plan or an Annual Plan review process.
3. In general increased demand from new developments on infrastructure will largely be paid for by the developer. All new assets would be vested in the Council.
4. In the Low Density Residential Zone (**LDRZ**) I have addressed concerns raised from submitters around the wastewater network in Kelvin Heights<sup>1</sup> and the stormwater network in Arrowtown.<sup>2</sup> Although computer models identify that there is general capacity across the network for the development anticipated by the PDP, additional upgrades to services are identified within the current Long Term Plan for Kelvin Heights. The increased density in Arrowtown may have an effect on stormwater runoff, which could trigger upgrades to the existing infrastructure.
5. In the Medium Density Residential Zone (**MDRZ**) submitters raised similar concerns around the stormwater network in Arrowtown as in the LDRZ, specifically if road design changes to more kerb and channel. The effects are similar and may result in upgrades of pipes. In regards to questions around stormwater treatment, storage and disposal, Council supports sustainable urban design principles to minimise effects on the natural environment.
6. In the High Density Residential Zone (**HDRZ**) impacts on the water and wastewater network are similar as per LDRZ and MDRZ. There should not be a material increase in stormwater run-off compared to the status quo.
7. The Large Lot Residential Zone (**LLRZ**) is located within the Urban Growth Boundaries in Wanaka. Most of the LLRZ sites in Wanaka can be serviced with

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<sup>1</sup> In paragraphs 3.5-3.6 of my evidence.

<sup>2</sup> At paragraphs 3.3-3.4 of my evidence

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water supply and wastewater. Some of them need to be serviced with an onsite wastewater pump station in relation to the topography. Stormwater treatment and runoff should be addressed through low impact design. This needs to be addressed case by case depending on ground conditions and permeability for soakage. If soakage is not viable, upgrades to the stormwater network will be necessary.

8. In general, for the anticipated development enabled by the notified PDP the impact on the existing infrastructure is only minor based on currently reviewed and calibrated models. Further Council has identified in the Long Term Plan a programme for renewals, upgrades and network extensions. Unforeseen events will be addressed through the annual plan and long term plan processes.