

**Ulrich Wilhelm Glasner for QLDC – Summary of Evidence, 21 July 2017
Queenstown Mapping – Hearing Stream 13**

1. I have provided evidence for Queenstown Lakes District Council (**QLDC**) on infrastructure matters for various rezoning requests in the Queenstown area of the District.
2. I have referred to and relied on Ms Kimberley Banks' strategic evidence for this hearing, specifically in terms of the type and densities of zones that the Council has recommended through its right of replies in the substantive hearings, and that are being pursued by submitters.
3. As stormwater is addressed at the time of subdivision or actual development and is required to comply with the Council's requirements under the Subdivision Code of Practice, it is not being assessed individually in relation to the rezoning requests.
4. Of the submissions received some were quite vague in term of what was being proposed and only a few provided infrastructure details/assessments. This has made the task of assessing the infrastructure effects more difficult. For some rezonings, more information has been provided through Submitter evidence, which I have considered in my Rebuttal Evidence and in some instances, has satisfied me.
5. In assessing each of the site-specific submissions, I have considered three key points for water and wastewater:
 - (a) the serviceability of the area, whether it is anticipated that the site would connect to the water and wastewater networks, and the ease and cost of servicing to the expected level of service, including ongoing operations maintenance costs from additional facilities;
 - (b) the location of the area in terms of elevation, whether the area will have adequate water pressure and can drain wastewater under gravity, and if it is adjacent to similarly zoned land to support efficient servicing of the area; and
 - (c) if the area will be serviced by the network, whether there are any capacity issues, and if so whether there are projects to resolve them within the Long Term Plan (**LTP**) or the related master plans which are currently being revisited and will inform the 2018 LTP programme. It has

been noted in the submissions where projects that will mitigate capacity constraints are based on the master plans rather than the current LTP.

6. In the urban area connection to Council services is assumed. In general, water supply is less of an issue for submitter requests for more intensive residential zoning, where a residential zoning is already proposed, because the same FW2 level of firefighting supply is anticipated. Where zoning of a higher fire risk is proposed that increases the anticipated firefighting requirements (e.g. commercial requiring FW3), the water model results are used to assess the ability to adequately service these proposed areas. Rezoning submissions are generally opposed where there is an increased level of service from residential to commercial or Visitor Accommodation and the models show there is not capacity to meet this expectation or it is spatially outside the current model results.
7. For properties at higher elevations, additional water reservoirs or booster pump stations may be required to provide water supply to those houses. Council would prefer efficient infrastructure networks that rationalise facilities, and would not promote an increase in the number of facilities to supply water at this higher elevation because of ongoing operation and maintenance costs.
8. The effect of the wastewater loads and water demands from the submitted rezonings have been assessed using the Wastewater and Water Model results. Where the model shows that there is currently no capacity within the system, I have considered whether that will be resolved through planned projects in upcoming Annual Plan reviews and the Long Term Plan (LTP) period. I also identify where LTP projects are required and provided for to enable the rezoning (i.e. the upgrade is already planned). It should be noted that if Council upgrades are required to service a site, the timing of this will be based on the timeframe of the related LTP project or as negotiated, a confirmed rezoning in the PDP will not mean the project is prioritised. In some cases, there are issues but the change is quite minor in terms of additional capacity requirements.
9. It is much more efficient to service new developments where capacity already exists. In my opinion, it is not in the Council's best interest for its water and wastewater networks to extend further into currently zoned rural land outside the urban limits, as this will result in increased operational, maintenance and renewal costs for QLDC over the long term. I do not support the *ad hoc* and inefficient

extension of infrastructure, particularly where I understand there is sufficient available land within the UGB to serve further residential growth.

10. Rural and Rural Lifestyle zonings outside the scheme boundary are not anticipated to connect to the Council network but be privately serviced onsite at the developer's cost. These types of developments will not affect the Council's infrastructure network (nor ongoing maintenance costs) and therefore I generally do not oppose this type of development.
11. My opinions on wastewater and water are based on my knowledge of the network and the Council's computerised Water and Wastewater Models. Growth models feeding into the Water and Wastewater models are currently being updated to reflect the PDP and minor amendments are anticipated. The Water and Wastewater models give a mathematical representation of the infrastructure networks (pipes, pumps, reservoirs and other assets), and the results produce information about pressure, flow and pipe capacity throughout the network.
12. I have summarised the significant submissions that I oppose in my evidence and my rebuttal.

Group 1B

Middleton Family Trust (338)

13. Middleton Family Trust has sought in their evidence that 53 ha of land be rezoned from Rural to LDR and 18 ha to Rural Residential. It has been estimated that this could yield 1,105 additional residential lots.
14. The area is located between Lake Johnson and the Shotover River. This area is not serviced and is outside scheme boundaries as well as the UGB. It is surrounded by notified Rural land.
15. I initially opposed the rezoning because no details about servicing were provided, but the submitter's evidence provided details about how the anticipated increased water and wastewater flows/demands from this rezoning would be serviced. This includes a proposed connection to the QLDC network for water and wastewater. Section 5.1 of the Services Assessment Report states the peak wastewater flow from the development, in accordance with development standards is 48 l/s.

Section 5.2 refers to an existing 300 mm foul sewer main that extends from Hawthorne Drive and has approximately 57 l/s capacity. It appears, based on the Services Assessment Report, that Mr Hansen intends the development to connect into the existing main, as no other option has been stated.

16. In summary, I continue to oppose this rezoning on wastewater grounds; because insufficient detail has been provided confirming there is adequate capacity in the existing reticulation, without upgrades of existing infrastructure beyond what is already planned. The existing wastewater main has been designed to take flow from other existing and planned development. It is not clear what the spare capacity is, but in my view it cannot be assumed that 84% of the existing 300 mm diameter main's capacity is available for this development.

Group 1C

Mount Crystal (150)

17. Initially Mount Crystal Limited sought that 1.24 ha of land be rezoned from LDR to MDR, which was estimated to yield 15 additional residential lots. The submitter also sought within the primary submission that 1.49 ha of land be rezoned from LDR to HDR, and it has been estimated that this part of the relief could yield 65 additional residential lots. This totals 80 lots.
18. The submitter's evidence amends the relief, proposing the total site of 2.7 ha be rezoned to HDR. Mr McCartney's evidence considers that the developable area within the site would be 1.27 ha (due to geotechnical reasons), which could yield an estimated 60 additional residential lots.
19. The area is located on 634 Frankton Road, to the east of Goldrush Way. Currently this site is not serviced, but is within the water and wastewater scheme boundaries and UGB. The surrounding land is notified LDR and HDR.
20. Based on the modelling results I did not oppose the rezoning to MDR, from an infrastructure perspective, because it is expected this area is able to be serviced with minimal upgrades. However, I opposed the rezoning to HDR because the water model showed there is not adequate infrastructure planned in the LTP to service FW3 firefighting supply. HDR zoning assumes a higher fire risk that increases the anticipated firefighting requirements from the MDR (FW2 firefighting supply).

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21. Additional detail was provided in the submitter's evidence but there was nothing that resolved how the site was going to be serviced to an FW3 supply. I continue to oppose this rezoning on firefighting grounds.

Body Corporate 22362 (389)

22. Body Corporate 22362 has sought that 10.8 ha of land be rezoned from LDR to MDR. It has been estimated that this could yield 130 additional residential lots.
23. The area is located on Goldfields Heights and also includes Gold-leaf Hill, Stone Ridge Place, Woodland Close and Miners Lane. This area is currently serviced with public and private infrastructure. Some parts of the current site are already developed to MDR densities. The area is currently within the water and wastewater scheme boundary and UGB, and the surrounding land is notified LDR and Rural zoning.
24. No details were provided about how the anticipated increased flows/demands from this rezoning would be serviced. For water servicing the existing mains are currently modelled as only just sufficient. The modelling results show there are some areas of higher head loss and low pressures. Increasing the density of this area without pipes upgrades could worsen these results.
25. The Wastewater Model results show there is no spare capacity in the downstream network as the main falls to Frankton Road. There is no project to resolve this in the LTP.
26. The submitter provided evidence but it did not address how the capacity constraints would be resolved, to service the proposed increased density. I continue to oppose the rezoning to MDR, from an infrastructure perspective, because there is not sufficient capacity in the existing network to take increased flows both for water and wastewater. Therefore upgrades would be required that are not an efficient solution.

Group 2

Amrta Land Ltd – 677

27. Amrta Land Ltd has sought that 851 ha of land be rezoned from Rural to Rural Visitor. The Rural Visitor zone is an operative zone that is not part of Stage 1. The submitter has not provided enough information about the proposed development in my view to enable an assessment of the effects.
28. The site is Woodbine Station; a property of approximately 800 ha located generally along the true right bank of the Dart River and the north-west banks of Lake Wakatipu. The Station includes land within and surrounding Kinloch. The surrounding land is zoned Rural with the exception of the township of Kinloch. The area is not connected to a Council water and wastewater supply. The site is outside the UGB and not anticipated to be serviced by Council infrastructure. Three waters infrastructure servicing would be required onsite at the developer's cost.
29. It is unclear what the proposed development would be and how it is proposed to be serviced. Large parts of the site are within the flood plain and/or are susceptible to liquefaction. The ORC Otago Water Plan Change 6A Maps identify the area as part of the nitrogen sensitive large lake catchment area. Any development would need to use advanced treatment systems to treat wastewater.
30. Overall, I oppose the rezoning to Rural Visitor, from an infrastructure perspective, because it potentially allows a large high density development in a rural area and it is unclear how servicing of this site is planned, and if it is feasible given site constraints. Not enough information has been provided in the submission to enable me to assess the effects of the proposed rezoning.

Middleton Family Trust – 393

31. Middleton Family Trust has sought that 114 ha of land be rezoned from Rural to Airport Mixed Use.
32. The site is located on top of Queenstown Hill. Existing access is from Frankton Road or Tucker Beach Road. Potential future additional access has been identified off Gorge Road. The land is outside the Queenstown three waters

schemes and the UGB, and the surrounding land is zoned Rural. The site is elevated and 2km from the Queenstown three waters schemes.

33. The applicant has not indicated how the land will be serviced or what land use rules would be included in the proposed new zoning (although I note there is an Airport Mixed Use zone in the PDP, and they may wish to use similar provisions). It is assumed that the intention would be to connect to the Council networks.

34. In summary, I oppose the rezoning to Airport Mixed Use from an infrastructure perspective, because this is a substantial increase in load/demand which will require an upgrade of the existing infrastructure and will also require additional facilities that will have an ongoing maintenance burden.