

BEFORE THE QUEENSTOWN LAKES DISTRICT COUNCIL

IN THE MATTER

of the Resource Management Act 1991

AND

IN THE MATTER

Plan Change 50 (Queenstown Town Centre Zone
Extension) to the Queenstown Lakes District Plan

STATEMENT OF EVIDENCE OF ANDREA THERESE JARVIS

1. INTRODUCTION

- 1.1 My name is Andrea Therese Jarvis. I am a Senior Civil Project Engineer for Holmes Consulting Group. I have 10 years' civil engineering experience, including 4 years with Holmes Consulting Group. I have a Bachelor of Engineering from the University of Auckland. I have been a professional member of the Institute of Professional Engineers New Zealand (IPENZ) since 2011. I am a Chartered Professional Engineer (Registration number: 258374) in the Civil and Environmental fields.
- 1.2 I have been resident in Queenstown for 7 years and have designed and assessed infrastructure within the district for the past 8.5 years.
- 1.3 I became involved in the current matter in November 2013, when I completed a desktop study and assessment of the existing infrastructure and the upgrades required to service potential planned development on the Lakeview Site. I have since completed a revised assessment to support the plan change application, beginning in April 2014.
- 1.4 I have read the Code of Conduct for Expert Witnesses outlined in the Environment Court's Consolidated Practice Note and have complied with it in preparing this evidence. I also agree to follow the Code when presenting evidence to the Council. I confirm that the issues addressed in this brief of evidence are within my area of expertise and that I have not omitted to consider material facts known to me that might alter or detract from my opinions.

2. SCOPE OF EVIDENCE

- 2.1 In my evidence I will discuss the infrastructure demands generated by the proposed plan change and the effects of these demands on, and required upgrades to the existing infrastructure beyond the subject site.

3. THE SITE AND PLAN CHANGE

- 3.1 The site and proposed plan change have been described in detail by Mr Speedy of the Queenstown Lakes District Council. Please refer to Mr Speedy's evidence for these details.

4. ASSUMPTIONS

- 4.1 For the purposes of the infrastructure assessment I completed, I considered the following mix of development:

150 bed Hotel
191 Residential units
124 bed Hotel
10,250 m² Convention Centre
6,350 m² Hot Pools tourism activity
6,500 m² Commercial/Retail activity

- 4.2 Further, I assessed a “worst case scenario” able to be supported by the existing infrastructure. This “worst case scenario” varies for each infrastructure type and is described below.

5. KEY FINDINGS

- 5.1 **Water Infrastructure:** I have assessed the water infrastructure in the vicinity of the plan change as appropriate for the range of activities anticipated by the plan change, with no infrastructure upgrades outside of the boundaries of the site required. The water supply is able to provide fire-fighting flows and pressures for large sprinklered commercial developments, such as the proposed convention centre, and can achieve adequate domestic supply pressure for up to a 7 story building where the ground floor level is RL 353, as per the Lakeview sub-zone proposed structure plan.
- 5.2 **Wastewater/Sewage Infrastructure:** For the specific scale of development I assessed, the wastewater infrastructure external to the site has adequate capacity to support the development. I also assessed the “worst case scenario” for the wastewater infrastructure. The infrastructure can also accommodate up to 510 equivalent dwelling units within the Lakeview sub-zone, additional to the existing visitor accommodation cabins and apartments at the Lakeview Holiday Park, and 200 units within the Isle Street sub-zone.
- 5.3 **Stormwater Infrastructure:** Both the Lakeview Subzone and the Isle Street subzone drain to areas where the municipal infrastructure will be unable to support the development without upgrades to the pipe network. To support the Isle Street Subzone, the 225 mm stormwater main within Man Street will need to be upgraded to 300 mm diameter and the 450 mm pipe under the commercial buildings at the corner of Camp and Memorial Streets will need be abandoned and upgraded to a 525 mm diameter line laid within Camp and Shotover Streets, or left in place with a duplicate main laid within Camp and Shotover Streets. To support the Lakeview Subzone, the 300 mm stormwater main within Brunswick Street will need to be upgraded to a minimum 600 mm diameter main, or an additional 525 mm main laid adjacent to the existing main. The new main will need to extend upslope as far as the outlet of the Lakeview site. The new stormwater main within Brunswick Street will also need a new outlet into Lake Wakatipu, with appropriate stormwater treatment prior to discharge.
- 5.4 **Gas Infrastructure:** Although piped infrastructure within the Lakeview subzone will be required, the existing gas reticulation in the vicinity of the site is adequate to support the anticipated scale of development within the subzones.
- 5.5 **Power Infrastructure:** Switchgear, transformers and cabling within each of the subzones will be need to be specifically designed and installed for each element of development as these are completed. However I consider the external cabling adequate to support the anticipated scale of development within the subzones.
- 5.6 **Telecommunications Infrastructure:** Both subzones are located within the area of benefit for the ultrafast broadband/fibre roll out. Whilst cabling and cabinetry may be required to support specific development elements, the network in the vicinity of both subzones is able to be extended to support the anticipated scale of development.

6. SUBMISSIONS and FURTHER SUBMISSIONS

- 6.1 Daniela Bagozzi (Submission 50/05) submits that more infill housing and/or high rise buildings in Queenstown will add to infrastructure costs to be borne by QLDC. My infrastructure assessment directly relates to the increase in infrastructure demands as a result of the plan change. As highlighted above, the increased demands will require upgrade to the stormwater network, however, the remainder of the infrastructure surrounding the site has the capacity to support the scale of development I assessed.
- 6.2 Cath Gilmour (Submission 50/49) submits, with regard to infrastructure, that she agrees with my recommendation that stormwater should be treated prior to putting it into the lake. She also submits that repeated blockages of the sewage pipes have occurred in the nearby infrastructure, and that the existing stormwater is not always adequate. I have assessed the sewer network and as described above, it has the capacity to support the proposed scale of development. However, as outlined in my full report, it is recommended that the older earthenware and asbestos cement pipes in the area are assessed in line with council's renewals policy, as it may be easier to coordinate replacement of these pipes when development of the land progresses. I have identified that the stormwater infrastructure in the vicinity is not, in all cases, adequate for the current design storm, based on the current average site coverage. I have considered this inadequacy in my recommendations for the increased stormwater main pipe sizes and capacities. Therefore, from a stormwater point of view, the situation should improve as a result of the proposed upgrades to support plan change 50.

7. CONCLUSION

- 7.1 For the reasons outlined in my evidence I support the proposed plan change, subject to the recommended infrastructure upgrades described above and in my report.

DATED the 10th day of November 2014

Andrea Jarvis, Senior Project Engineer, Holmes Consulting Group