

Before Queenstown Lakes District Council

In the matter of The Resource Management Act 1991

And The Queenstown Lakes District proposed District Plan –
Rezoning Hearing Topic 12 – Upper Clutha mapping

STATEMENT OF EVIDENCE OF KEN GOUSMETT FOR

Glendhu Bay Trustees Limited (#583)

Dated 4 April 2017

Solicitors:

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**anderson
lloyd.**

Qualifications and Experience

- 1 My name is Kenneth Frank Gousmett.
- 2 Director Cavell Heights Ltd, trading as Construction Management Services.
- 3 Qualifications and Professional membership:
 - (a) NZ Certificate of Engineering, Civil
 - (b) Registered Engineering Associate – REA
 - (c) Member of Water New Zealand (NZ Water and Waste)
- 4 I have been involved in wastewater, water supply and stormwater design and construction in the Queenstown Lakes District since the early 1970's, including:
 - (a) Wanaka Water and Wastewater, Hawea Wastewater, Albertown Water and Wastewater, Kelvin Heights Wastewater, Arrowtown Water and Wastewater, Queenstown and Wanaka Stormwater
 - (b) Development and Construction Manager for Millbrook Resort for 5 years from commencement through to the opening, responsible for construction of all infrastructure and buildings, landscape features and the golf course.
 - (c) Infrastructure manager for Jacks Point development since inception in the early 2000's.
 - (d) I managed the new water supply and wastewater systems at Glendhu Bay Campground in the late 2000's and early 2010's.
 - (e) I have managed the concept design and consenting of the water supply, wastewater, stormwater, power supply and telecommunications for Parkins Bay Preserve since inception in the mid 2000's.
 - (f) I was Infrastructure Capital Works Manager and Acting GM Infrastructure for Queenstown Lakes District Council in the early 2010s.
- 5 In preparing this evidence I have reviewed:
 - (a) The reports and statements of evidence of other experts giving evidence relevant to my area of expertise, including:
 - (i) Evidence by Ulrich Glasner, Chief Engineer, Queenstown Lakes District Council, dated March 2017.
 - (ii) Evidence prepared by those representing Glendhu Bay Trustees Ltd.

- 6 I am familiar with the proposed Parkins Bay Preserve development, which I will refer to as Glendhu Bay, and the relevant Queenstown Lakes District Council land use consents and the Otago Regional Council water and wastewater consents. Also the existing water supply and wastewater systems at Glendhu Bay Campground.
- 7 I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2014. This evidence has been prepared in accordance with it and I agree to comply with it. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

Scope of Evidence

- 8 I have been asked by Anderson Lloyd on behalf of the Glendhu Bay Trustees Limited to prepare evidence in relation to infrastructure, being water, supply, wastewater, stormwater, power supply and telecommunications for the Glendhu Bay development.

Executive Summary

- 9 There is adequate infrastructure planned and consented to serve the Glendhu Bay development as proposed in the Glendhu Bay Trustees Limited submission seeking a new Glendhu Station Zone, on the district plan review.

Infrastructure

- 10 All infrastructure will be designed and constructed to meet relevant NZ Standards and the 2015 QLDC Subdivision Code of Practice.
- 11 **Water Supply** – the potable water supply is to be sourced from a bore on the true left bank of the Fern Burn a short distance downstream from Mt Aspiring Road. This 150mm diameter steel bore and screen was installed by McNeill Drilling and successfully tested for flow and water quality in 2006. The Otago Regional Council (ORC) issued water take consent 2007.258 in October 2007 for the purpose of commercial buildings and a communal domestic supply which expires in 2042. The lapse date is the same as the expiry date. The consent provides for a potable water supply and curtilage irrigation around the buildings for all of the proposed development at Glendhu Bay including 50 Homesites, other than the golf course which will have a separate non potable water supply and other than the camp ground extension (see below).
- 12 A&R Associates of Queenstown have recently been engaged to design the water supply pump station, pumping main, reservoir and reticulation including fire-fighting supply to NZS4509.
- 13 The campground extension (identified as 'GS-C' on the Structure Plan) can be supplied with potable water from the Fern Burn bore water supply with slightly higher capacity pumps and a minor variation to the ORC water take consent. The ORC consented maximum water take is 4.2 litres/sec and the bore test was run at 14 litres/sec.

- 14 I consider that there are sufficient water resources available to serve the development opportunities provided by the proposal in a way that would not adversely affect the environment such that consents to the required water take(s) would ultimately be granted.
- 15 **Wastewater** – wastewater from all of the proposed development at Glendhu Bay is to be treated on site and dispersed by sub surface dripper irrigation. The Otago Regional Council (ORC) issued consent 2015.206 to discharge treated wastewater to ground on-site. There is a 10 year lapse period and the consent expires in 2050. The ORC consent maximum rate of discharge is 62.5 litres/day with a minimum dispersal area of 1.56ha includes all of the proposed development except for the Campground (C). Wastewater from the Campground could be handled by a capacity increase of the ORC consent 2015.206 or by a separate satellite treatment plant.
- 16 Innoflow Technologies is about to be engaged to design, build and operate the first stage of the wastewater treatment system which will serve the Homesites. This utilises recirculating textile packed bed reactors. The treated effluent will be discharged to land via sub-surface pressure compensating dripper irrigation. This is the same treatment and disposal system as used at Jacks Point currently serving some 750 lots and at the adjacent lake front QLDC Glendhu Bay Campground.
- 17 Through employing present wastewater management technology, and with the availability of suitable land for effluent disposal purposes, it is my opinion that wastewater from the development opportunities provided by the proposal can be satisfactorily managed on-site while avoiding adverse off-site effects.
- 18 It is established practice that proposals for building consent and sometimes resource consent include a development-specific wastewater management solution that is assessed and approved at that time. From my review of all of the development activities that are provided for throughout the proposal and again, taking into account the areas of land available for wastewater management, wastewater can be satisfactory managed on-site while avoiding adverse off-site effects
- 19 **Stormwater** – All of the stormwater runoff from buildings, driveways and roads will be collected and piped to soakholes on site. No piped reticulation is planned. The 20 test pits and 5 bores typically found fine to medium sand and gravels within a metre of the surface. This indicates that good soakage conditions exist on the site. The exception is in the vicinity of the lodge where runoff from buildings may need to be directed to one or more of the dry watercourses that descend from the Lodge site through non erodible rock terrain. This will be investigated in greater detail during design.
- 20 Runoff from high intensity storms will result in surface flow from the grassed and vegetated areas on the south side of Mt Aspiring Road. This will follow the natural contour of the land and pass under the Mt Aspiring Road via the existing culverts. This pattern of flow will be little different from that which exists at present. It will be important

not to disrupt the natural flow pattern or to construct buildings in vulnerable locations such as near the discharge from the road culverts. This is relatively easy to achieve.

- 21 **Power Supply and Telecommunications** – both Aurora Energy Ltd and Chorus Network Services Ltd have confirmed by letters dated August 2016 that they can make an electricity supply/telecommunications available for the proposed home sites. Both companies have been consulted regarding the full proposed development.

Conclusion

- 22 I have reviewed the current planning, consents and design for water supply, wastewater, stormwater, power supply and telecommunications infrastructure to serve the Glendhu Bay development and I am satisfied that this work is sufficiently advanced to be confident that adequate infrastructure will be available for the development as proposed in the Structure Plan.

Dated this 4th day of April 2017

Ken Gousmett

References

- (a) Otago Regional Council consent 2007.258, to take water from a bore on the true left bank of the Fern Burn.
- (b) Otago Regional Council consent 2015.206, to discharge treated wastewater to ground.
- (c) LEI Ltd Soil Assessment and Site Suitability for the Discharge of Domestic Wastewater.