

**Before the Panel of Hearing Commissioners
For the Queenstown Lakes Proposed District Plan**

In the Matter of the Resource Management Act 1991

And

In the Matter of the Queenstown Lakes Proposed District Plan
(Stage 2 – Hearing Stream 14)

Statement of Evidence of
Stephen Jack Peakall for Trojan Helmet
Limited (Submitter 2387 and Further
Submitter 1157)

Dated: 13 June 2018

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INTRODUCTION

Qualifications and Experience

1. My full name is Stephen Jack Peakall
2. I am an Acoustical Consultant with Marshall Day Acoustics (**MDA**). I have been in this position since May 2005. This evidence is given on behalf of Trojan Helmet Limited (**THL**).
3. I hold a degree in Environmental Engineering obtained from the University of West England (UK) and a postgraduate diploma in Acoustics and Noise Control from the UK's Institute of Acoustics, of which I am also a member. I am also a full professional member of the Acoustical Society of New Zealand.
4. I have 15 years' experience in environmental noise issues, specialising in environmental noise assessment and control. Over the last 15 years I have been involved in the investigation, assessment and reporting on numerous environmental noise matters, covering a wide variety of noise generating activities.
5. My professional experience includes noise and vibration advice on projects for various clients, including a number of New Zealand airports and heliports, the New Zealand Transport Agency, Transpower NZ and Kiwirail. I am currently involved in aircraft and helicopter noise assessment work that includes computer noise modelling, noise measurement surveys, strategic noise mapping and noise effects assessments. I have been involved with the assessment of helicopter noise emissions from the THL site since 2015, and conducted a site inspection in May 2018.

CODE OF CONDUCT

6. I confirm that I have read the Code of Conduct for Expert Witnesses as contained in the Environment Court Practice Note dated 1 December 2014. I agree to comply with this Code. This evidence is within my area of expertise, except where I state that I am relying upon the specified evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

SCOPE OF EVIDENCE

7. I have been asked by Trojan Helmet Limited (**THL**) to prepare evidence in respect of THL's proposal for a bespoke resort zoning for its approximately 162 ha block of land bounded by and located between Lakes Hayes Arrowtown Road, McDonnell Road and Hogans Gully Road.
8. I prepared the Helicopter Noise Assessment (2015 Report) that accompanied THL's submission on Stage 1 of the Proposed District Plan (**PDP**) (Submission 437), although I understand that THL's submission on Stage 2 (Submission 2387) differs from its Stage 1 submission.
9. I understand that the Stage 2 submission seeks to provide for, in summary, the establishment of up to 150 residential units within identified development nodes located around the existing golf courses; the ongoing operation and development of the existing golf courses and sculpture park; a limited range of commercial activity around the existing Clubhouse, provided it is related to the purpose of the resort, and helicopter movements associated with the day to day operation and use of the Resort within the Clubhouse Activity Area, as well as an increased number of movements associated with a limited annual number of golf tournaments.
10. I understand that THL's Stage 2 submission does not seek any change to the number or frequency of helicopter movements proposed by its Stage 1 submission, and I therefore consider that the conclusions reached in my 2015 Report remain relevant.
11. I understand that a further submission has been made in respect of THL's Stage 2 submission by a neighbouring landowner, Banco Trustees Limited and Others (**Banco Trustees**). I understand that Banco Trustees generally supports the THL's submission, subject to "*noise attenuation along the common boundary from helicopter operations.*"
12. I have been asked by THL to consider and respond to Banco Trustees further submission, Accordingly, in this evidence I will:
 - (a) Summarise the 2015 Report assessment findings.
 - (b) Describe how helicopter noise emissions are regulated in the PDP

- (c) Assess the likely noise from helicopter operations received within the site detailed in the Banco Trustees submission.

DOCUMENTS REVIEWED

- 13. In preparing this evidence I have reviewed the following documents and reports:
 - (a) 2015 MDA Technical Assessment that accompanied THL's Stage 1 Submission;
 - (b) Chapter 36 of the Queenstown Lakes Proposed District Plan (Decisions Version);
 - (c) Banco Trustees' further submission on the PDP Stage 2;
 - (d) A Subdivision plan, dated 30 April 2015, prepared by Clark Fortune McDonald and Associates in respect of an application to subdivide Banco Trustees' land, a copy of which is **attached** to my evidence; and
 - (e) New Zealand Standard NZS 6807:1994 "*Noise Management and Land Use Planning for Helicopter Landing Areas*"

EVIDENCE

- 14. The MDA Technical Assessment, dated 12 October 2015, of which I was the author, contained predicted noise levels from helicopter operations associated with the Hills golf course under THL's Stage 1 submission for the proposed Hills Resort Zone. I considered a number of scenarios for future helicopter operations in proximity to the proposed clubhouse landing area.
- 15. The noise levels were assessed in relation to the recommended noise criteria contained in New Zealand Standard NZS 6807:1994 "*Noise Management and Land Use Planning for Helicopter Landing Areas*" (**NZS 6807**). This standard recommends limits of acceptability for residential activity of 50 dB L_{dn} (averaged over seven days) and 70 dB L_{Amax} at night.
- 16. I have reviewed the PDP Chapter 36 noise rules (Decisions Version) as they relate to helicopter operations. Rule 36.5.10 requires helicopter operations to comply with the limits of acceptability of NZS 6807 at the notional

boundary of any residential unit, other than residential units on the same site as the activity.

17. Therefore, the PDP compliance requirements use the same assessment criteria as I applied in my assessment.
18. In my opinion, use of NZS 6807 remains an appropriate assessment method in this case.
19. The noise levels predicted in the 2015 Report were lower than the criteria of NZS 6807 at all relevant receivers. Thus, I concluded noise levels from helicopter operations at the Hills were reasonable.
20. At this point I note that Figure 2 of the 2015 Report shows noise contours from each scenario. For clarity, I confirm that each of the contours presented in this figure represent a noise level of 50 dB $L_{dn(7day)}$, except the special event Day contour which represents a noise level of 50 dB L_{dn} . For ease of reference, a copy of Figure 2 is **attached** to my evidence.
21. In relation to the Banco Trustees further submission, this states at paragraph 5 that their support of the Trojan Helmet submission is subject to *“noise attenuation along the common boundary from helicopter operations”*
22. I interpret this to mean that Banco Trustees seek that noise levels from helicopter operations do not exceed a reasonable level on the common boundary. In my opinion compliance with the NZS 6807 criteria would ensure that this is achieved. Noise levels do not exceed 50 dB $L_{dn(7day)}$ at the property boundary.
23. The 2015 Report predicted future noise levels (as would be enabled by the Hills Resort Zone) at the existing dwelling on the Banco Trustees land. For these future operations the predicted noise level was less than 30 dB $L_{dn(7day)}$ which is more than 20 decibels below the limit set by PDP Rules 3.5.10.
24. I have reviewed the Subdivision Plan for Banco Trustees’ site, which shows the rural-residential development proposal presently pursued by the submitter for its Site.
25. Based on the noise predictions I have previously carried out, and the similar distance from helicopter operations of the subdivided lots compared with the

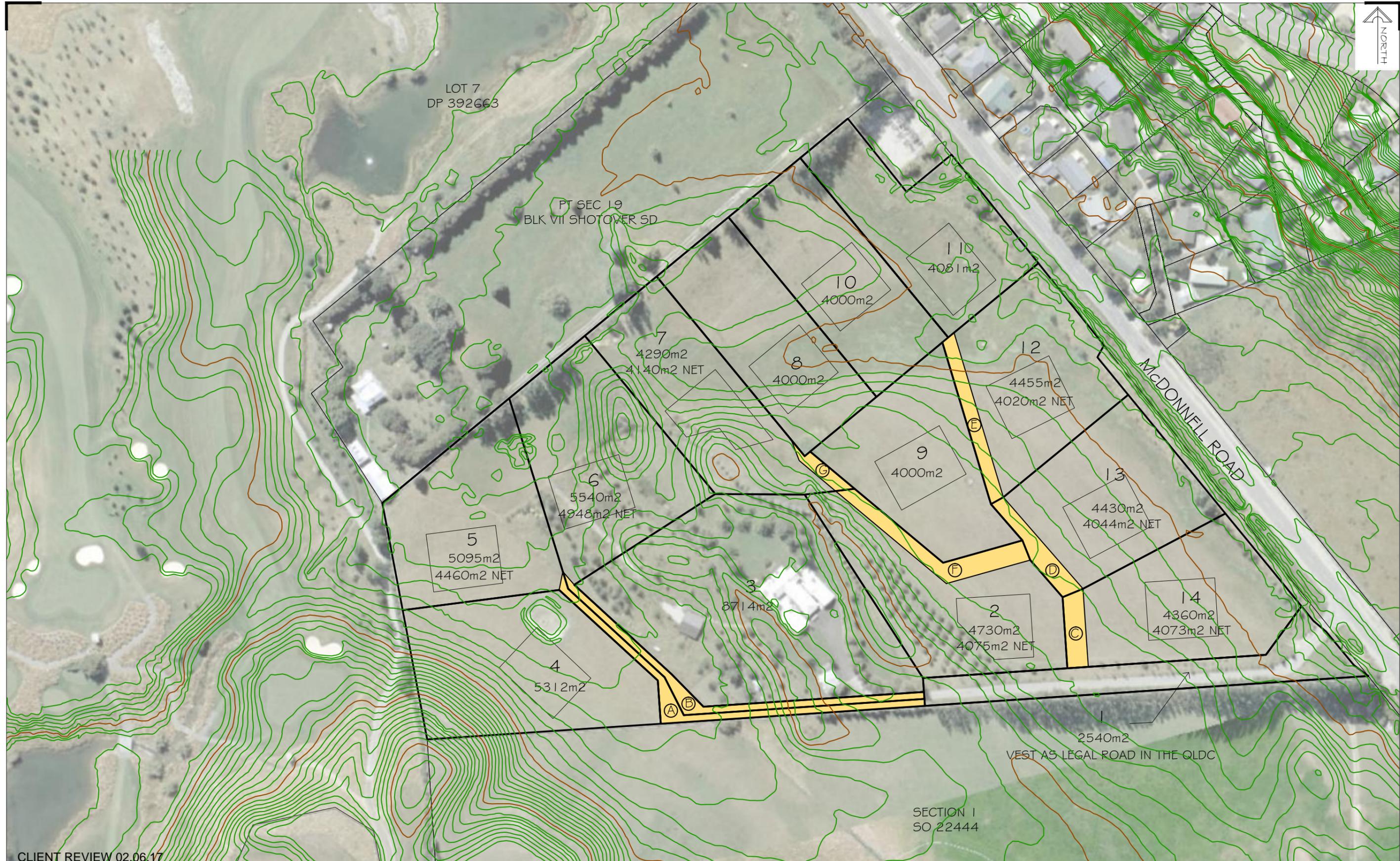
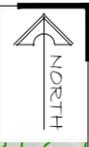
existing dwelling, I conclude that future noise levels for all future lots would also be below 30 dB L_{dn} (7 day), and are therefore reasonable.

CONCLUSION

26. I conclude that noise from helicopter operations enabled by the Hills Resort Zone on Banco Trustees' land would be reasonable and that no further noise attenuation measures are required.

Stephen Jack Peakall

Dated 8 June 2018



CLIENT REVIEW 02.06.17

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Rev.	Date	Revision Details	By
A	19.01.18	PLATFORM SIZES REDUCED TO ~750m ²	JHJ
B	20.04.18	MATCH PLATFORMS TO PATCH LOCATIONS	JHJ

**LOTS 1 - 10 BEING A PROPOSED SUBDIVISION OF PT
SECTION 1 SO 23541**

Client	Surveyed	Signed	Date	Job No.	Drawing No.
R NEWMAN	-	-	-	12585	01
Drawn	Signed	Date <td>Scale</td> <td></td> <td></td>	Scale		
RWB	-	03.06.17	1:750 @ A1 1:1500 @ A3		
Designed	Signed	Date	Datum & Level		Rev.
-	-	-	Mt Nic 2000 & MSL		B



Path: Z:\Jobs\2015\2015564C\06 Drawings\Out\GIS001 2005564C 151008 Figure 1.mxd

Map Legend

Predicted Noise Levels

- Existing (5 p/week) (dB Ldn 7day)
- Typical Weekly movements (12 p/week) (dB Ldn 7day)
- Special Event Day Movements (20 p/day) (dB Ldn)