

**BEFORE THE INVERCARGILL CITY COUNCIL**

**IN THE MATTER** of the Resource Management Act 1991

**AND**

**IN THE MATTER** of application for resource consent for the  
Hawthorndale Care Village

**BY** **THE HAWTHORNDALE CARE VILLAGE  
CHARITABLE TRUST**  
Applicant

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**BRIEF OF EVIDENCE OF MICHAEL SMITH FOR THE HAWTHORNDALE  
CARE VILLAGE CHARITABLE TRUST**

**November 3, 2020**

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## **Introduction**

1. My full name is Michael James Smith. I am a Principal Acoustic Engineer and a director Altissimo Consulting Ltd. I have previously been employed by multi-disciplinary firms AECOM and URS, and specialist acoustics firm Marshall Day Acoustics. I hold the degrees of Bachelor of Engineering (Mechanical) and Bachelor of Mathematical and Computer Sciences from the University of Adelaide.
2. I have practiced in the field of acoustics since 2006. I am a full member of Engineering New Zealand (MEngNZ), the Acoustical Society of New Zealand (MASNZ) and the Australian Acoustical Society (MAAS).
3. I am familiar with the Code of Conduct for Expert Witnesses contained in the Environment Court of New Zealand Practice Note 2014. I have read and agree to comply with that Code. My evidence is within my area of expertise and 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**

4. In my evidence I discuss:
  - (a) A summary of my assessment
  - (b) A response to issues raised in the s42A report

## **Summary**

5. I was engaged in September 2020 to prepare an acoustics assessment<sup>1</sup>, which included predicted sound levels from key activities, and a response to submissions. This was requested by and provided to the Invercargill City Council.
6. My report sets out:
  - (a) Permitted activity standards and other relevant criteria
  - (b) A description of the existing environment, particularly in regards to road-traffic noise from Tay Street (SH1)
  - (c) Predicted sound levels from external plant, loading / deliveries, and staff and visitor parking.
  - (d) Responses to individual submissions, and

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<sup>1</sup> Altissimo Consulting letter A20-112\_L01\_E dated 23 October 2020

(e) An overall assessment of effects.

7. Sound levels from operational noise sources will readily comply with permitted activity standards. I consider that noise effects will be less minor, and noise from the site will be compatible with residential living, and unlikely to cause disturbance.
8. There is the potential for an exceedance of the night time permitted activity standard if parking was to occur at night along the eastern residential boundary. Sound levels at the residential dwellings are predicted to meet the activity standard, so this is considered only a technical non-compliance. As set out in p13, the applicant expects that the car park can be managed such that the parking on the eastern boundary is not needed outside of 0700-2200h, and this exceedance would therefore not occur.
9. Construction noise effects can be managed through standard practices. A Construction Noise and Vibration Management Plan (CNVMP) will need to be prepared and implemented.
10. The reporting officer Ms Steele concludes that noise effects can be appropriately be addressed through the consent conditions. She has recommended a Noise Management Plan to be provided prior to commencement, confirming the final design will achieve appropriate noise levels.

### **Car parking**

11. In my report<sup>2</sup> I calculate that noise from parking to the eastern property boundary would be 48 dB  $L_{Aeq(15min)}$  during a busy period (eg. shift change) with 20 movements in the period, and 42 dB  $L_{Aeq(15min)}$  during a 'typical' period with 5 movements. While such events may be audible in the back yard of neighbouring properties, these are at low levels and of a character that is unlikely to cause annoyance. These movements readily comply with the daytime permitted activity standard.
12. Ms Steele identifies<sup>3</sup> all staff working on shift 1 would arrive at the site during night-time hours prior to 0700h, and some staff working shift 3 would depart the site during night-time hours after 2200 (10pm).
13. The rationale for the number of parks available and staff movements is set out in the evidence of Mr Venkataraman. The expectation is that with the current shift patterns, all staff arriving before 0700h and leaving after 2200h will be able to use parks on the Tay Street frontage. Parks will be clearly marked for their intended usage.

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<sup>2</sup> Acoustics report at section 5.1

<sup>3</sup> s42A report at p7.30

14. Nevertheless, there is some risk that parks on the eastern property boundary will be used during the night period. At night the effect of noise occurs within dwellings rather than at the property boundary. I have calculated that 5 vehicle movements in a 15 minute period would result in a sound level of 37 dB  $L_{Aeq(15min)}$  at the eastern dwellings.
15. I consider sound at this level reasonable, and would not result in loss of amenity or sleep disturbance. This is particularly the case for a low speed access road and staff parking. I consider that effects would be less than minor. Ms Steele agrees<sup>4</sup>.

### **Fence condition**

16. In my calculations, I have assumed a 5 dB reduction in noise for the boundary fence between the site and the residential properties. The reporting officer has queried whether an acoustic fence is required to achieve this reduction<sup>5</sup>. The existing fence on the eastern boundary is corrugated iron, which is falling over / broken in several locations. I understand that the applicant will be repairing the fence prior to commencing construction. This repair will need to ensure that gaps do not form between overlapping panels, as well as provide general structural integrity.
17. Given the setback between the car park and the fence, noise levels would not reduce meaningfully with a timber acoustic fence, unless the height was increased. I do not consider this necessary in this case. Appropriate noise levels can be achieved with a corrugated iron fence, provided it is well maintained.

### **Noise from plant within the site**

18. Ms Steele questions whether noise from mechanical plant may affect sleep amenity for residents at the care village<sup>6</sup>. While the mechanical services design has not been performed at this stage, appropriate noise levels within the site can be achieved with standard engineer design. Given the purpose of the site, I am confident this will occur.

### **Noise Management Plan**

19. Condition 11 requires a Noise Management Plan be submitted confirming that noise from all activities will comply with conditions. I agree that this is appropriate.

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<sup>4</sup> s42A report at 7.34

<sup>5</sup> s42A report at 7.36

<sup>6</sup> s42A report at 7.38

## Construction noise

20. I recommend minor amendments to the proposed condition as follows. The CNVMP primarily addresses effects through good site behaviour and communication with neighbouring properties. Compliance with guideline noise limits is not necessarily practicable at all times, nor does meeting these limits necessarily result in acceptable effects.

A Construction Noise and Vibration Management Plan (CNVMP) outlining how noise and vibration nuisance will be mitigated during construction activities and to minimise any exceedance of managed to comply with the following District Plan construction noise standards. The CNVMP must be prepared in accordance with NZS 6803:1999.

## Conclusion

21. The applicant is proposing parking controls such that staff vehicle movements after hours can be restricted to the Tay Street frontage. On this basis, the permitted activity standard can be achieved.
22. I have consider the case whether these parking controls are not effective, and I consider that infrequent vehicle movements adjacent the eastern property boundary would result in less than minor noise effects.



Michael Smith

November 3 2020