

Noise Emission Verification Test Report,
67 Howards Road, Burringbar

(Lot 3 on DP1191595)

ENVIRONMENTAL NOISE IMPACT REPORT

Prepared for

Pocket Herbs & Produce Pty Ltd

04 November 2019

crgref: 17053 report Verification 04_11_19

1.0 INTRODUCTION

This report is in response to a request for further reporting from Tweed Shire Council to address the following provided in an email dated 04/06/2019:

Hi Iain

Council acknowledges 'Noise Test Results Burringbar 10 04 19' forwarded to Council on 14 May 2019. Thank you for the information.

The Council resolution of 7 February 2019 included the following:

b. Council officers liaise with the site owners to ensure that "Within 30 days from the commencement of operation of greenhouse 2 the operator is required to provide verification testing against the approved noise criteria for the operation of both greenhouses and include recommendations for further mitigation where required;"

The data relates to verification testing and partly addresses the above. However a verification testing report is required to fully address this part of the resolution. It is likely that the verification testing report will also be forwarded to Council's acoustic consultant for consideration when undertaking the assessment of noise logging data.

It would greatly appreciated if the verification testing report is forwarded to Council within 30 days.

2.0 DESCRIPTION OF THE DEVELOPMENT

The parcel of land is described as Lot 3 on DP1191598 and is occupied by a plant nursery that produces edible herbs. The production is located in 2 existing greenhouses, constructed of plastic, with operable walls and roofing to facilitate ventilation. Electric axial fans in metal cowlings are suspended above the production area, and operate 24 hours per day.

The site is bounded by Howards Road to the northeast, agricultural land across Howards Road, with a dwelling immediately adjacent to the north west at 75 Howards Road on Lot 2 on DP848007. The topography of the site and surrounding parcels of land rises up towards the north. For site location refer to Figures 1 and 2 in Appendix A.

Noise testing of various sources were undertaken, with Tweed shire Council Officer in attendance.

For consistency with previous assessments, noise from operation of the ventilation fan system has been assessed in accordance with the "NSW Industrial Noise Policy", rather than the current "Noise Policy for Industry".

3.0 NOISE SURVEY

3.1 Instrumentation

The following equipment was used to record noise levels:

- Rion NC 73 Calibrator;
- Rion NL 21 Environmental Noise Logger.

All instrumentation used in this assessment hold current calibration certificate from a certified NATA calibration laboratory.

3.2 Methodology

Controlled testing was undertaken to ensure that the effect of extraneous noise was minimised as far as possible from the measurements. The entire operation was shut down, allowing accurate determination of each noise source emission level.

Site testing was undertaken between 7:00am and 11:00am on Wednesday 10/04/2019. Weather conditions at the time of testing were calm, overcast, a temperature of 23°C and a relative humidity of 68%.

Levels were recorded at 4 locations, as follows:

- Location 1:** Southeastern boundary of 75 Howards Road, to the southeast of the dwelling. This property is at a similar ground level to the subject site;
- Location 2:** Southeastern boundary of 75 Howards Road, to the east of the dwelling. This property is at a similar ground level to the subject site;
- Location 3:** Southeastern boundary of 75 Howards Road, to the south of the dwelling proximate to the chicken coop. This property is at a similar ground level to the subject site;
- Location 4:** 74 Howards Road, to the northwest of the dwelling on the driveway. This property is elevated above the subject site.

All measurements were undertaken in accordance with Australian Standard AS 1055:1997 – *“Acoustics-Description and measurement of environmental noise”*.

The sound level meter was calibrated before and after the measurement session, and found to be within 0.0dB of the reference signal.

4.0 NOISE ASSESSMENT CRITERION

The following noise assessment criteria has been applied to the operation in the past. For consistency, we have maintained the same criteria for comparison with standing approvals and methodologies applied previously. Noise associated with the operation has been assessed against the “NSW Industrial Noise Policy”, and from logger data and discussion in previous assessments (30/11/2018, 08/09/2017 and 16/05/2017) as follows:

- Control of intrusive noise impacts – The limit criteria for this assessment is as follows:
 $L_{Aeq, 15 \text{ min}} \leq \text{rating background level}^1 + 5 \text{ dB};$
 - Daytime (7am – 6pm Mon-Sat; 8am – 6pm Sun) 40 (RBL 35 + 5) dB(A) L_{eq} ;
 - Evening (6pm – 10pm) 35 (RBL 30 + 5) dB(A) L_{eq} ;
 - Night (remaining periods) 35 (RBL 30 + 5) dB(A) L_{eq} .
- Maintaining noise level amenity for residential premises. This is achieved by ensuring that the proposed development complies with the noise limit criteria set in Table 2.1 of the Policy. If we assume that the area is within a Rural Area (as defined in the Policy), the following applies:

Type of Receiver	Indicative Noise Amenity Area	Time of Day	Recommended L_{Aeq} Noise Level, dB(A) <i>(see Note 8 in Section 2.2.1)</i>	
<i>(see Notes in Section 2.2.1)</i>			Acceptable <i>(See Note 11)</i>	Recommended Maximum <i>(See Note 11)</i>
Residence	Rural	Day	50	55
		Evening	45	50
		Night	40	45

Table 1: Amenity Criterion Prescribed in the New South Wales EPA “Industrial Noise Policy”.

The overall resulting criterion for the development is determined by comparing the amenity and intrusive noise criteria, and applying the lower of the two criteria. From the data and our calculations, the project noise assessment criterion is as follows:

- Daytime (7am – 6pm) 40 dB(A) L_{eq} ;
- Evening (6pm – 10pm) 35 dB(A) L_{eq} ;
- Night (10pm – 7am) 35 dB(A) L_{eq} .

¹ The rating background level is the overall single figure background level representing each assessment period (day/evening/night over the whole monitoring period).

5.0 MEASURED NOISE IMPACTS

The following noise levels were recorded during the tests:

Noise source	Lmin	Leq	Comment
RECEIVER 1: 75 HOWARDS RD (7:20am) Measurement location south of dwelling, adjacent to boundary			
Shed 1 & 2 HAF Fans night mode roof open walls closed	30.4		Inaudible. Birds, distant traffic
Shed 1 HAF Fans day mode roof open walls closed	33.8	40.3	Inaudible. Birds, distant traffic
All plant off	35	40	Inaudible. Birds, distant traffic
Shed 1 & 2 HAF & Personal Fans day mode roof open walls open	34	36	Audible
Main Farm Pump	37.7	39.5	Barely audible, affected by birdsong
RECEIVER 2: 75 HOWARDS RD Measurement location east of dwelling, adjacent to boundary			
Shed 1 & 2 HAF & Personal Fans day mode roof open walls open	36.9	37.7	Shed 2 audible; birdsong
Shed 2 HAF & Personal Fans day mode roof open walls open	36.9	38.0	Shed 2 audible; birdsong
Shed 1 HAF & Personal Fans day mode roof open walls open	35.8	38.2	Inaudible. Birds, distant traffic
Shed 1 Mister, HAF & Personal Fans day mode roof open walls open	43	49	Mister clearly audible
Shed 2 Mister, HAF & Personal Fans day mode roof open walls open	47	60	Mister clearly audible. Operated for 7 minutes
Potting plant and compressor Shed closed	38.7	44	Inaudible. Birds, distant traffic
RECEIVER 3: 75 HOWARDS RD Measurement location south of chook shed, adjacent to boundary			
Potting plant and compressor Shed closed	43.1	45.2	Plant audible
RECEIVER 4: 74 HOWARDS RD (9:15am) Measurement location northwest of dwelling on driveway			
Shed 1 Fogger + day mode HAF and Personal Fans roof open walls open			
Shed 2 Day mode HAF and Personal Fans roof open walls open	36.5	52.9	Mister located nearest point to receiver location
Shed 2 Fogger + day mode HAF and Personal Fans roof open walls open			
Shed 1 Day mode HAF and Personal Fans roof open walls open	49	51	Mister located nearest point to receiver location
Shed 1 & 2 HAF & Personal Fans day mode roof open walls open	36.8	40.5	Aircraft noise, Birdsong
All plant off	31.7	36.2	Birds, distant traffic L90 33
All plant off, Potting Shed operating	33.9	36.6	Inaudible. Birds, distant traffic
NOISE LIMIT CRITERIA 7AM – 6PM	40	40	

Table 2: Measured noise levels from testing.

6.0 DISCUSSION

It is important to note the comments in Table 2 above when considering the noise impacts. The comments include an indication of the audibility, and the effect of extraneous noise on measured levels - for example, the test scenario Receiver 2 *Potting plant and compressor, Shed Closed* illustrates that the ambient noise levels exceeded the daytime criteria by 4 dB, but the plant in operation was not audible, meaning that the birds and distant traffic noise was affecting the noise levels.

The bulk of activity observed is in compliance with the numeric criteria, with the exception of the use of the mister in either Shed 1 or 2 assessed at Locations 1 - 4, and the potting plant and compressor when assessed at Location 3, adjacent to the chicken coop. Location 3 was identified as a location unlikely to be occupied by a person, and was assessed to acquire a line of sight to the rear of the potting shed. Noise from the potting shed was within compliant levels, assessed at Locations 2, and 4, and for this reason, it is submitted that noise from the potting machine is acceptable, subject to the roller door being closed.

It is noted that mister noise can only be practically controlled through limitation of hours of use, and this element was addressed in the Noise Management Plan, as being limited to the following hours:

- Monday, Wednesday, Friday 7am – 12pm (midday);
- Saturday 8am – 12pm;
- No more than 2 hours of continuous use.

The plant items that operate most commonly are the HAF Fans, which comply with the criteria, due to installation of low noise fans, and control of fan speeds.

Overall, it is concluded that the bulk of noise emissions tested from the operation are in compliance, with the exception of the mister.

Report Compiled By:



JAY CARTER BSc
Director

APPENDIX A

Subject Site Location and Surrounds

Figure No. 1: Subject Site Location (Google Maps).

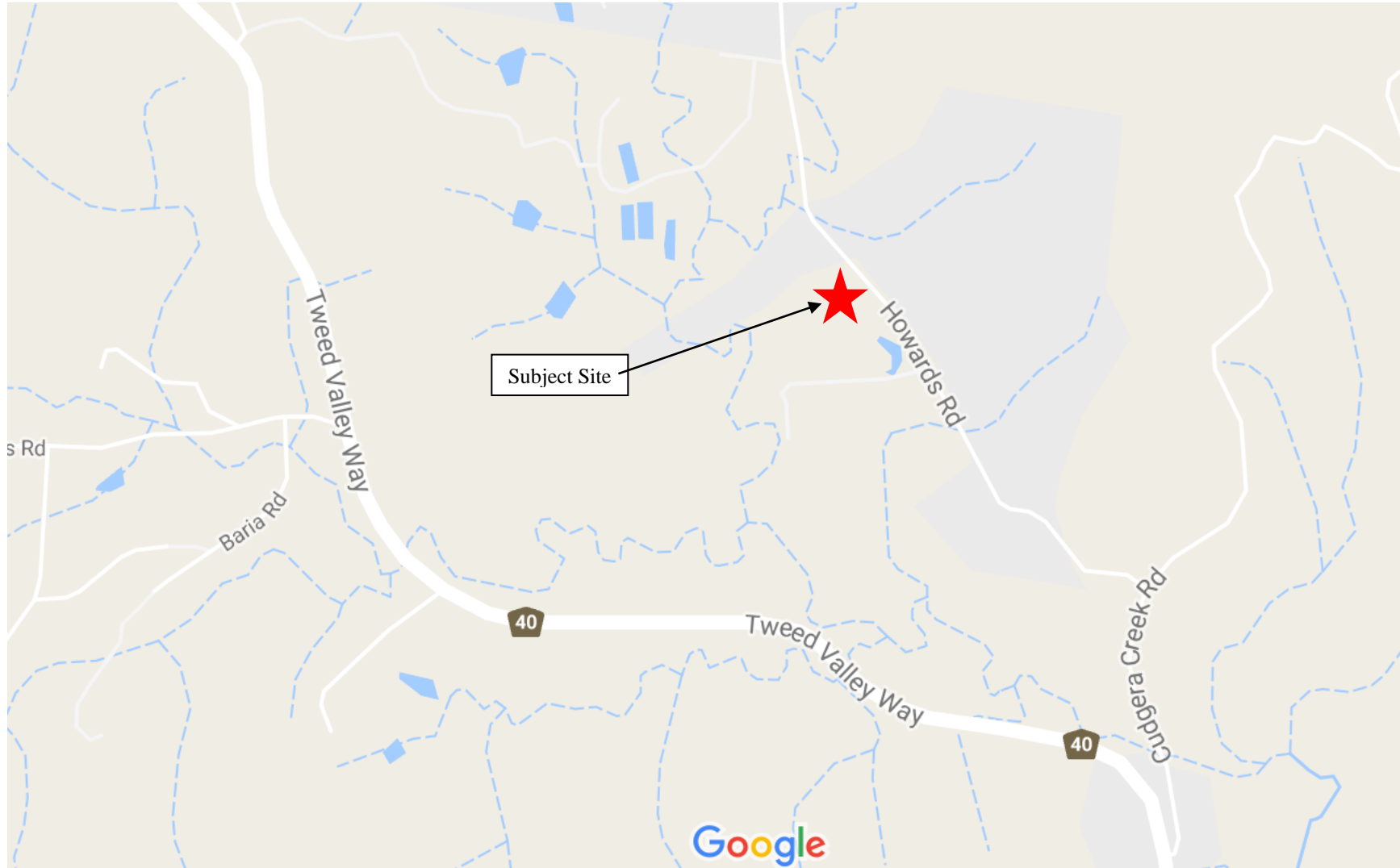


Figure No. 2: Subject Site, Surrounding Environs and Test Measurement Locations (Google Maps).

