

# All Terrain Vehicle Training (ATV) Riding School

## Operational Management Plan

Lot 25 (290) Piggott-Martin Rd, Lowlands WA

### Site details

- Property location – 290 Piggott-Martin Rd, Lowlands WA 6330
- Lot number 25
- Zoning General Agriculture
- Size – 52ha
- Buildings – Dwelling, machinery shed and hay shed
- Access – Via existing 250m long driveway from Piggott-Martin Rd to the south-east of the site
- Parking – space exists for more than 20 vehicles adjacent to dwelling on-site
- Existing use – the property is a lifestyle property with some cattle grazing
- Proposed use – it is proposed to utilize the property, predominately the 6ha area of open grassland in the center of the property to train children up to 14 years in the safe operation of off-road ATV's.
- No buildings will be constructed.
- Temporary shade structures/gazebos may be erected for shelter

### Justification

- Children ride these machines from an early age on farms and tracks having, in most cases, received little, or no training at all. As a consequence, many have accidents that can result in injury, often severe, or even death.
- Often, fatalities are reported in the media, but injuries are not. Neither are all the near-misses or “close shaves”.

- Latest statistics from Victoria show that hospitals deal with ATV related injury every 5 days.
- I don't believe that injuries are due to poor machine design, but rather result from incorrect use due to lack of training and instruction.
- My proposed facility will offer training that will, hopefully, reduce the chance of injury and may even save lives.

## **Proposed hours of operation & Noise Management**

- Days of operation: School holidays, weekends and public holidays only, but only as customer demand dictates. I expect this demand will wax and wane throughout the year with not a lot happening on most days, if at all.
- Customers can attend from 8am to 7pm during summer. Riding times will not commence prior to 9am or finish later than 6pm (during summer).
- Training sessions will vary between 2 to 3.5 hours dependent on customer requirements. There will be a maximum of 2.5 hours of riding time. The first half hour or so of each session is generally a stationary introduction.
- Operators – myself and my wife
- Noise levels: The operation will comply with the Noise Regulations 1997 as amended. An Environmental Acoustic Assessment has been provided. Acoustic testing was undertaken with up to 12 ATVs operating. To enable the assessment of noise based on the worst case possible, line noise sources have been applied to the entire boundary.
- There will be NO motorcycle use, i.e no 2 wheel machines.

## **Further Information**

- All ATVs will be 90cc or less in engine capacity. In fact, most will be 50cc.
- No riders will be over 14 years of age. From previous experience as an owner/operator of this business in the Williams Shire, I expect most will be much younger.
- No riders will be permitted to bring their own machines
- All exhaust systems will be maintained to standard specification
- All riding will be supervised at all times

- Training sessions will take place predominately within the area shown on the attached site plan
- Noise levels will be very low and previous testing has shown that there will be no detrimental affect on the amenity of the area
- As riders will be beginners, and will be unfamiliar with the machines, speeds will be restricted, meaning that the already low levels of noise will be even lower.
- There will be no racing or competitive riding
- All machines are beginner type units, and are not performance orientated, or high revving types such as motocross bikes.
- No more than 12 machines will be used at any one time.
- As far as waste management is concerned, there are two existing toilets and if demands warrants, portable toilets will be made available.
- Parents will remain on site during the training sessions.

It is my opinion that my proposed facility will benefit the local area by giving young people with an interest in ATV's an opportunity to learn to operate and ride these machines safely.

I hope that you find this information helpful. If you have any enquiries, I am happy to respond.

Yours faithfully.

Philip Morgan  
290 Piggott-Martin Rd  
LOWLANDS WA 6330  
Mobile 0428 877 071  
Email [philmorg@wn.com.au](mailto:philmorg@wn.com.au)





Predominate training area

house and parking area

Access

Proposed Site

Lake Saide Rd

Thompson Rd

Ryan Rd

Piggott Martin Rd

Patterson Rd

0 0.15 0.3 0.6 km

Scale: 1:9,028





**PHILIP MORGAN**

**PROPOSED ALL TERRAIN VEHICLE (ATV) RIDER TRAINING  
FACILITY  
290 PIGGOT MARTIN RD, LOWLANDS**

**ENVIRONMENTAL ACOUSTIC ASSESSMENT**

OCTOBER 2021

OUR REFERENCE: 28564-2-21378



DOCUMENT CONTROL PAGE

**ENVIRONMENTAL ACOUSTIC ASSESSMENT  
PROPOSED RIDER TRAINING FACILITY**

Job No: 21378

Document Reference: 28564-2-21378

FOR

**PHILIP MORGAN**

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**DOCUMENT INFORMATION**

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<b>Author:</b>	Paul Daly	<b>Checked By:</b>	George Watts
<b>Date of Issue:</b>	25 October 2021		

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**REVISION HISTORY**

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Revision	Description	Date	Author	Checked
1	Property Boundary Review	26/10/2021	PLD	

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**DOCUMENT DISTRIBUTION**

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1	1	Philip Morgan <a href="mailto:philmorg@wn.com.au">philmorg@wn.com.au</a>		✓

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## 1. INTRODUCTION

Herring Storer Acoustics have been commissioned by Philip Morgan to carry out an acoustical assessment of noise emissions from a proposed All Terrain Vehicle (ATV) Rider training facility to be located at 290 Piggot Martin Rd, Lowlands.

Previously an application was approved (via State Administrative Tribunal) for the operations of the training facility, however this did not proceed at that time. Subsequently, a re-application to the City of Albany has required an update of the original acoustic assessment, which was conducted in 2007 (Reference *HSA 8267-1-07001-098*) for the noise emission relating to the proposed operations.

The previous operations have been revised, with the key points noted below:

- Only ATV's will be used ie only 4 wheel machines.
- Engine size will be limited to 90cc, with Figure 1.1 detailing the type of ATV.
- Training will be conducted in sessions of 3.5 hours duration incorporating about 2.5hours of actual riding.
- Riders will be continually supervisor by the trainer.
- Training sessions will commence at 9am or 2pm.
- There will be no motorcycle use, i.e., no 2-wheel machines.
- Up to 12 ATV operating have been considered in this acoustic assessment.



FIGURE 1.1 – PROPOSED ATV TYPE



The objectives of the study were to:

- Measure noise levels of the existing operations, including background noise levels.
- Determine, by modelling, noise propagation from the proposed facility.
- Assess the predicted noise levels received at the closest noise sensitive premises, for compliance with the *Environmental Protection (Noise) Regulations 1997*.
- If exceedances are predicted, investigate possible noise control options that will reduce noise emissions to achieve compliance with the regulations.

Noise sensitive premises have been identified to the north, west and south of the facility ranging from 70 to 375m from the boundary of the proposed facility. Figure 1.2 details the locations and distance.

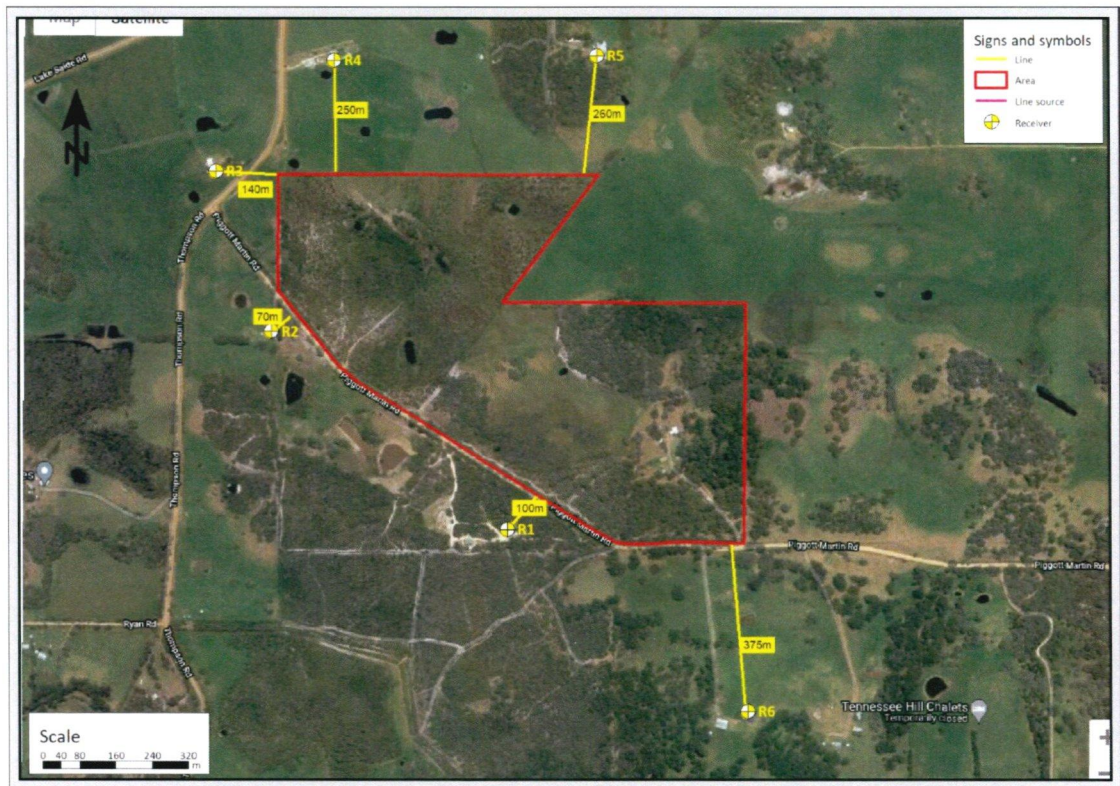


FIGURE 1.2 – RECEIVER DISTANCE AND LOCATION PLAN

## 2. SUMMARY

Noise modelling and assessment of the noise emissions from the operating conditions has been undertaken. The result of that assessment shows that noise emissions from the facility will comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* at all operational times.

## 3. CRITERIA

The allowable noise level for noise sensitive premises in the vicinity of the proposed Facility site is prescribed by the *Environmental Protection (Noise) Regulations 1997*. Regulations 7 and 8 stipulate maximum allowable external noise levels or assigned noise levels that can be received at a premise from another premises. For “highly sensitive area” of a residential premises, this noise level is determined by the calculation of an influencing factor, which is then added to the base levels shown below. The influencing factor is calculated for the usage of land within two circles, having radii of 100m and 450m from the premises of concern. For noise received at noise sensitive premises, “other than highly sensitive area” the assigned noise levels are fixed at all times. The base noise levels for residential premises are listed in Table 3.1.

**TABLE 3.1 - BASELINE ASSIGNED OUTDOOR NOISE LEVEL**

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L <sub>A10</sub>	L <sub>A1</sub>	L <sub>Amax</sub>
Noise sensitive premises: highly sensitive area	0700 - 1900 hours Monday to Saturday (Day)	45 + IF	55 + IF	65 + IF
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	40 + IF	50 + IF	65 + IF
	1900 - 2200 hours all days (Evening)	40 + IF	50 + IF	55 + IF
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	35 + IF	45 + IF	55 + IF
Noise sensitive premises: other than highly sensitive area	At all times	60	75	80

Note: L<sub>A10</sub> is the noise level exceeded for 10% of the time.  
 L<sub>A1</sub> is the noise level exceeded for 1% of the time.  
 L<sub>Amax</sub> is the maximum noise level.  
 IF is the influencing factor.

The “Highly sensitive area” of a noise sensitive premises means:

that area (if any) of noise sensitive premises comprising —

- (a) a building, or a part of a building, on the premises that is used for a noise sensitive purpose; and
- (b) any other part of the premises within 15 m of that building or that part of the building.



It is a requirement that received noise be free of annoying characteristics (tonality, modulation and impulsiveness), defined below as per Regulation 9.

**“impulsiveness”** means a variation in the emission of a noise where the difference between  $L_{Apeak}$  and  $L_{Amax Slow}$  is more than 15 dB when determined for a single representative event;

**“modulation”** means a variation in the emission of noise that –

- (a) is more than 3dB  $L_{A Fast}$  or is more than 3 dB  $L_{A Fast}$  in any one-third octave band;
- (b) is present for more at least 10% of the representative assessment period; and
- (c) is regular, cyclic and audible;

**“tonality”** means the presence in the noise emission of tonal characteristics where the difference between –

- (a) the A-weighted sound pressure level in any one-third octave band; and
- (b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,

is greater than 3dB when the sound pressure levels are determined as  $L_{Aeq,T}$  levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as  $L_{A Slow}$  levels.

Where the noise emission is not music, if the above characteristics exist and cannot be practicably removed, then any measured level is adjusted according to Table 3.2 below.

**TABLE 3.2 - ADJUSTMENTS TO MEASURED LEVELS**

Where <b>tonality</b> is present	Where <b>modulation</b> is present	Where <b>impulsiveness</b> is present
+5 dB(A)	+5 dB(A)	+10 dB(A)

Note: These adjustments are cumulative to a maximum of 15 dB.

The closest neighboring noise sensitive premises have been identified using Google Earth, and information provided by the client who resides at the proposed property with the noise sensitive premises as shown in Figure 1.2.

Whilst confirmation via land use planning maps was not possible (City Albany web site does not contain intramaps) it has been assumed there are no known industrial nor commercial land uses, nor major or secondary roads, therefore the Influencing Factor at these residences would be zero.



Based on the above influencing factor, the assigned outdoor noise levels are listed in Table 3.4.

**TABLE 3.4 - ASSIGNED OUTDOOR NOISE LEVEL**

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L <sub>A10</sub>	L <sub>A1</sub>	L <sub>Amax</sub>
R1 to R6	0700 - 1900 hours Monday to Saturday (Day)	45	55	65
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day Period)	40	50	65
	1900 - 2200 hours all days (Evening)	40	50	55
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	35	45	55
Noise sensitive premises: other than highly sensitive area	At all times	60	75	80

Note: L<sub>A10</sub> is the noise level exceeded for 10% of the time.  
 L<sub>A1</sub> is the noise level exceeded for 1% of the time.  
 L<sub>Amax</sub> is the maximum noise level.

#### 4. MODELLING

To determine the noise that would be received at the surrounding premises from the facility, modelling of noise emission propagation was carried out using "SoundPlan".

The calculations used the following input data:

- a) Ground contours (Google Earth topography).
- b) Sound power levels used in the model were based on either data measured on site, or file data. The sound power data is summarised in Table 4.1.
- c) DWER worst case day or night weather conditions.

Previously (2007 acoustic assessment), noise level measurements were conducted of the same sized ATV proposed for use at the facility. This was a Suzuki 80cc ATV LT80 2-Stroke. Noise levels were measured during a pass-by event, i.e., the ATV was ridden within 1m of the sound level meter at a representative engine speed. The sound pressure level was 72 dB(A), which was noted in the previous report.

This type of ATV is no longer available for purchase new, however, 4 stroke motor ATVs are. Information on the noise levels for these new units of the same capacity were not available, however, based on experience of noise measurement from both 2 and 4 stroke vehicles, generally the two stroke motors are considered more annoying, and potentially higher in noise levels than the four strokes. Therefore, the previously measured noise levels of the 2 stroke ATV have been used for the assessment. This would provide a level of conservatism as it is likely new 4 stroke ATVs will be used.

**TABLE 4.1 - SOUND POWER LEVELS, dB(A)**

Item	Sound Power Level dB(A)
Suzuki 80cc ATV LT80 2-Stroke	73

Based on the above information, the following scenarios have been developed:

Scenario 1 – Day Operations (9am and 2pm) – Up to 12 ATVs in operation

As the facility is located on a large property, with no designated tracks, to enable the assessment of noise from the worst-case possible location for the operating ATVs, line noise sources have been used. These line noise sources represent an individual ATV at any location along the noise source line. For the purpose of assessment, this line source has been located at the boundary of the entire premise. Whilst unlikely this would occur; it provides a conservative assessment where an ATV could be operating at the closest position to any of the neighbouring noise sensitive receivers.

Generally, the individual noise of an ATV would be the dominant noise source contributing to the receiver noise level. The individual sound power level of the ATV is 80 dB(A). However, to allow for the contribution of the bikes before and after, the sound power level has been increased by 3 dB. Therefore, the modelling allows for a sound power level of 83 dB(A) located anywhere along the boundary of the property which would represent a line of ATVs being ridden at staggered intervals.

The layout for the site is as per Figure 4.1, with the noise source location shown at the perimeter boundary of the proposed facility.

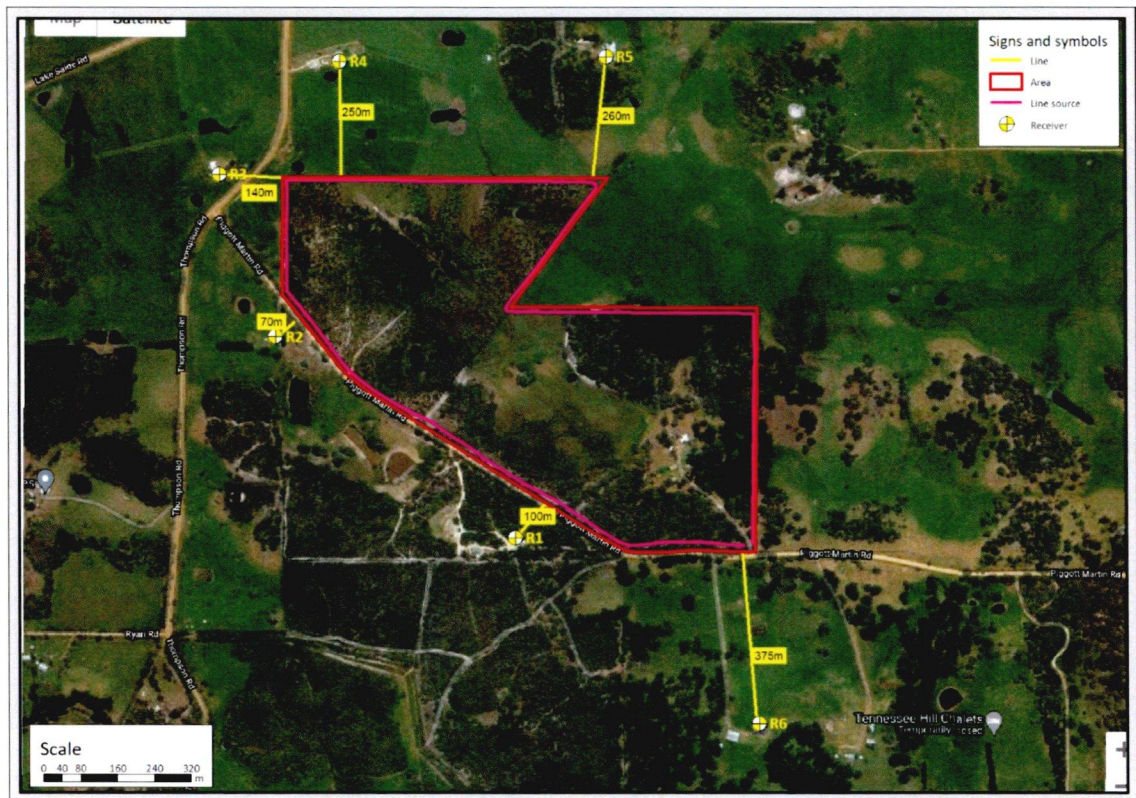


FIGURE 4.1 – NOISE SOURCE (ATV) LOCATION



Weather conditions for the modelling were undertaken using the "Default Conditions for Noise Modelling" as stipulated within the Environmental Protection Authority's "Draft Guidance for Environmental Noise for Prescribed Premises" as listed in Table 4.2.

**TABLE 4.2 – WEATHER CONDITIONS**

Condition	Day
Temperature	20°C
Relative humidity	50%
Pasquil Stability Class	E
Wind speed	4 m/s*

\* From sources, towards receivers.

## 5. RESULTS

The results of the noise modelling are attached in Appendix B.

The resultant noise level at the worst case receivers for the above scenarios are listed in Table 5.1.

**TABLE 5.1 – SUMMARY OF RESULTS  
 WORST CASE RECIEVER**

Scenario	Scenario 1 L <sub>A10</sub>
R1	27
R2	26
R3	22
R4	19
R5	18
R6	16

## 6. ANALYSIS / ASSESSMENT

Based on calculated noise levels at the nearest premises, and the likely background noise levels, noise levels emissions from the operations are likely to be around background noise levels, hence it is unlikely they contain annoying characteristics, such as tonality. However, to ensure the worst-case scenario for assessment, penalties have been applied to the noise levels.

Based on the above, for noise sources which are assessable under the L<sub>A10</sub> parameter, the noise levels have been considered as containing tonal annoying characteristics with the resultant adjustment shown in Table 6.1.

**TABLE 6.1 – ADJUSTMENTS TO MEASURED LEVELS**

Receiver	Scenario 1 L <sub>A10</sub> (+5)
R1	32
R2	31
R3	27
R4	24
R5	23
R6	21



Based on the assessable noise level above, comparison against the relevant assigned noise level is contained in Table 6.2. For the ease of reporting the most stringent time period of Sunday (after 9am) and Public Holidays has been considered, as achieving compliance with this criterion will achieve compliance with all other operating time periods.

**TABLE 6.2 – ASSESSMENT OF L<sub>A10</sub> NOISE LEVELS DAY OPERATIONS**

Receiver	Scenario 1 L <sub>A10</sub>	Time of Day	Assigned L <sub>A10</sub> Level (dB)	Compliance
A	32			Complies
B	31	0900 - 1900 hours		Complies
C	27	Sunday and Public Holidays (Sunday / Public Holiday Day Period)	40	Complies
D	24			Complies
E	23			Complies
F	21			Complies

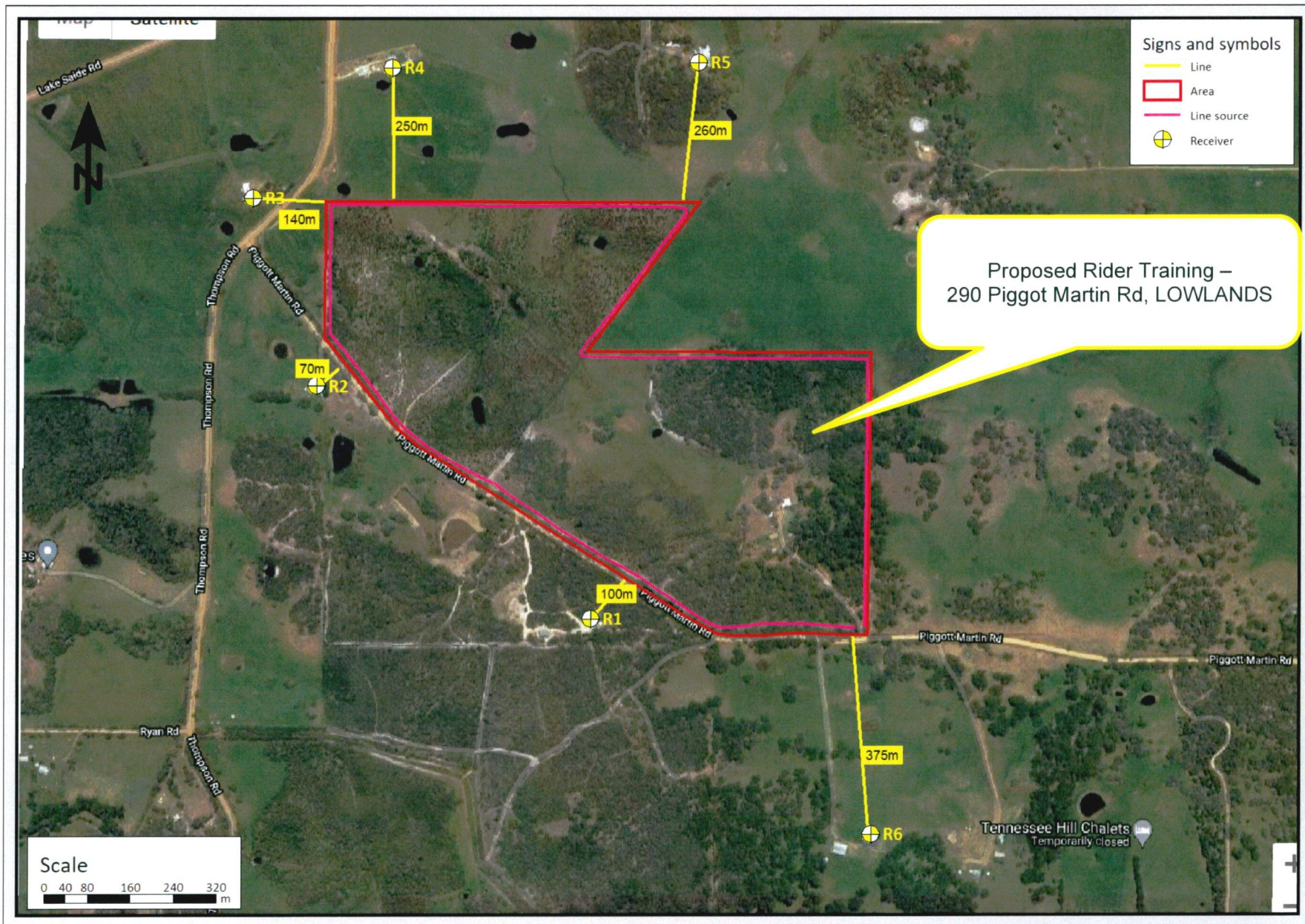
## 7. CONCLUSION

Noise modelling and assessment of the noise emissions from the operating conditions has been undertaken. The results of that assessment shows that noise emissions from the facility will comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* at all operational times.

## **APPENDIX A**

LOCATION MAPS / REFERENCE LOCATIONS

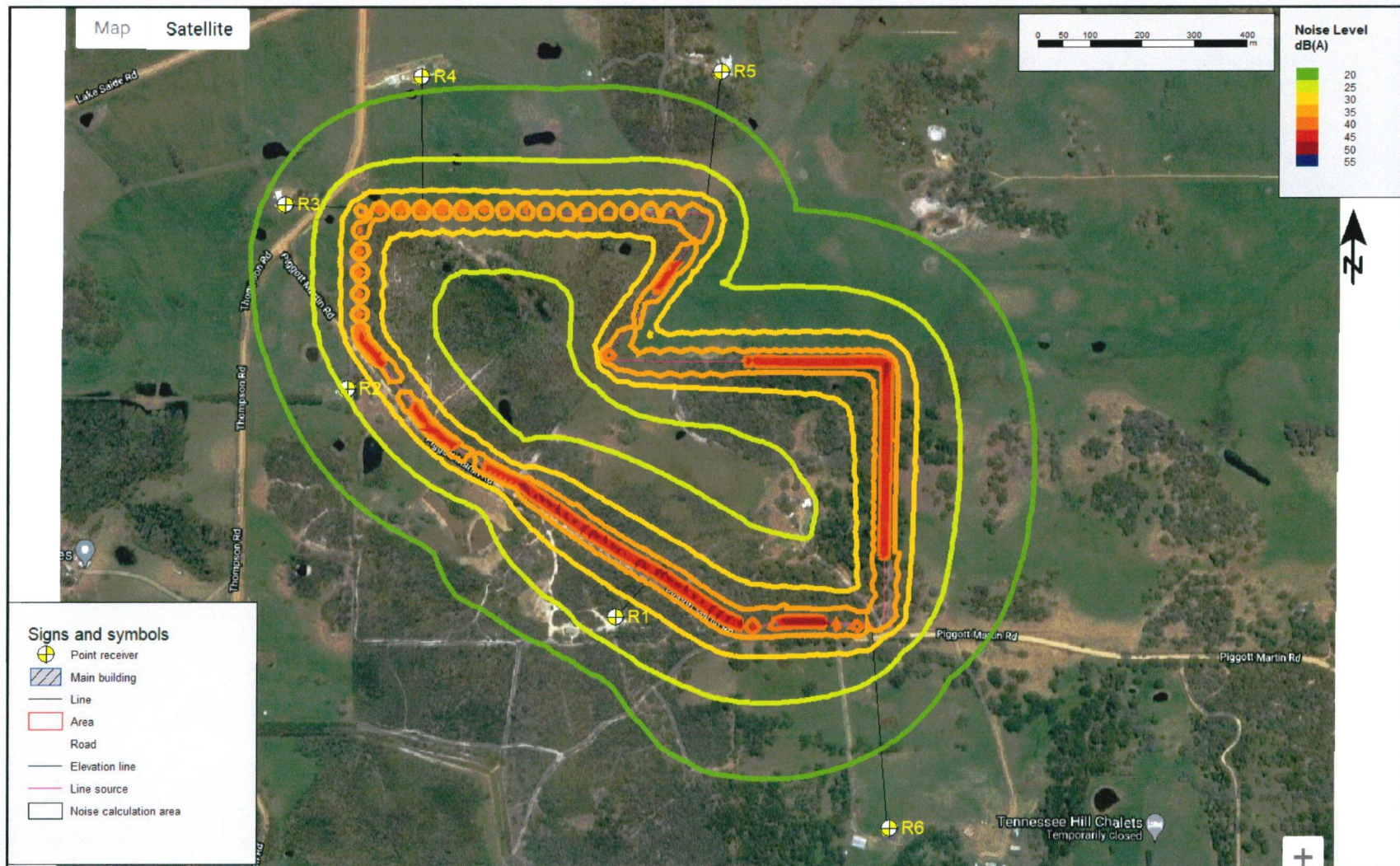






## **APPENDIX B**

NOISE CONTOUR PLOT



Herring Storer Acoustics  
Job No - 21378

Rider Traing Facility - 290 Piggott Martin Rd, LOWLANDS  
ATV Operational Noise Source



Figure B1  
Ref # 003