



Proposed Industrial Warehousing Estate
884-928 Mamre Road
Kemps Creek

ACOUSTIC REPORT



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Altis Property Partners
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1 Executive Summary

This report is in response to a request by Altis Property Partners to assess environmental noise impacts associated with the proposed industrial warehousing estate to be located at 884-928 Mamre Road, Kemps Creek. The environmental noise assessment was conducted in accordance with NSW Department of Planning and Environment's Secretary's Environmental Assessment Requirements, Penrith City Council and the NSW Noise Policy for Industry. To facilitate the assessment, unattended noise monitoring was conducted in the vicinity of nearby sensitive receivers to establish the criteria for onsite activities.

The environmental noise assessment was conducted in accordance with Penrith City Council requirements and the NSW Department of Planning and Environment's Secretary's Environmental Assessment Requirements (SEARs) (Application Reference: *SSD-17647189*) which requires the following matters to be addressed:

Noise and Vibration – including:

- a quantitative noise and vibration impact assessment for construction and operation of the development, including traffic noise, undertaken by a suitably qualified person in accordance with the relevant Environment Protection Authority guidelines and including:

§ the identification of impacts associated with construction works, operational emission, and traffic generation at noise affected sensitive receivers, including the provision of operation noise contours and a detailed sleep disturbance assessment;

§ details of noise monitoring surveys, background noise levels, noise source inventory and worst-case noise emission scenarios;

§ consideration of annoying characteristics of noise and prevailing meteorological conditions in the study area;

§ a cumulative impact assessment inclusive of impacts from other nearby existing and future developments;

§ details and analysis of the effectiveness of the proposed management and mitigation measures to adequately manage identified impacts, including a clear identification of residual noise and vibration following application of mitigation these measures and details of any proposed compliance monitoring programs.

Table 1 provides a summary of the SEARs requirements and the locations within this report that they are addressed:

Table 1: SSD-17647189 SEARS requirements

Condition	Section References
§ the identification of impacts associated with construction works, operational emission, and traffic generation at noise affected sensitive receivers, including the provision of operation noise contours and a detailed sleep disturbance assessment;	Sections 5-8 detail the impacts associated with operational emission and traffic generation, including a sleep disturbance assessment Construction work noise is assessed in a separate report (ref: <i>1020168 R02C 884-928 Mamre Road Kempes Creek.docx</i>)
§ details of noise monitoring surveys, background noise levels, noise source inventory and worst-case noise emission scenarios;	Provided in Sections 2-5
§ consideration of annoying characteristics of noise and prevailing meteorological conditions in the study area;	Accounted for in the assessment in Section 8
§ a cumulative impact assessment inclusive of impacts from other nearby existing and future developments;	Accounted for in the assessment in Section 8 in accordance with Industrial Noise Policy
§ details and analysis of the effectiveness of the proposed management and mitigation measures to adequately manage identified impacts, including a clear identification of residual noise and vibration following application of mitigation these measures and details of any proposed compliance monitoring programs.	Provided in Section 9 with regards to operational noise Construction noise and vibration is assessed in a separate report (ref: <i>1020168 R02C 884-928 Mamre Road Kempes Creek CNVMP.docx</i>)

The acoustic assessment considers the cumulative impact of all stages of the proposed development to sensitive receivers in the vicinity of site and concludes that the proposed masterplan for warehouses and logistic hub is predicted to be satisfactory based on the provided recommendations. The review indicates that the current stage proposed of the master plan is considered viable with recommendations provided in Section 12 for the 24 hour operation of the site.

2 Introduction

This report is in response to a request by Altis Property Partners to assess environmental noise impacts associated with the proposed industrial warehousing estate to be located at 884-928 Mamre Road, Kemps Creek. The environmental noise assessment was conducted in accordance with Penrith City Council requirements and the NSW Noise Policy for Industry and the NSW Department of Planning, Industry and Environment's *Secretary's Environmental Assessment Requirements* (SEARs). To facilitate the assessment, unattended noise monitoring was conducted in the vicinity of nearby sensitive receivers to establish the criteria for onsite activities.

3 Site Description

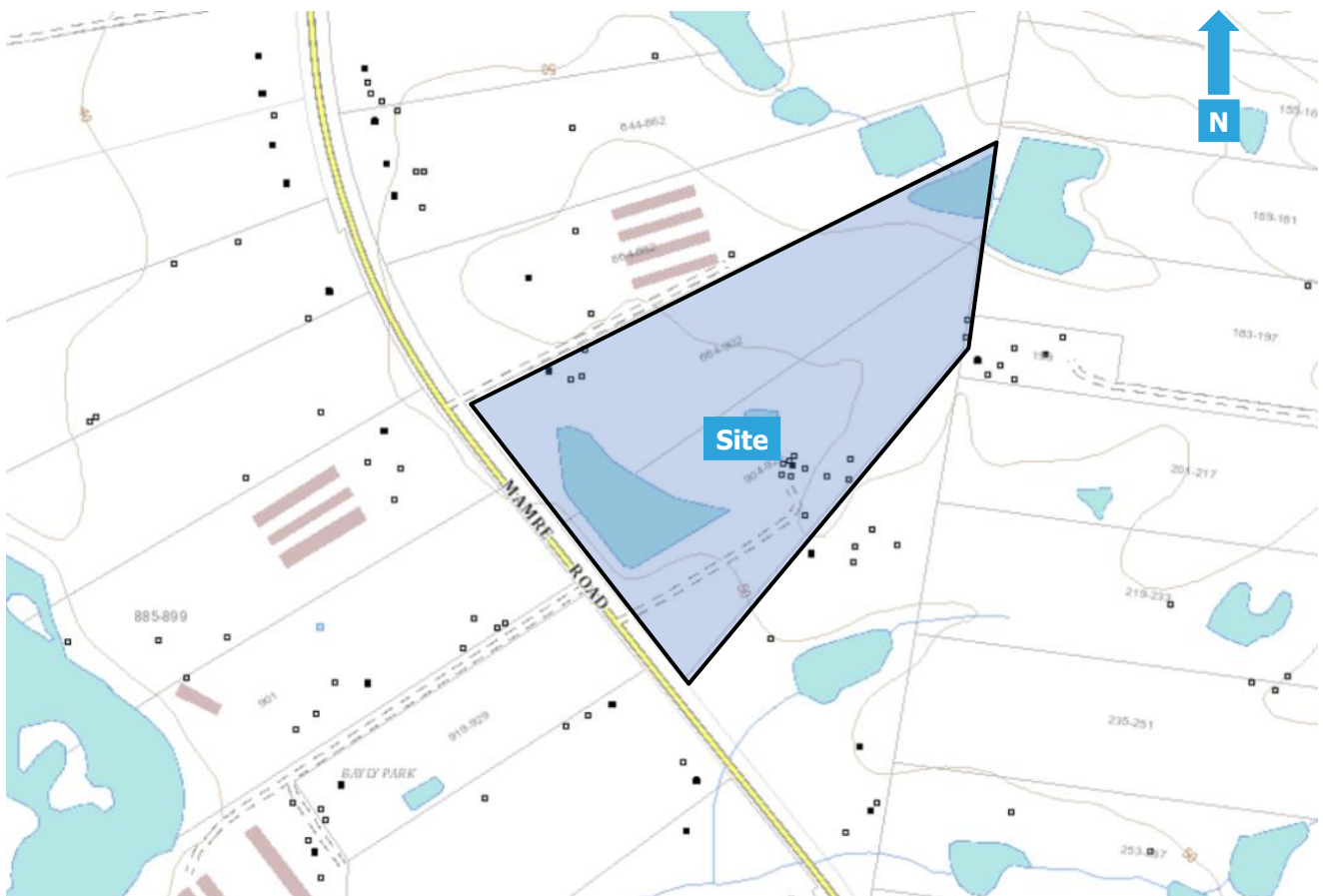
3.1 Site Location

The site is described by the following:

884-928 Mamre Road, Kemps Creek
Lots 52 & 53 on DP259135

Refer to Figure 1 for site location.

Figure 1: Site Location (Not to Scale)



A comprehensive site survey was conducted on the 30th September 2020 which identified the following:

- The site is currently located in IN1 – General Industrial as defined in the State Environmental Planning policy (Western Sydney Employment Area) 2009.
- Residential dwellings currently occupy the site and will be demolished to make way for the development.
- Mamre Road separates the site from residential dwellings and home industries.
- Residential dwellings are located north, east and south of the site.

3.2 Proposal

The proposal seeks to subdivide the property into 16 lots and construct a warehouse/industrial premises with the current plan for the development consisting of the following:

Figure 2: Site Layout



Lot 1

- Lot area of 4,434m²
- Lot reserved for bio-retention

Lot 2

- Lot area of 66,109m².
- Warehouse area of 38,960m² (GLA) and 35,800m² (GFA)
- Office area of 1,800m² (over 2 levels).
- Car Park with 170 car spaces.
- 17 On-grade loading docks and 12 recessed loading docks
- Access via proposed new access road linked to Mamre Road.

Lot 3

- Lot area of 1,450m²
- Land reserved for Mamre Road widening

Lot 5

- Lot area of 6,329m²
- Access via proposed new access road linked to Mamre Road.

Lot 6

- Lot area of 5,803m²
- Access via proposed new access road linked to Mamre Road.

Lot 7

- Lot area of 5,278m²
- Access via proposed new access road linked to Mamre Road.

Lot 8

- Lot area of 4,577m²
- Access via proposed new access road linked to Mamre Road.

Lot 9

- Lot area of 3,203m²
- Access via proposed new access road linked to Mamre Road.

Lot 10

- Lot area of 3,332m²
- Access via proposed new access road linked to Mamre Road.

Lot 11

- Lot area of 3,332m²
- Access via proposed new access road linked to Mamre Road.

Lot 12

- Lot area of 3,816m²
- Access via proposed new access road linked to Mamre Road.

Lot 13

- Lot area of 5,889m²
- Access via proposed new access road linked to Mamre Road.

Lot 14

- Lot area of 6,411m²
- Access via proposed new access road linked to Mamre Road.

Lot 15

- Lot area of 32,722m²
- Developable Area of 32,159m²
- Access via proposed new access road linked to Mamre Road.

Lot 16

- Total lot area of 17,977m² over main lot and Freight corridor easement.
- Developable area of 13,826m²
- Access via proposed new access road linked to Mamre Road.

Note if the site layouts change, further assessment may be required to determine the viability of the development site for 24-hour operation.

3.3 Acoustic Environment

The surrounding area is primarily affected by road traffic from Mamre Road with future development potential impacting sensitive receivers in the future.

4 Equipment

The following equipment was used to record noise levels:

- Rion Environmental Noise Monitors (SN# 00175548 and 00171587)
- Pulsar Model 105 Ltd Sound Calibrator (SN # 57417)

The Environmental Noise Monitors holds current NATA Laboratory Certification and were field calibrated before and after the monitoring period, with no significant drift from the reference signal recorded.

5 Receivers and Noise Monitoring Locations

5.1 Receiver Locations

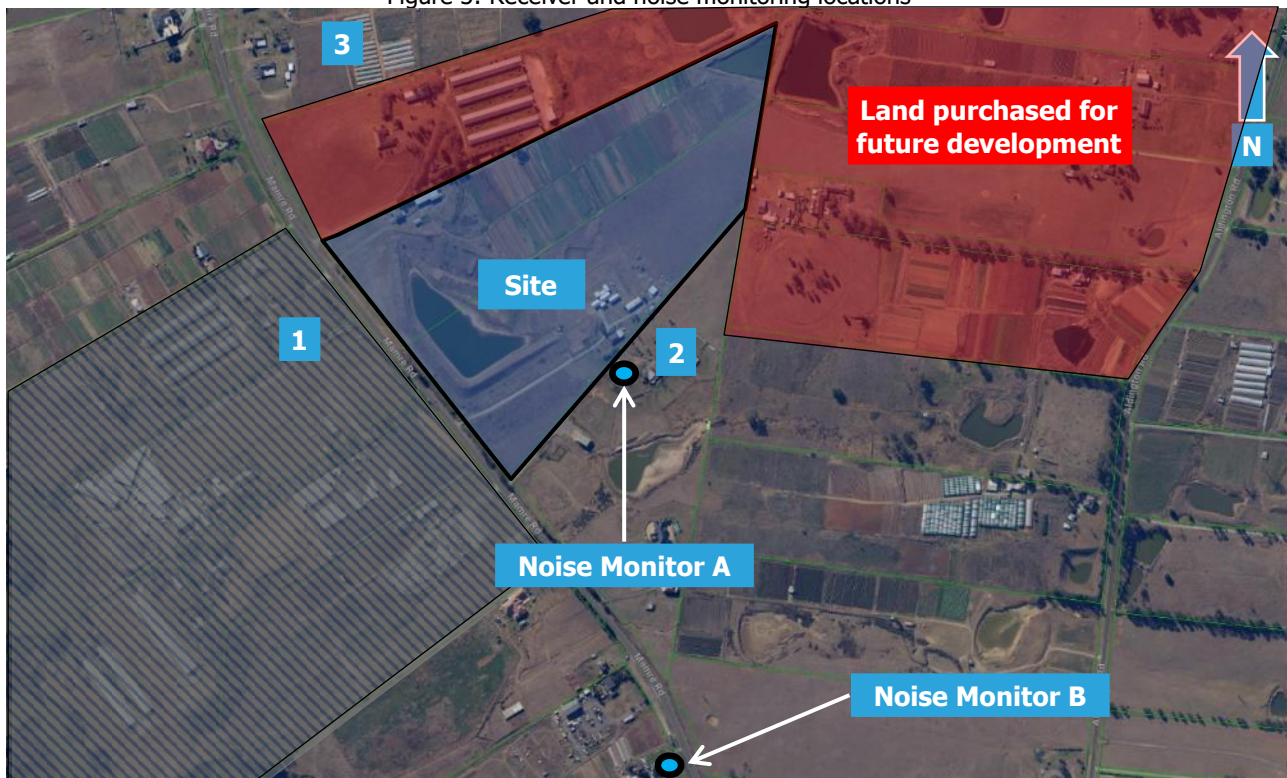
The nearest sensitive receiver locations were identified as follows;

1. Mamre Road separates the site from residential dwellings at 885-899, 901, 917, 919-929 and 931 Mamre Road.
2. A two storey residential dwelling is located adjacent the southern site boundary at 930-966 Mamre Road.
3. A single storey residential dwelling is located to the north of the site at 844-862 Mamre Road.

Land highlighted in red has been purchased for future industrial development with residences on these lots unoccupied, therefore these residences have not been assessed.

These locations were chosen as being representative of the nearest sensitive receivers to the proposed development. Refer to Figure 3 for these locations.

Figure 3: Receiver and noise monitoring locations



5.2 Unattended Noise Monitoring

Rion NL42 and Rion NL52 environmental noise monitors were placed at 930-966 Mamre Road (location A) and 1003 Mamre Road (location B) as shown in Figure 3 to measure existing ambient noise levels. These locations were selected as they were representative of the nearest sensitive residential receivers. The noise monitors were set to record noise levels between 20th to 28th of May 2019 (location A) and 20th to 27th of March 2020 (location B).

The noise monitors were set to "A" weighting, Fast response and 15 minute statistical intervals. The microphones were approximately 1.4 metres above ground level. Ambient noise monitoring was conducted generally in accordance with Australian Standard AS1055 '*Acoustics – Description & Measurement of Environmental Noise*'.

6 Existing background noise levels

The following tables present the measured existing ambient noise levels from the unattended noise survey. Any periods of inclement weather or extraneous noise are omitted from the measured data prior to determining the overall results.

6.1 Meteorological conditions

Meteorological observations during the unattended noise monitoring survey were obtained from the Bureau of Meteorology website (<http://www.bom.gov.au/climate/data>), shown in Table 2 below.

Table 2: Meteorological conditions – Badgerys Creek

Day	Date	Rainfall (mm)	Wind			
			9am		3pm	
			Speed (km/h)	Direction	Speed (km/h)	Direction
Monday	20/05/2019	0	4	ENE	11	N
Tuesday	21/05/2019	0.2	Calm	-	11	NNE
Wednesday	22/05/2019	0	4	NNE	17	E
Thursday	23/05/2019	0	4	SE	9	N
Friday	24/05/2019	0	4	E	9	NNE
Saturday	25/05/2019	0	4	N	7	NNE
Sunday	26/05/2019	0	9	NNW	15	WSW
Monday	27/05/2019	0	17	NNW	33	W
Tuesday	28/05/2019	0	11	W	13	WSW
Friday	20/03/2020	0	-	Calm	-	NW
Saturday	21/03/2020	0	6	S	22	ESE
Sunday	22/03/2020	0	-	Calm	17	BE
Monday	23/03/2020	0	11	SW	2	ESE
Tuesday	24/03/2020	0	6	SSE	11	ENE
Wednesday	25/03/2020	0	4	ENE	17	ESE
Thursday	26/03/2020	27.2	11	WSW	15	SE

6.2 Ambient background noise level

6.2.1 Receivers 2 & 3

The measured rating background noise levels (RBL) were determined in accordance with the NSW Noise Policy for Industry, with levels for the different monitoring locations presented in Table 2.

Table 3: Measured L90 noise levels (Monitor A)

Day	Date	Receivers 2 & 3 (Monitor A)		
		Background L90 dBA		
		Day	Evening	Night
Monday	20/05/2019	x	44.8	38.6
Tuesday	21/05/2019	40.3	44.4	40.4
Wednesday	22/05/2019	42.2	45.4	35.3
Thursday	23/05/2019	40.6	46.1	41.0
Friday	24/05/2019	40.8	46.5	39.9
Saturday	25/05/2019	39.6	42.3	32.8
Sunday	26/05/2019	41.7	40.6	36.8
Monday	27/05/2019	50.4	42.3	34.7
RBL		41	45	38

High wind speeds recorded on Monday 27th May 2019 were found to have affected the measured noise levels during the day time period, therefore the data was omitted from the results.

6.2.2 Receiver 1

The measured rating background noise levels (RBL) were determined in accordance with the NSW Noise Policy for Industry, with levels for the different monitoring locations presented in Table 2.

Table 4: Measured L90 noise levels (Monitor B)

Day	Date	Receiver 1 (Monitor B)		
		Background L90 dBA		
		Day	Evening	Night
Friday	20/03/2020	x	47.2	41.7
Saturday	21/03/2020	45.4	41.5	41.3
Sunday	22/03/2020	43.0	42.4	40.4
Monday	23/03/2020	48.3	46.2	39.8
Tuesday	24/03/2020	46.4	41.7	40.6
Wednesday	25/03/2020	48.3	49.8	43.2
Thursday	26/03/2020	49.8	49.6	39.8
RBL		46	46	41

Heavy rainfall recorded on Thursday 26th March 2020 was found to have affected the measured noise levels during the day time period, therefore the data was omitted from the results.

7 Noise Criteria

The relevant noise criteria was determined in accordance with the Penrith City Council Development Control Plan 2014, State Environmental Planning Policy Western Sydney Employment Area, AS 2021:2015: *Acoustics – Aircraft noise intrusion – Building siting and construction* and the NSW Noise Policy for Industry 2017.

7.1 Mamre Road Precinct Draft DCP 2020

The site is located within the Mamre Road Precinct of the Western Sydney Employment Area, therefore the relevant criteria for environmental noise impacts is contained within the Mamre Road Precinct Draft Development Control Plan (DCP) 2020 policies with Section 4.3 referenced. The document states that:

"Controls

- 1) Any machinery or activity considered to produce noise emissions from a premise shall be adequately sound-proofed so that noise emissions are in accordance with the provisions of the Protection of the Environment Operations Act 1997.*
- 2) The use of Mechanical Plant and equipment may be restricted in areas close to sensitive receivers such as adjoining rural residential development. Developers in all areas should ensure through design of their development that no offensive noise is emitted.*
- 3) Where it is considered likely that a development may cause an adverse impact on nearby rural or residential areas, an acoustic report from a qualified acoustical engineer will be required to be submitted for consideration with the development application. The acoustic report will need to demonstrate that the proposed development will not create any adverse impact.*
- 4) All development shall comply with the requirements of relevant Australian Standards and State Government policies and guidelines relating to noise.*

Erection of Buildings

- 5) An acoustic report shall be required for developments that are likely to generate high noise levels and for development within 500m of residential areas and other sensitive noise receivers, including seniors housing, places of public worship and educational establishments. The acoustic design report should refer to the relevant Australian Standards and State Government policies and guidelines relating to noise.*
- 6) If an acoustic report is not required at the development application stage, conditions will be imposed as part of the development consent which requires compliance with the relevant Australian Standards and State Government policies and guidelines relating to noise. Applicants must have regard to the criteria and demonstrate a standard of acoustic treatment for the building to comply with such criteria.*
- 7) It is essential that potential developers investigate noise amelioration features to be included in building design which will assist in achieving compliance with Council's acoustic criteria. Having regard to the surrounding topography, it is critical that the roof element of all buildings be acoustically capable of controlling potential breakout noise."*

As no specific acoustic criteria are nominated, reference is made to other applicable Australian Standards and State Government policies.

7.2 State Environmental Planning Policy Western Sydney Employment Area 2009

Clauses 23 and 33D of the State Environmental Planning Policy for Western Sydney Employment Area 2009 state the following in relation to noise:

"Clause 23

(2) The consent authority must not grant consent to development on land to which this clause applies unless it is satisfied that –

(d) noise generation from fixed sources or motor vehicles associated with the development will be effectively insulated or otherwise minimised, and

(e) the development will not otherwise cause nuisance to residents, by way of hours of operation, traffic movement, parking, headlight glare, security lighting or the like.

Clause 33D

(3) Before determining a development application for development to which this clause applies, the consent authority—

(a) must consider whether the development will result in an increase in the number of dwellings or people affected by aircraft noise, and

(b) must consider the location of the development in relation to the criteria set out in Table 2.1 (Building Site Acceptability Based on ANEF Zones) in AS 2021:2015, and

(c) must be satisfied that the development will meet the indoor design sound levels set out in Table 3.3 (Indoor Design Sound Levels for Determination of Aircraft Noise Reduction) in AS 2021:2015."

Further reference is made to AS 2021:2015: *Acoustics – Aircraft noise intrusion – Building siting and construction*.

7.2.1 AS 2021:2015 *Acoustics – Aircraft Noise Intrusion – Building siting and construction*

With regard to requirement 3b of SEPP WSEA 2009 Clause 33D, Table 2.1 of AS 2021:2015 specifies the following requirements for building siting in relation to ANEF contours:

Table 5: Building Siting in relation to Aircraft noise

Building type	ANEF zone of site		
	Acceptable	Conditionally acceptable	Unacceptable
Light industrial	Less than 30 ANEF	30 to 40 ANEF	Greater than 40 ANEF
Other industrial	Acceptable in all ANEF zones		

Table 3.3 of AS 2021:2015 sets limits for noise intrusion when a new development is located in an area within the ANEF (Aircraft Noise Exposure Forecast) contours of 20-25 or 25-30:

Table 6: Indoor sound design levels for aircraft noise

Building type and activity	Indoor design sound level dB(A)
Commercial buildings, offices and shops	
Drafting, open offices	65
Industrial	
Inspection, analysis, precision work	75
Light machinery, assembly, bench work	80

Part of the site is located within the 25-30 ANEF Contours for Western Sydney Airport, with the remainder located within the 20-25 contour. Therefore, the development satisfies requirement 3b (30 ANEF) of Clause 33D of SEPP WSEA 2009. As a requirement 3c makes reference to Table 3.3, therefore site requires assessment to determine compliance with the indoor sound design levels specified in Table 6.

7.3 Noise Policy for Industry

Assessment of noise in accordance with NSW EPA Noise Policy for Industry (2017) has two main components: intrusiveness and amenity criteria. These are compared to each other (after conversion of amenity noise level to $L_{Aeq,15min}$ equivalent level) to determine the overall project noise trigger level.

7.3.1 Intrusiveness noise level

The intrusiveness noise level is based on the $L_{Aeq (15 min)}$ associated with commercial activity being less than or equal to the measured L_{A90} Rating Background Level + 5dB as per section 2.3 of the policy. A modifying factor should also be added where appropriate to allow for tonality, impulsiveness, and intermittency or low frequency effects.

7.3.2 Amenity noise level

The amenity noise level is determined in accordance with Section 2.4 of the policy based on the land use and relevant noise criteria specified in Tables 2.2 and 2.3.

The Noise Policy for Industry sets out acceptable noise levels for various locations. Determination of which residential receiver category applies is described in Table 2.3 of the policy.

Table 7: Receiver category (Table 2.3 of the Noise Policy for Industry)

Receiver category	Typical planning zoning – standard instrument	Typical existing background noise levels	Description
Rural residential	RU1 – primary production RU2 – rural landscape RU4 – primary production small lots R5 – large lot residential E4 – environmental living	Daytime RBL <40 dB(A) Evening RBL <35 dB(A) Night RBL <30 dB(A)	Rural – an area with an acoustical environment that is dominated by natural sounds, having little or no road traffic noise and generally characterised by low background noise levels. Settlement patterns would be typically sparse. Note: Where background noise levels are higher than those presented in column 3 due to existing industry or intensive agricultural activities, the selection of a higher noise amenity area should be considered.
Suburban residential	RU5 – village RU6 – transition R2 – low density residential R3 – medium density residential E2 – environmental conservation E3 – environmental management	Daytime RBL <45 dB(A) Evening RBL <40 dB(A) Night RBL <35dB(A)	Suburban – an area that has local traffic with characteristically intermittent traffic flows or with some limited commerce or industry. This area often has the following characteristic: evening ambient noise levels defined by the natural environment and human activity.
Urban residential	R1 – general residential R4 – high density residential B1 – neighbourhood centre (boarding houses and shop-top housing)	Daytime RBL > 45 dB(A) Evening RBL > 40 dB(A)	Urban – an area with an acoustical environment that: is dominated by 'urban hum' or industrial source noise, where urban hum means the aggregate sound of many

Receiver category	Typical planning zoning – standard instrument	Typical existing background noise levels	Description
	B2 – local centre (boarding houses) B4 – mixed use	Night RBL >35 dB(A)	unidentifiable, mostly traffic and/or industrial related sound sources • has through-traffic with characteristically heavy and continuous traffic flows during peak periods • is near commercial districts or industrial districts • has any combination of the above.

To determine the appropriate receiver category, the following observations were made:

- Residential receivers are zoned IN1 – General Industrial.
- The surrounding acoustical environment consists of through traffic with characteristically heavy and continuous traffic during peak periods, and is located near industrial districts, corresponding to the description of the urban category.
- The measured ambient noise levels presented in Section 6.2 correspond to the typical RBLs of the urban category.

Therefore all receivers would be assessed against the urban amenity criteria.

7.3.3 Amenity noise levels in areas of high traffic

Areas affected by a certain level of traffic noise may be high enough to make noise from an industrial source effectively inaudible. In such cases the project amenity noise level may be derived from the $L_{Aeq, period}$ minus 15 dBA on the condition all of the following apply:

- Traffic noise is identified as the dominant noise source at the site.
- The existing traffic noise level is 10 dB or more above the recommended amenity noise level for the area.
- It is highly unlikely traffic noise levels will decrease in the future.

Applicability is to be determined for each assessment period.

7.3.4 Modifying factors

The Noise Policy for Industry includes correction factors such as tonal noise, low-frequency noise, intermittent noise and duration. Where two or more modifying factors are present, the maximum adjustment to a noise source level is 10dBA (excluding duration correction).

7.4 Project noise trigger level

To determine the project trigger noise level, the amenity noise level must first be standardised to an equivalent $L_{Aeq, 15min}$ in order to compare to the intrusiveness noise level. This is done in accordance with Sections 2.2 and 2.4 of the policy as follows;

$$L_{Aeq, 15min} = L_{Aeq, period} + 3dB$$

To ensure that industrial noise levels (existing plus new) remain within the recommended amenity noise levels for an area, a project amenity noise level applies for each new source of industrial noise.

Therefore, based on the measured data presented in Section 5.2, the project specific noise limits are determined.

7.4.1 Amenity noise levels in areas near an existing or proposed cluster of industry

To account for impacts from multiple industrial noise sources to sensitive receivers near an existing or proposed cluster of industry, the following equation can be used to determine the project amenity level for an individual project:

$$\text{Individual project amenity noise level} = 10\log(10^{(\text{ANL}-5\text{dB}/10)}/N)$$

Where

ANL = relevant recommended amenity noise level

N = number of proposed additional premises

Where it can be demonstrated that existing levels of industrial noise are more than 5dB below the relevant recommended amenity noise level, the formula can be modified as shown below:

$$\text{Individual project amenity noise level} = 10\log(10^{(\text{ANL}/10)}/N)$$

No industrial noise sources are currently operating in the vicinity of the nearest receivers, therefore existing industrial noise levels are more than 5dB below the relevant recommended amenity noise level and the modified formula would apply.

To determine the cumulative criteria for the proposed development, the following must be considered:

- Each masterplan development will undertake calculation to account for the cumulative (combined) noise impacts from onsite activities associated with their development including all individual lots within the site to sensitive receivers. The assessment takes into account the cumulative effect of the development without the need to adjust the amenity criteria for the masterplan development individual lots.
- The surrounding area may be considered as a greenfield area, with individual developments in the surrounding area comprised of multiple lots for each Development Application. Each assessment when assessed by the acoustic engineer will combined all noise sources from the lots within the development site to determine the noise impacts, therefore accounting for the cumulative effect of their development regardless of the number of lots proposed within the site.
- Therefore, to determine the cumulative criteria, we need to consider the potential number of development sites, not the individual warehouses located within each development to calculate any adjustments to the criteria.
- The combined noise impacts from each development takes into account the cumulative effect regardless of how many warehouse/buildings are located within the development site, the analysis includes all noise impacts occurring simultaneously in the analysis. Therefore, to calculate the adjustment for the cumulative criteria, consideration is required based on the number of developments in proximity to the receiver, not individual buildings.
- Once the cumulative criteria has been established using the above method, if individual assessment for buildings within the development site are undertaken, then the cumulative criteria must be adjusted. You cannot use the same cumulative criteria used for the masterplan for a single building within the site, adjustment to the criteria must account for

the number of building/lots within the site to ensure the individual building/lot assessment complies with the criteria. This means the cumulative criteria must be adjusted based on the number of lots within the development site to ensure the overall site still complies with the criteria used for the masterplan assessment.

Based on the review of the area, there is the potential for up to 5 masterplan development sites to impact the immediate receivers considered in this assessment. This number will increase for receivers located at greater distances, but it should also be understood that noise from the sites will be further attenuated due to screening and increased separation distances, making noise impacts from the sites imperceptible.

7.4.2 Sleep disturbance noise level

Sleep disturbance is based on the maximum noise level of events from premises during the night-time period. The Noise Policy for Industry defines sleep disturbance as a noise from a premise at a residential location that exceeds:

- LAeq,15min 40 dB(A) or the prevailing RBL plus 5 dB, whichever is the greater, and/or
- LAFmax 52 dB(A) or the prevailing RBL plus 15 dB, whichever is the greater,

7.4.3 Intrusiveness noise criteria

The intrusiveness noise levels are as follows;

Table 7: Intrusiveness noise levels

Time period	Receiver 1	Receivers 2 & 3
	Criteria L _{eq} (15min) dB(A)	Criteria L _{eq} (15min) dB(A)
Day (7am-6pm Mon-Sat; 8am-6pm Sun)	51	46
Evening (6pm-10pm)	51	50
Night (10pm-7am Sun-Fri, 10pm-8am Sat)	46	43

7.4.4 Amenity criteria

Based on Section 2.4 of the policy with adjustment for additional proposed industrial premises, the amenity noise levels are as follows;

Table 8: Amenity noise levels

Time period	Receiver 1 to 3	
	Recommended Urban Amenity Criteria L _{eq} (period) dBA	Adjusted Criteria L _{eq} (15min) dB(A)
Day	60	56*
Evening	50	46*
Night	45	41*

Note: in accordance with Sections 2.2 and 2.4 of the policy, a +3dBA correction was added to convert L_{Aeq,period} to L_{Aeq,15min}.

7.4.5 Project specific noise criteria

The project noise trigger level is the lower (that is, the most stringent) value of the intrusiveness and amenity noise levels. Therefore the project noise trigger levels are as follows:

Table 9: Project criteria

Time period	Receiver 1	Receivers 2 & 3
	Criteria $L_{eq}(15min)$ dB(A)	Criteria $L_{eq}(15min)$ dB(A)
Day	51	46
Evening	46	46
Night	41	41

7.4.6 Sleep disturbance

The sleep disturbance noise levels are as follows;

Table 10: Sleep disturbance criteria

Time period	Receiver 1		Receivers 2 & 3	
	Criteria $L_{eq}(15min)$ dBA	Criteria L_{AFmax} dBA	Criteria $L_{eq}(15min)$ dBA	Criteria L_{AFmax} dBA
Night	46	56	43	53

7.5 NSW Road Noise Policy 2011

The NSW Road Noise Policy outlines the criteria for any increase in the total traffic noise level at the location due to a proposed project or traffic generating development. Therefore the following criteria applies:

Table 11: Road traffic noise assessment criteria for residential land uses

Road Category	Type of project/development	Total traffic noise level – dB(A)	
		Day (7am to 10pm)	Night (10pm to 7am)
Freeway/arterial/sub-arterial roads and transitways	Existing Residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments	$L_{Aeq,15hour}$ 60 (external)	$L_{Aeq,9hour}$ 55 (external)

In addition to the assessment criteria outlined in Tables 3-5 of the NSW Road Noise Policy, any increase in the total traffic noise level at a location due to a proposed project or traffic-generating development must be considered. Residences experiencing increases in total traffic noise level above the relative increase criteria in Table 6 of the policy should also be considered for mitigation as described in Section 3.4 of the policy. Table 6 of the Road Noise Policy is presented below:

Table 12: Relative increase criteria for residential land uses

Road Category	Type of project/development	Total traffic noise level increase – dB(A)	
		Day (7am to 10pm)	Night (10pm to 7am)
Freeway/arterial/sub-arterial roads and transitways	New road corridor/redevelopment of existing road/land use development with the potential to generate additional traffic on existing road	Existing traffic $L_{Aeq(15hr)} + 12dB$ (external)	Existing traffic $L_{Aeq(9hr)} + 12dB$ (external)

For other existing sensitive land uses (as outlined in Table 4 of the policy) the relative increase criteria should be applied to the respective $L_{Aeq,period}$ for that land use type, except for open space. For projects where the main subject is a local road, the relative increase criterion does not apply.

7.6 Assessing Vibration: A Technical Guideline 2006

7.6.1 Types of vibration

There are three types of vibration as classified in the guide;

- Continuous - vibration continues uninterrupted for a defined period (usually throughout daytime and/or night-time). This type of vibration is assessed on the basis of weighted RMS (root mean squared) acceleration values.
- Impulsive - rapid build up to a peak followed by a damped decay that may or may not involve several cycles. The duration is short, typically less than 2 seconds. Impulsive vibration (no more than three occurrences in an assessment period) is assessed on the basis of acceleration values.
- Intermittent - interrupted periods of continuous (e.g. a drill) or repeated periods of impulsive vibration (e.g. a pile driver), or continuous vibration that varies significantly in magnitude. Assessed on the basis of vibration dose values.

7.6.2 Acceptable values for continuous and impulsive vibration (1-80Hz)

The relevant criteria for continuous and impulsive vibration are as follows;

Table 13: Preferred weighted RMS vibration acceleration values

Type	Location	Assessment period	Preferred values m/s ²		Maximum values m/s ²	
			z-axis	x- and y-axes	z-axis	x- and y-axes
Continuous vibration	Critical areas	Day or night time	0.005	0.0036	0.01	0.0072
	Residences	Day time	0.01	0.0071	0.02	0.014
		Night time	0.007	0.005	0.014	0.01
	Offices, schools, educational institutions and places of worship	Day or night time	0.02	0.014	0.04	0.028
	Workshops	Day or night time	0.04	0.029	0.08	0.058
Impulsive vibration	Critical areas	Day or night time	0.005	0.0036	0.01	0.0072
	Residences	Day time	0.3	0.21	0.6	0.42
		Night time	0.1	0.071	0.2	0.14
	Offices, schools, educational institutions and places of worship	Day or night time	0.64	0.46	1.28	0.92
	Workshops	Day or night time	0.64	0.46	1.28	0.92

7.6.3 Acceptable values for intermittent vibration

Intermittent vibration is assessed using the vibration dose value (VDV) root-mean-quad method. VDV accumulates the vibration energy received over the daytime and night-time periods. The vibration dose methodology is as per standard BS 6472–1992.

8 Environmental Assessment

8.1 Onsite activities

Noise associated with the development was assessed based on previous measurements of similar activities. The calculations assume that the nominated activities are located at a representative distance within the development site to each receiver location. Any relevant shielding or building transmission loss is taken into account for these activities, with building heights assumed to be 14.6 metres. For a conservative assessment of noise-enhancing meteorological conditions, noise modelling included a 3m/s downwind source-to-receiver component for all receivers in accordance with Fact Sheet D of the Noise Policy for Industry (2017).

Each lot was modelled individually, with the cumulative $L_{Aeq,15min}$ from all lots and activities on the subdivision compared against the project-specific noise criteria.

As no building layout was available for Lots 5-16, an indicative layout was assumed based on layouts of similar developments and discussions with the architect. Figure 4 presents the assumed layout

Figure 4: Assumed Warehouse Layout



8.1.1 Itemised Noise Sources – Warehouse Activities

Each lot was modelled individually utilising the sound power levels, event durations, and L_{Amax} values shown in Table 14. Lots are characterised as large, medium or small based on area, with the categorisation illustrated in the table.

Table 14: Itemised Noise Sources (Warehouse Activities)

Sources					
1. Lots 2 & 15 (Large) 2. Lots 13, 14 & 16 (Medium) 3. Lots 5-12 (Small)		Corrected Lw (Leq) dB(A)	LwMax dB(A)	Duration per event (s)	
Description					
1	Truck passby	91	95	30	
	Truck reverse alarm	99	103	30	
	Truck air brakes	112	114	1	
	Truck door closing	96	98	2	
	Truck starting	102	105	2	
	Truck idle	95	97	30	
	Forklift reverse	102	106	10	
	Forklift unloading	92	95	240	
	Forklift passby	100	104	10	
	Car door closure	85	88	2	
	Car passby	77	80	15	
	Car start	84	88	2	
	Voice conversation	78	81	900	
	2	Truck 6T idle	93	97	30
Truck 6T passby		89	93	30	
Truck reverse alarm		99	96	30	
Truck air brakes		112	112	1	
Truck door closing		96	94	2	
Truck starting		102	104	2	
Forklift reverse		102	100	10	
Forklift unloading		92	94	240	
Forklift passby		100	103	10	
Car door closure		85	86	2	
Car passby		77	81	15	
Car start		84	85	2	
Voice conversation		78	81	900	
3		Truck 6T idle	93	97	30
	Truck 6T passby	89	93	30	
	Truck reverse alarm	99	96	30	
	Truck air brakes	112	112	1	
	Truck door closing	96	94	2	
	Truck starting	102	104	2	
	Forklift reverse	102	100	10	
	Forklift unloading	92	94	240	
	Forklift passby	100	103	10	
	Car door closure	85	86	2	
	Car passby	77	81	15	
	Car start	84	85	2	
	Voice conversation	78	81	900	

8.1.2 Itemised Noise Sources – Mechanical Plant

Mechanical Plant information was not available at the time of writing, therefore indicative noise levels were modelled based on previous measurements of mechanical plant from similar developments, with the sound power levels presented in Table 15.

Table 15: Itemised Noise Sources (Mechanical Plant)

	Description	Corrected Lw (Leq) dB(A)	LwMax dB(A)	Duration per event (s)
	Lot 2 Plant Deck	77	80	900
	Lot 5 Plant Deck	77	80	900
	Lot 6 Plant Deck	77	80	900
	Lot 7 Plant Deck	77	80	900
	Lot 8 Plant Deck	77	80	900
	Lot 9 Plant Deck	77	80	900
	Lot 10 Plant Deck	77	80	900
	Lot 11 Plant Deck	77	80	900
	Lot 12 Plant Deck	77	80	900
	Lot 13 Plant Deck	77	80	900
	Lot 14 Plant Deck	77	80	900
	Lot 15 Plant Deck	77	80	900
	Lot 16 Plant Deck	77	80	900

8.1.3 Itemised Noise Sources – Access Road

The Access Road to the site was modelled separately from the lots, with sound power levels provided in Table 16.

Table 16: Itemised Noise Sources (Access Road)

	Description	Corrected Lw (Leq) dB(A)	LwMax dB(A)	Duration per event (s)
1	Truck 6T passby	89	93	30
	Truck passby	91	94	30
	Car passby	77	81	30

8.2 Environmental Noise Assessment & Sleep Disturbance

The overall noise levels at the receiver locations (including weather corrections for 3m/s wind in the direction of each receiver) are shown in Table 17. LAeq results are not shown where the calculated total is less than 0dBA.

Noise impacts from each lot were calculated individually at each receiver, with the overall $L_{Aeq,15min}$ noise levels calculated by summing the noise impacts from all lots for each receiver. The L_{Amax} levels presented in Table 17 are the highest L_{Amax} levels from each lot at the relevant receiver.

Individual calculations for each lot are presented in the Appendices.

Table 17: Predicted combined environmental Noise from All lots.

	Receivers 1. 885-899, 901, 917, 919-929 & 931 Mamre Rd (W) 2. 930-966 Mamre Rd (S) 3. 844-862 Mamre Rd (N)	Noise Impact at Receiver							
		L _{Aeq} adj,15min dB(A) Day	L _{Aeq} adj,15min dB(A) Eve	L _{Aeq} adj,15min dB(A) Night	L _{Amax} dB(A) Night	L _{Aeq} 15 min Compliance			Sleep Disturbance
						Day	Eve	Night	
Description									
1	Criteria					51	46	41	56
	Lot 2	41	39	36	48	Yes	Yes	Yes	Yes
	Lot 5	26	25	21	41	Yes	Yes	Yes	Yes
	Lot 6	25	24	20	40	Yes	Yes	Yes	Yes
	Lot 7	24	23	19	40	Yes	Yes	Yes	Yes
	Lot 8	23	23	18	39	Yes	Yes	Yes	Yes
	Lot 9	26	26	21	42	Yes	Yes	Yes	Yes
	Lot 10	27	26	22	43	Yes	Yes	Yes	Yes
	Lot 11	27	27	22	43	Yes	Yes	Yes	Yes
	Lot 12	27	27	22	42	Yes	Yes	Yes	Yes
	Lot 13	28	27	22	41	Yes	Yes	Yes	Yes
	Lot 14	28	27	23	40	Yes	Yes	Yes	Yes
	Lot 15	28	27	23	40	Yes	Yes	Yes	Yes
	Lot 16	23	22	18	35	Yes	Yes	Yes	Yes
	Mechanical	32	33	33	33	Yes	Yes	Yes	Yes
	Access Road	44	42	38	44	Yes	Yes	Yes	Yes
	Total	46	45	41		Yes	Yes	Yes	
2	Criteria					46	46	41	53
	Lot 2	40	37	34	53	Yes	Yes	Yes	Yes
	Lot 5	30	29	27	42	Yes	Yes	Yes	Yes
	Lot 6	28	28	23	44	Yes	Yes	Yes	Yes
	Lot 7	28	27	23	44	Yes	Yes	Yes	Yes
	Lot 8	27	27	22	43	Yes	Yes	Yes	Yes
	Lot 9	33	32	30	46	Yes	Yes	Yes	Yes
	Lot 10	34	33	28	49	Yes	Yes	Yes	Yes
	Lot 11	37	36	32	51	Yes	Yes	Yes	Yes
	Lot 12	34	34	30	52	Yes	Yes	Yes	Yes
	Lot 13	34	34	30	53	Yes	Yes	Yes	Yes
	Lot 14	31	30	25	45	Yes	Yes	Yes	Yes
	Lot 15	35	34	30	48	Yes	Yes	Yes	Yes
	Lot 16	35	34	30	43	Yes	Yes	Yes	Yes
	Mechanical	30	30	30	27	Yes	Yes	Yes	Yes
	Access Road	38	36	32	42	Yes	Yes	Yes	Yes
	Total	46	45	41		Yes	Yes	Yes	
3	Criteria					46	46	41	53
	Lot 2	33	32	29	41	Yes	Yes	Yes	Yes
	Lot 5	27	26	22	40	Yes	Yes	Yes	Yes
	Lot 6	26	25	21	39	Yes	Yes	Yes	Yes
	Lot 7	25	24	20	39	Yes	Yes	Yes	Yes
	Lot 8	25	24	19	39	Yes	Yes	Yes	Yes
	Lot 9	23	22	18	38	Yes	Yes	Yes	Yes
	Lot 10	23	22	18	38	Yes	Yes	Yes	Yes
	Lot 11	22	22	17	37	Yes	Yes	Yes	Yes
	Lot 12	22	21	17	36	Yes	Yes	Yes	Yes
	Lot 13	25	24	19	37	Yes	Yes	Yes	Yes
	Lot 14	26	25	20	38	Yes	Yes	Yes	Yes
	Lot 15	29	28	23	41	Yes	Yes	Yes	Yes
	Lot 16	24	23	19	35	Yes	Yes	Yes	Yes
	Mechanical	29	29	29	20	Yes	Yes	Yes	Yes
	Access Road	30	29	24	31	Yes	Yes	Yes	Yes
	Total	39	38	35		Yes	Yes	Yes	

Compliance is predicted for all onsite activities at the receiver locations during the proposed operating hours on the condition the recommendations detailed in Section 12 are implemented.

9 Vibration Predictions

Potential vibration and acceleration impacts were assessed to determine typical levels within a set distance of the activity to the receiver with a maximum combined Peak Particle Velocity of level less than 1mm/s predicted based on the equipment in operation. The level of impact may change depending on the ground composition, example stone/rock or concrete will allow higher levels of ground vibration than soft soil. It is recommended a strict management plan is implemented to allow a proactive approach to addressing complaints including vibration monitoring of activities if complaints are received.

After review of the proposal in relation to vibration impacts, we provide the following recommendations:

- The surrounding residential receivers located in proximity to the site are separated from the roads and site by soil, with reasonable separation distances from onsite activities and local roads. The human exposures and Peak Particle levels are predicted to be below the criteria nominated in section 7.6 with no further treatments required.
- The surrounding lots within the development are predicted to comply with the criteria based on the proposed warehousing activities. Note if vibrating plant is proposed within the development then individual assessment is recommended of the equipment to determine minimum treatment requirements.
- If compliant are received for onsite activities from any of the sensitive receiver we recommend that compliance monitoring is undertaken as detailed in Section 12.3.

10 Road Traffic Noise

The existing annual average daily traffic volume for Mamre Road is approximately 20,000 vehicles per day. The traffic impact report prepared by Ason Group (ref: 1509r03 dated 30/06/2021) predicts the development to generate an additional 973 daily vehicle trips.

Existing Road Traffic Noise levels already exceed the NSW Road Noise Policy criteria at nearby receivers. The traffic generated by the development is predicted to result in a noise increase of less than 1dB. Therefore, traffic noise generated by the development is predicted to be negligible.

For a visual representation of the existing and predicted road traffic noise levels, refer to

Figure 5: Existing $L_{Aeq,15h}$ noise levels

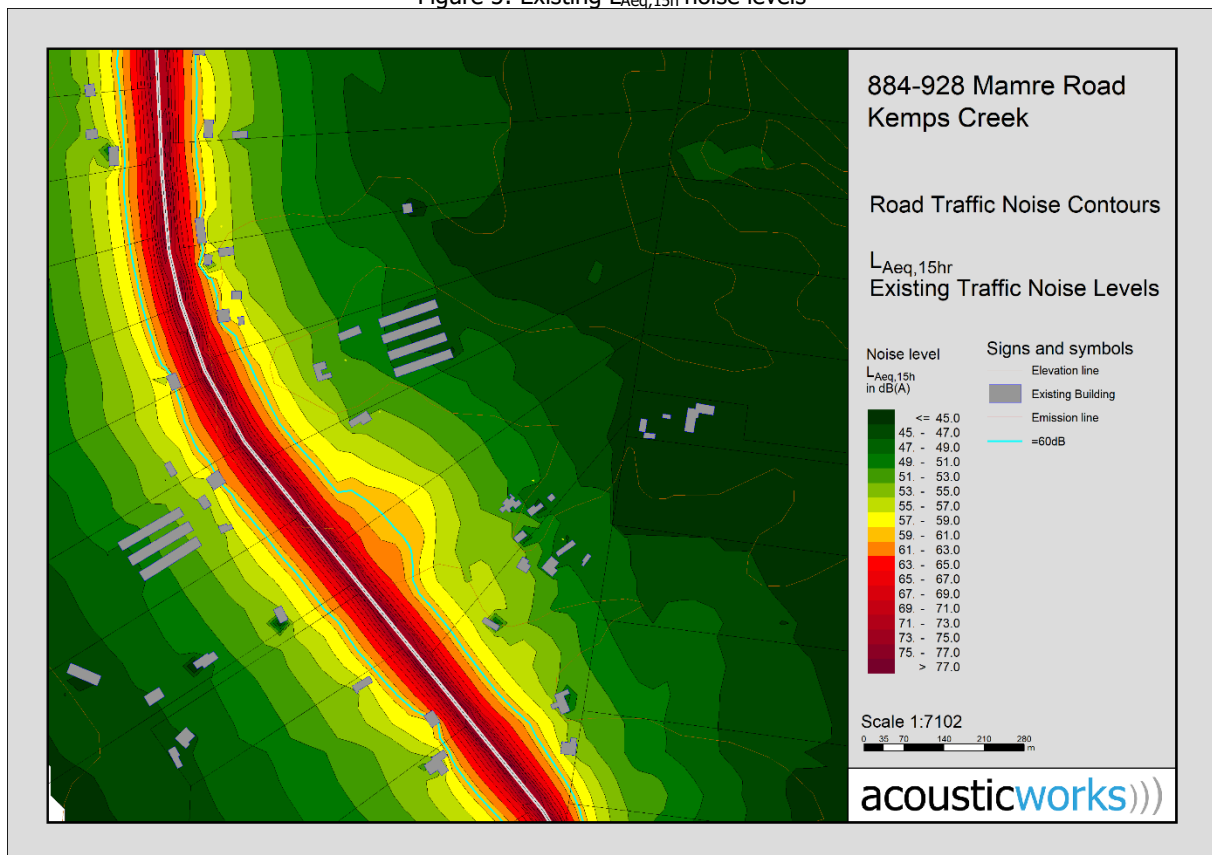


Figure 6: Existing $L_{Aeq,9h}$ noise levels

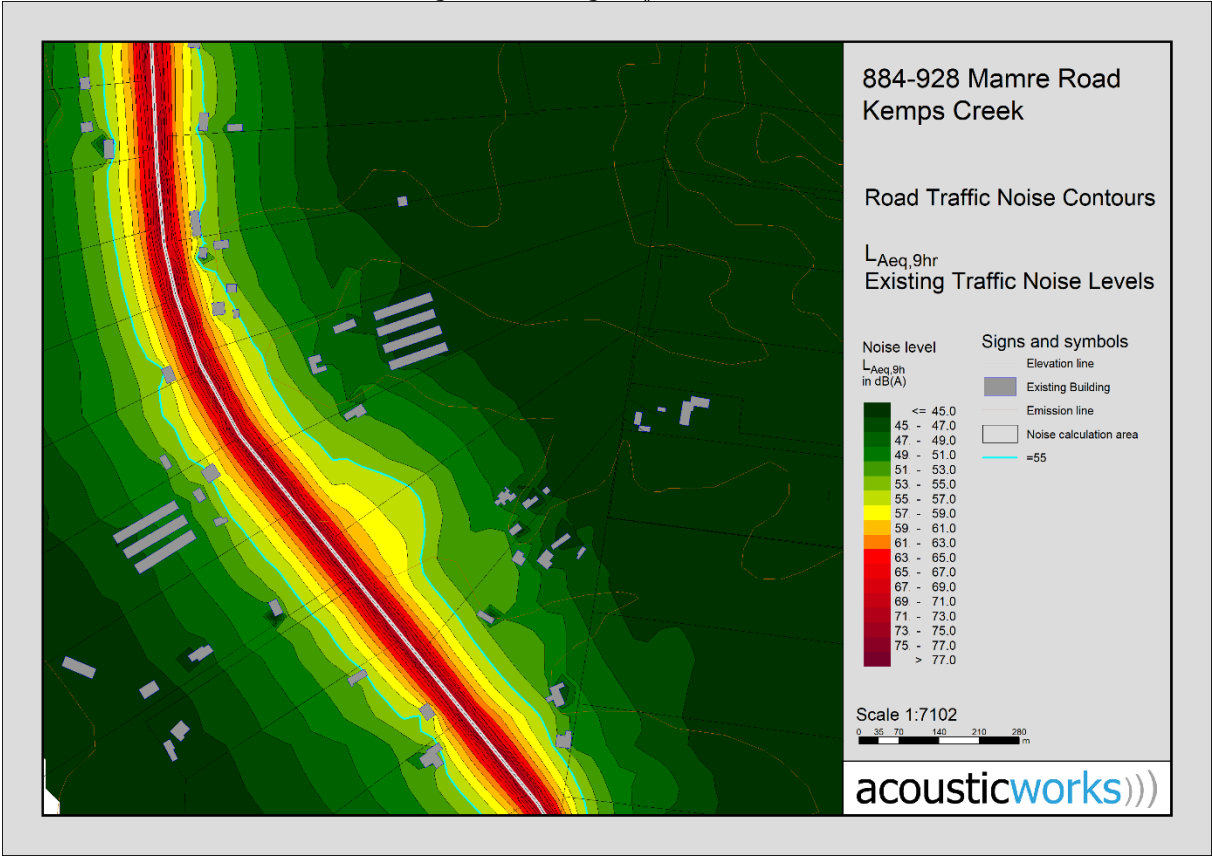


Figure 7: Predicted $L_{Aeq,15h}$ noise levels

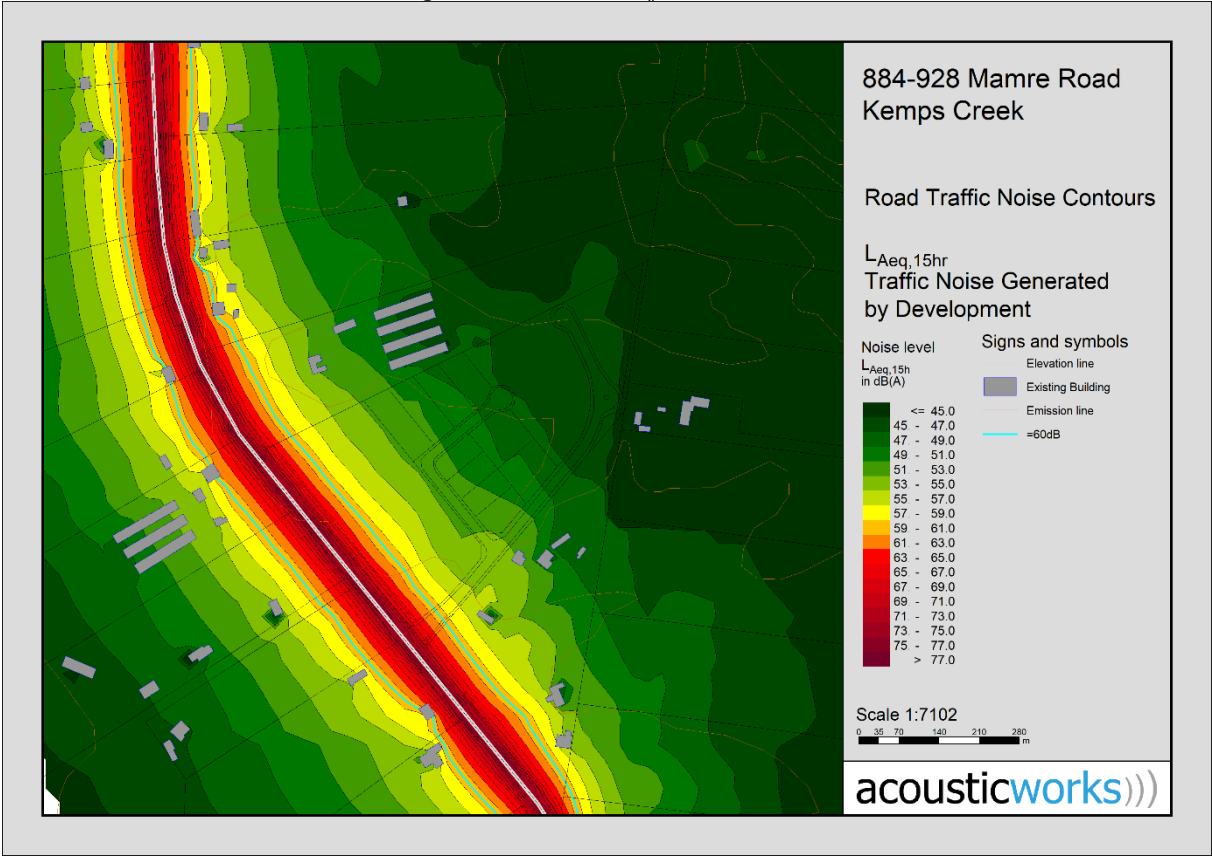
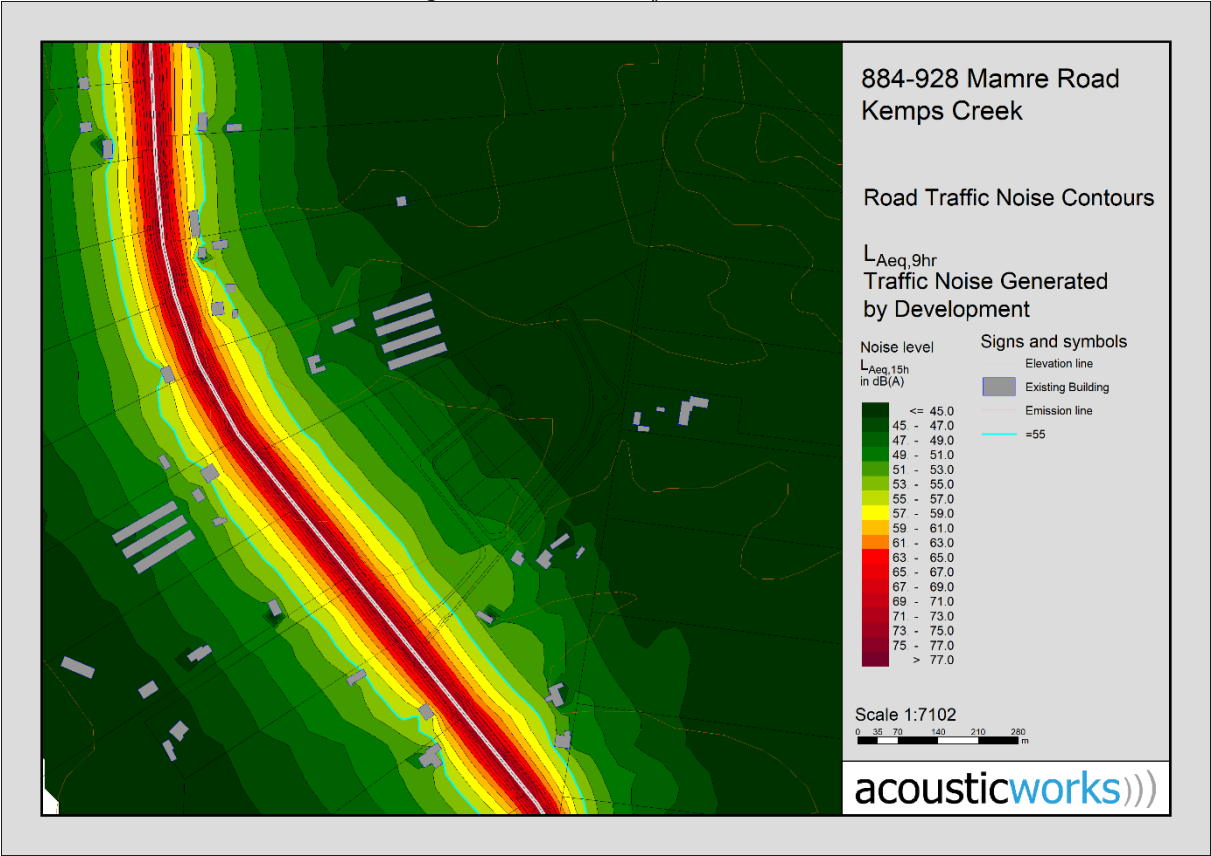


Figure 8: Predicted $L_{Aeq,9h}$ noise levels



11 Aircraft Noise Assessment

11.1 Site location

The site is located within the indicative 20-25 and 25-30 ANEF contours for Western Sydney Airport. The following dimensions have been determined in accordance with AS2021:2015;

Table 18: Site coordinates runway

Description	Dimension (m)
DS, sideline distance	20
DL, landing distance	5843
DT, takeoff distance	9543
HS, elevation of site	62
HA, elevation of airport	80

11.2 Aircraft noise levels – AS2021:2015

Using the site coordinates, the noise levels for the various types of aircraft are calculated in

Table 19: Aircraft noise levels – AS2021:2015 Runway 16R/34L

Model	Representative aircraft	Noise level dBA L _{max} (slow)	
		Departure	Arrival
A319-115	Airbus A319-131	69	73
A320-231	Airbus A320-232	68	73
A321-231	Airbus A321-232	71	75
A330-202	Airbus A330-301	78	77
A330-303	Airbus A330-301	78	77
A340-642	Airbus A340-642	75	79
A380-842 (Short haul)	Airbus A380-841 (Short haul)	73	77
A380-842 (Long haul)	Airbus A380-841 (Long haul)	80	77
737-3YO	Boeing 737-300	74	76
737-476	Boeing 737-400	74	76
737-8FE	Boeing 737-800	75	77
DHC-6 SERIES 300	Bombardier Dash 6	64	75
EMB-110P1	Bombardier Dash 6	64	75
SA226-TC	Bombardier Dash 6	64	75
SA227-DC	Bombardier Dash 6	64	75
DHC-8-102	Bombardier Dash 8-100	52	64
DHC-8-202	Bombardier Dash 8-300	55	64
DHC-8-315	Bombardier Dash 8-300	55	64
DHC-8-402	Bombardier Dash 8-300	55	64
340B	Saab 340	62	71
Maximum noise level		80	79
		80	

Based on the highest predicted impact of L_{max} 80dBA further treatment to the building façade would be required to comply with AS 2021:2015: *Acoustics – Aircraft noise intrusion – Building siting and construction* internal assessment requirements. Refer to Section 12 for recommendations.

12 Recommendations

12.1 Operational Noise & Vibration

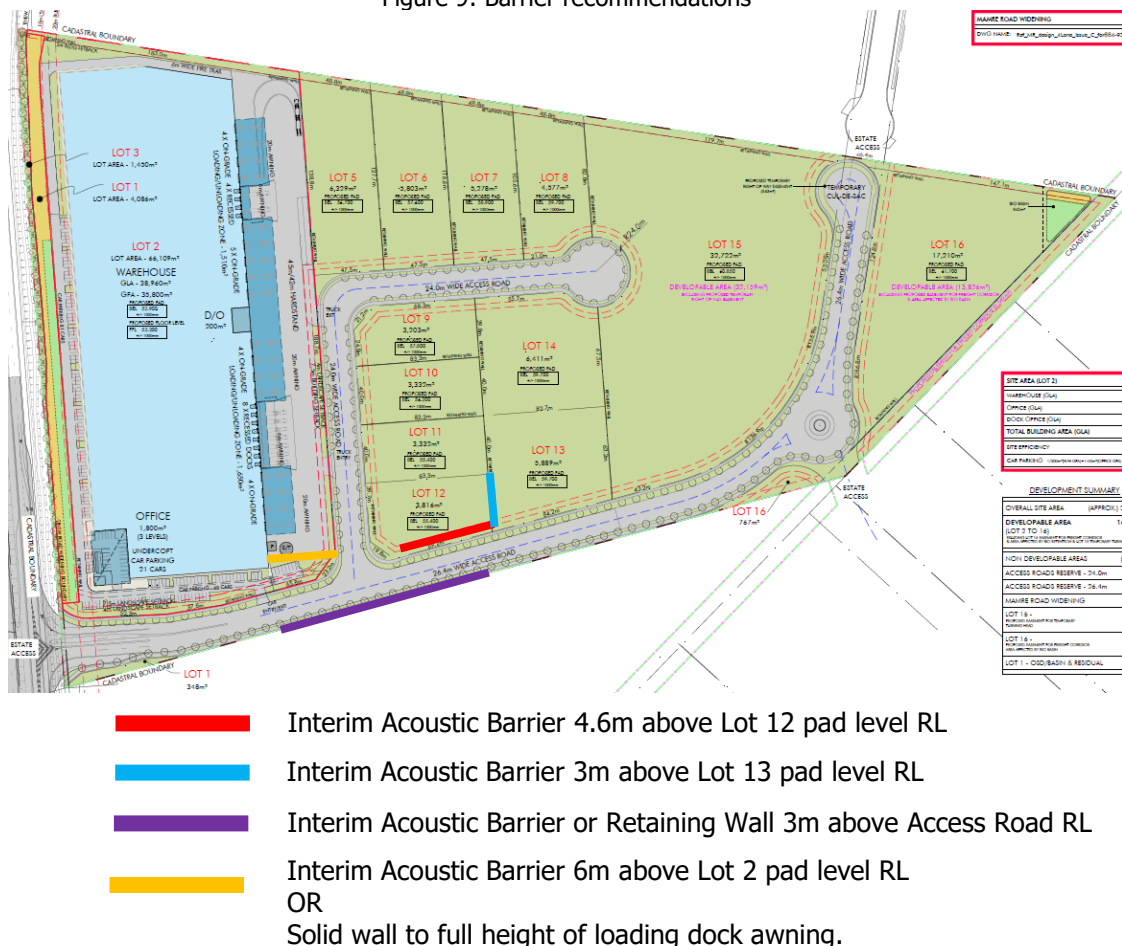
The review indicates that 24 hour operation of the site is predicted to comply with the assessment criteria on the condition that the following recommendations are implemented.

12.1.1 Onsite activities

We recommend constructing acoustic barriers comprised of the following:

- Acoustic barriers shall be constructed to the height and extent shown in Figure 9. The acoustic barriers should be constructed using either masonry, 9mm fibre cement sheet, Hebel, or other materials with a minimum surface density of 9kg/m^2 and shall be free of gaps and holes.
- All acoustic barriers are only required while the residential dwelling at Receiver 2 is occupied. If the receivers are demolished to make way for potential industrial developments, the barriers will no longer be required. Therefore, semi-permanent acoustic barriers may be used, provided that they achieve a minimum surface density of 9kg/m^2 and are free of gaps and holes. Suitable materials may include construction hoarding that consists of minimum 18mm plywood or other materials that achieve the minimum required surface density. Alternatively, ISO shipping containers may be stacked to the required height in locations requiring acoustic barriers.
- The acoustic barrier for Lot 2 may be replaced with a solid gap-free wall to the full height of the loading dock awning, on the condition that the materials used achieve a minimum surface density of 9kg/m^2 . Like the acoustic barrier, the solid wall may be removed when the dwelling at Receiver 2 is no longer occupied.

Figure 9: Barrier recommendations



12.1.2 NSW Road Noise Policy – Traffic Generation

The development is predicted to generate an additional 973 trips per day. Existing road traffic noise levels are predicted to exceed the criteria as outlined in Table 3 of the Road Noise Policy, but compliance is predicted with the relative increase criterion as outlined in Table 6 of the policy, with a relative increase in traffic noise levels of less than 1dB.

12.1.3 Onsite Mechanical Plant

No information regarding mechanical services was available at the time of the assessment, but a preliminary assessment based on measurements of similar developments predicted that similar plant would comply on the condition the recommendations of this report are implemented.

Any new mechanical plant shall be designed to comply with the criteria nominated in Section 7 of this report.

Acoustic Works recommends that once mechanical plant selection is finalised, an assessment by qualified acoustic consultant be conducted prior to installation to determine any requirements for acoustic treatments.

12.2 Vibration

Vibration associated with truck activity and onsite activities is predicted to comply with the relevant NSW guidelines at the nearest sensitive receivers. We recommend that any vibrating equipment used onsite is adequately isolated to prevent vibration issues to nearby receivers and is reviewed by a qualified acoustic consultant. If complaints are received for vibration, we recommend the management controls nominated in Section 12.3 are implemented.

12.3 Compliance Vibration Monitoring Procedure

To ensure the vibration monitoring is effective, we recommend the following:

- All vibration monitors will be set to a maximum measurement interval of 5 minutes and record over the period commencing over the entire day and be located onsite and at the sensitive receiver location.
- The client shall provide a list of relevant management staff (including mobile phone numbers) working on the project to be notified of exceedance of the nominated vibration levels.
- All vibration monitors will be fitted with an internal SMS warning system (allow the unit to send SMS notification of vibration levels when the nominated level is exceeded). The SMS warning from the vibration monitors will go out to all staff who have provided their mobile numbers for use for notifications from the vibration monitor.
- The vibration monitor will be set to provide vibration impact warnings at 2/3 of the criteria for human exposure and peak particle velocity, this will allow staff to be notified of vibration levels and take a proactive approach before the criteria is exceeded. The Acoustic consultant will also have a minimum of 2 staff nominated on the warning system.
- The vibration monitors will be installed with additional battery packs to extend the operation of the monitor to a minimum of 6 weeks without recharge.
- Attended vibrations measurement will be undertake for the affected site to determine existing levels of specific equipment to help identify. Regardless of warning or notification, the vibration monitor will be downloaded on a monthly basis with a monthly report provided to the client, the report will be suitable for submission to council.

12.3.1 Procedure for measuring Vibration

12.3.1.1 Where to measure vibration for complaints

Vibration is required to be measured at complainants location and onsite simultaneously with the geophone located at the nearest point to the dwelling for the sensitive receiver and onsite where the source of the complaint originated. The geophone can be fixed to the ground using mounting spikes in line with the nearest point of the site or fixed directly to building elements, note that relocation of the geophone may be required to be representative of the nearest location of works being conducted onsite. Note multiple vibration monitors (two) are recommended to avoid the need for relocating the geophone multiple times.

12.3.1.2 Information to be reported

Any reporting should be concise. The minimum requirements to be included in a report are;

- Date and duration of measurements.
- Time of measurements or measurement period.
- Person(s) performing measurements or placing equipment used for long term monitoring.
- Equipment used for measurements.
- Location of measurements including photos.
- Measured values including graphed PPV for the period of monitoring.
- Corrected values (where applicable).
- Notes regarding vibrating sources.
- Notes regarding any extraneous sources that may have influenced measurements.
- Detail of instrumentation and calibration.
- Meteorological conditions.
- Explanation of any high levels below the criteria including exceedances
- Action taken for any exceedance including changes to site operations

12.4 Aircraft noise

Aircraft noise building treatments have been determined in accordance with Australian Standard 2021:2015 "*Indoor Design Sound Levels for Determination of Aircraft Noise Reduction*".

12.4.1 Glazing

Based on the assessed noise levels, the required acoustic ratings of the various building components of the proposed development have been calculated and are presented in Table 20.

Table 20: Glazing treatments for aircraft noise

Floor	Room	Rw Ratings				Glazing		Acoustic seals
		Wall	Roof	Windows	Sliding Doors	Windows	Sliding Doors	
G	Lot 2 Open Plan Office	35	35	22	23	4mm float	4mm tough	No
1	Lot 2 Open Plan Office	35	35	22	23	4mm float	4mm tough	No
1	Lot 2 Dock Office	35	35	22	23	4mm float	4mm tough	No

The minimum glazing treatments presented in Table 20 are required to comply with the following:

- The minimum glass thickness specified shall not be reduced regardless of the R_w performance of the glazing system.
- If compliance cannot be achieved with the minimum R_w ratings, the glazing system shall be upgraded until compliance is achieved.
- Glazing specified with acoustic seals requires a Q-lon seal or an equivalent product, mohair seals are not acceptable.
- The glazier shall be able to provide NATA test reports upon request for the specified glazing, in order to verify compliance with the minimum R_w ratings. Generic reports are not acceptable.

Note that if substantial changes are made to the internal layout of the building a revised assessment may be required.

12.4.2 Wall construction

For the wall R_w ratings nominated in Table 20, the following nominal wall constructions would be recommended.

Table 21: Nominal wall constructions

Description	Cavity insulation	R_w rating
Dado precast panel, 92mm studs, cavity with infill 10mm plasterboard internal	Minimum 75mm glasswool batts (11kg/m ³) or equivalent	35

The system listed above is not the only system that could be used. Other wall systems may be used providing they satisfy the required acoustic ratings.

12.4.3 Roof/ceiling construction

For the roof/ceiling R_w ratings nominated in Table 20, the following nominal roof/ceiling constructions would be recommended;

Table 22: Nominal roof/ceiling constructions

Description	Cavity insulation	Minimum R_w rating
Pitched steel roof, 60mm Anticon over 40mm timber battens, ceiling joists at 600mm maximum centres, cavity with infill, 13mm plasterboard internal.	Minimum 165mm glasswool batts (11kg/m ³) or equivalent	35

The system listed above is not the only system that could be used. Other roof systems may be used providing they achieve the acoustic rating or greater. Penetrations through the ceiling shall not reduce the overall acoustic performance of the installed ceiling system.

12.5 Noise Management Plan

If noise complaints are received from nearby receivers, noise monitoring with audio shall be conducted for a period of 7 weeks, with a monitor placed onsite and at the receiver from which the complaint was received. The monitors shall record simultaneously, with attended measurements also conducted onsite and at the complaining receiver. The monitoring data and audio shall be examined by a suitably qualified person to verify that the offending noise originated at the site.

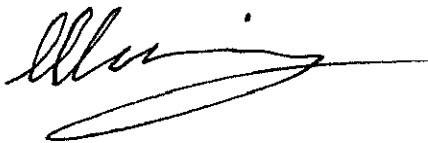
If noise generated by the site has resulted in complaints, we recommend an acoustic assessment is conducted to determine suitable mitigation strategies and/or acoustic treatments.

13 Conclusion

A noise assessment was conducted for the proposed industrial warehousing estate to be located 884-928 Mamre Road, Kemps Creek. On the condition the recommendations detailed in Section 12 are implemented, general compliance is predicted with Penrith City Council conditions and the NSW Noise Policy for Industry requirements.

If you should have any queries please do not hesitate to contact us.

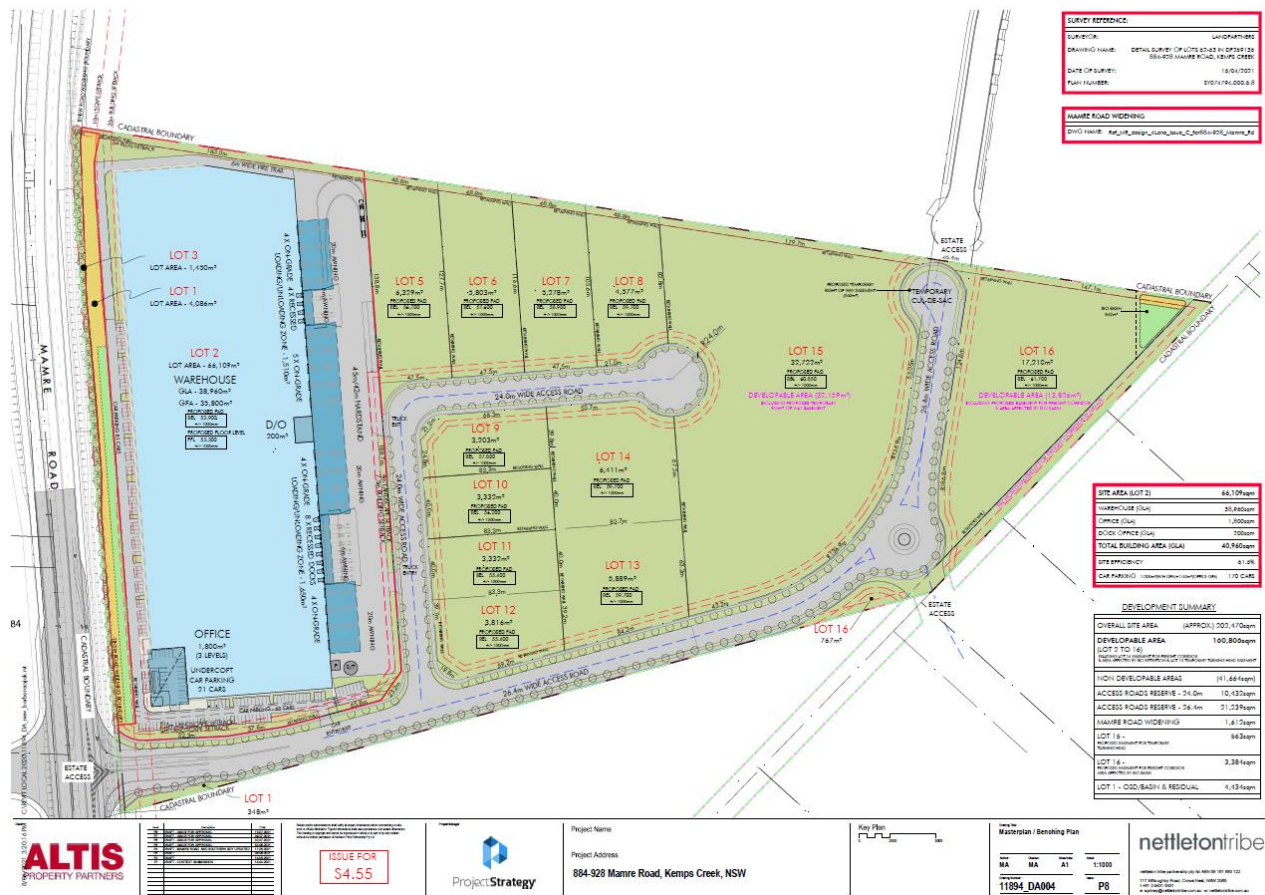
Report Prepared By



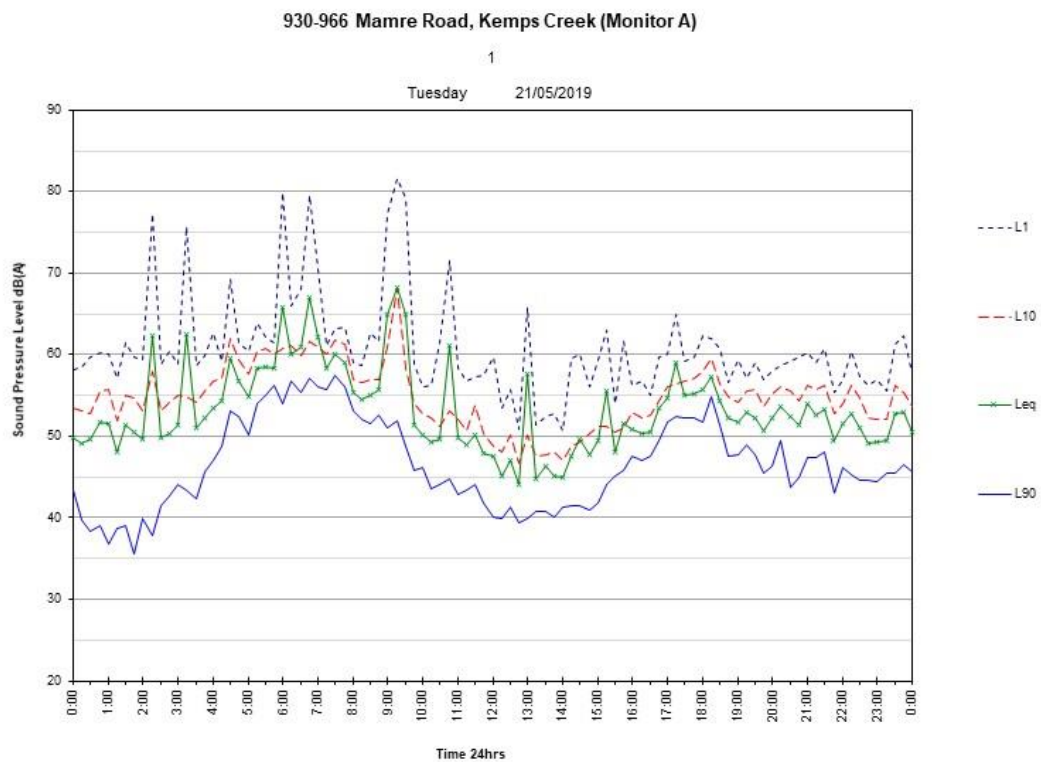
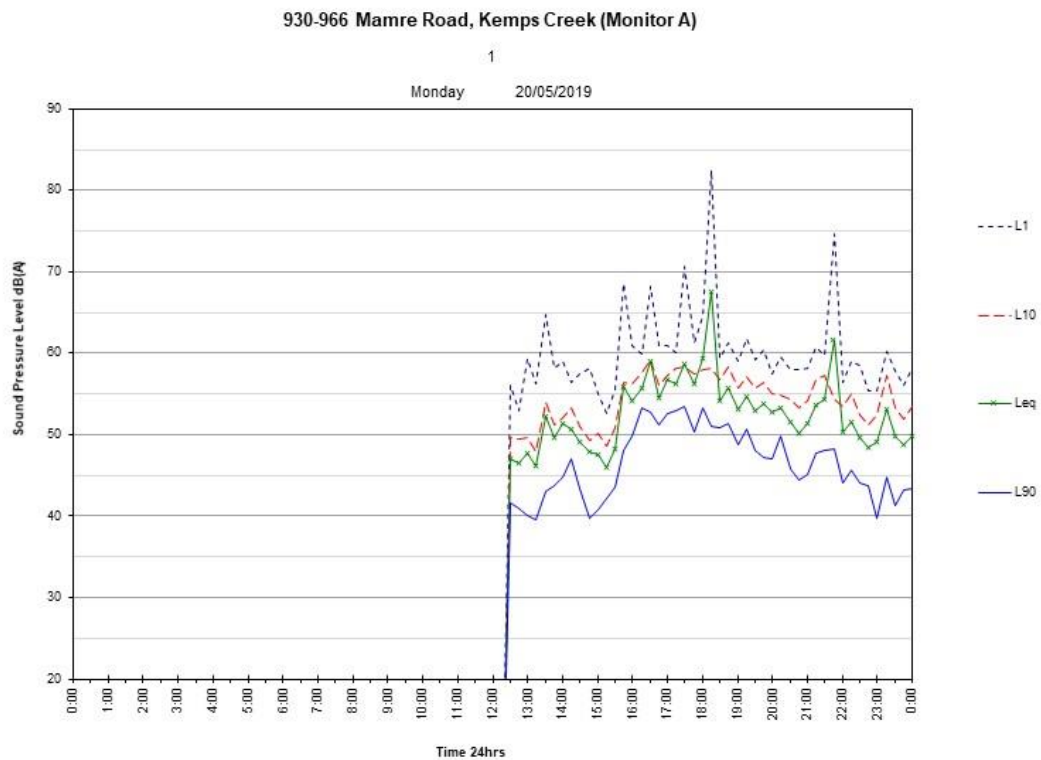
Michael Gunning M.ArchSci
Acoustic Consultant
acousticworks)))

14 Appendices

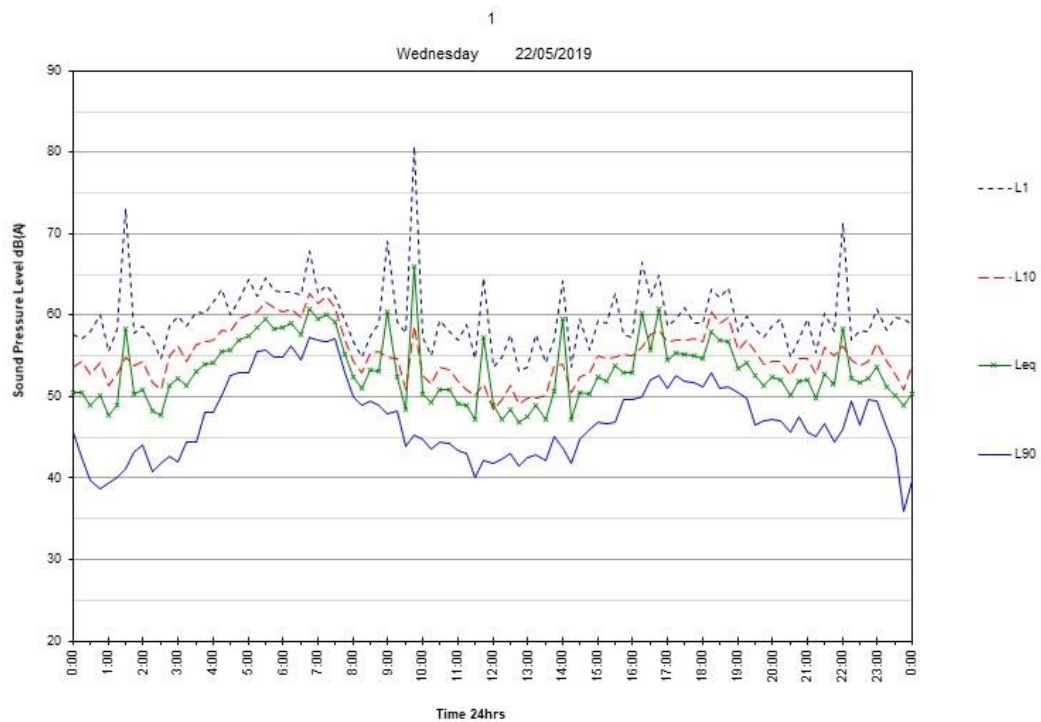
14.1 Development Plans



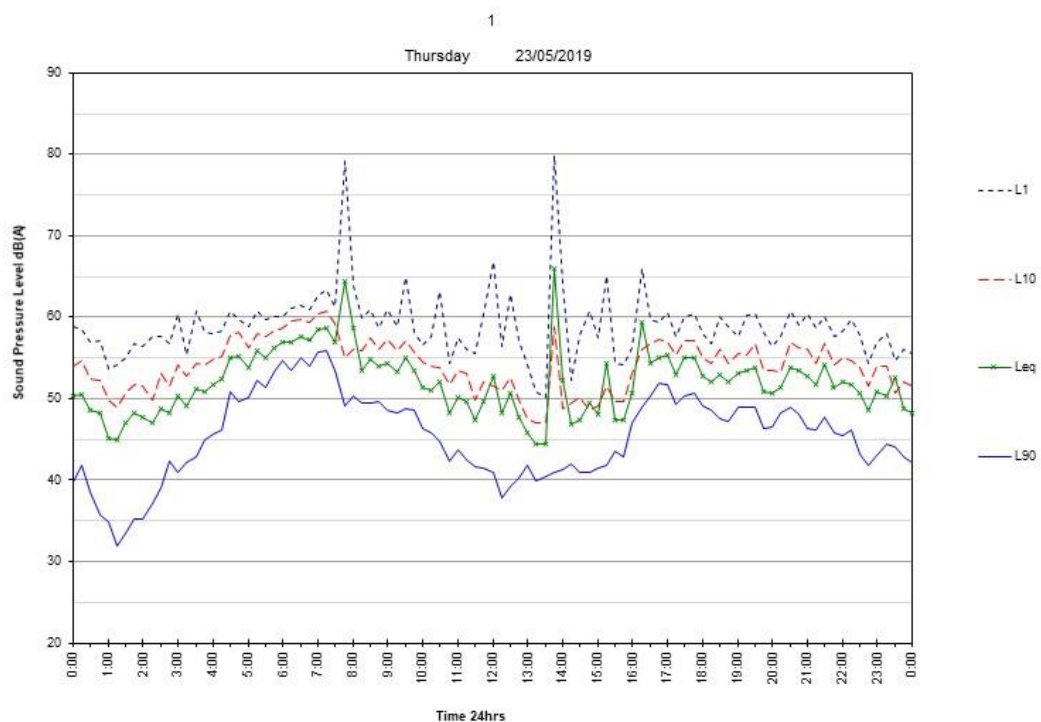
14.2 Noise Monitoring Charts
14.2.1 930-966 Mamre Road (Monitor A)

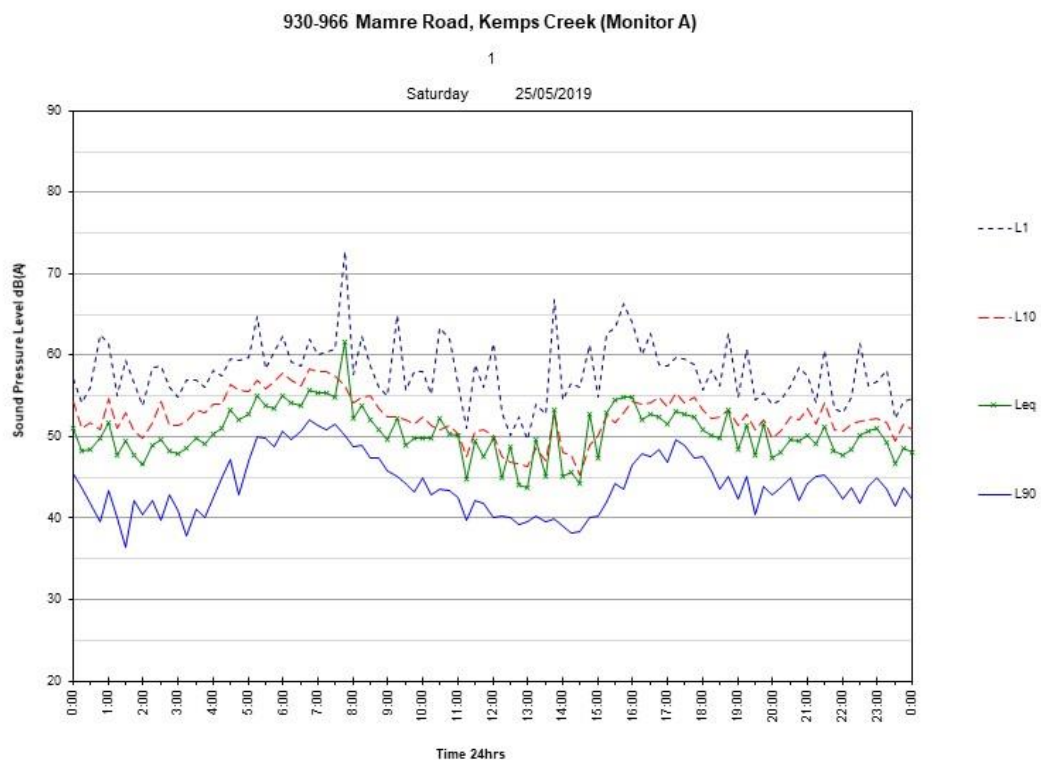
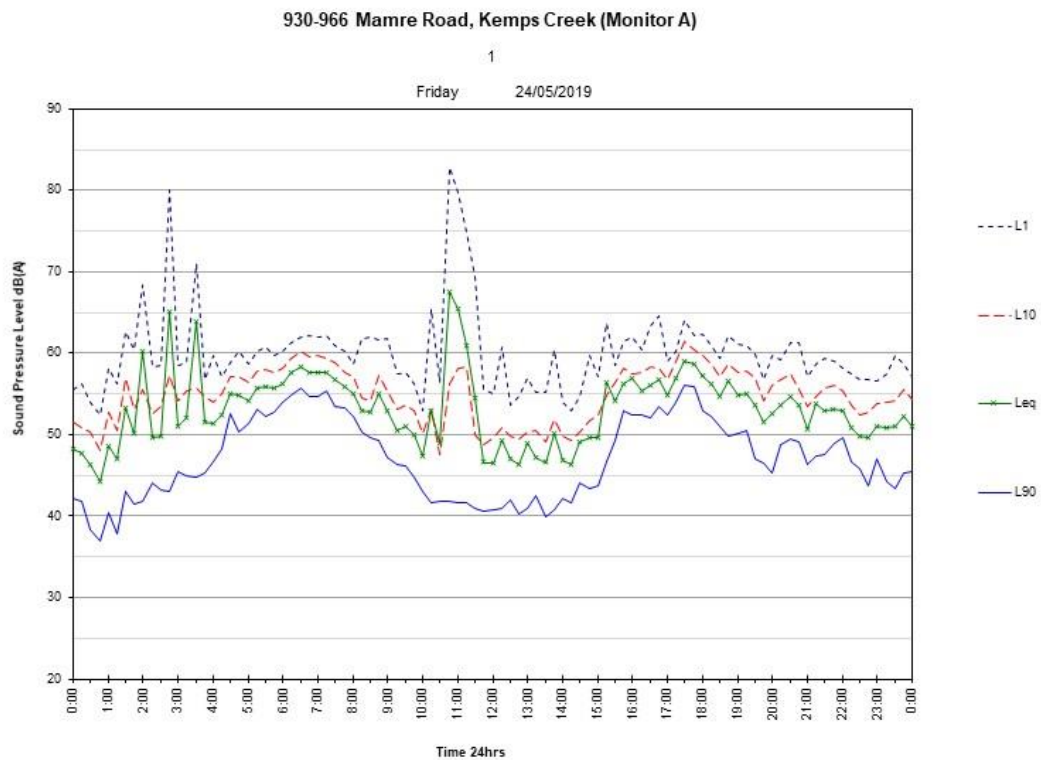


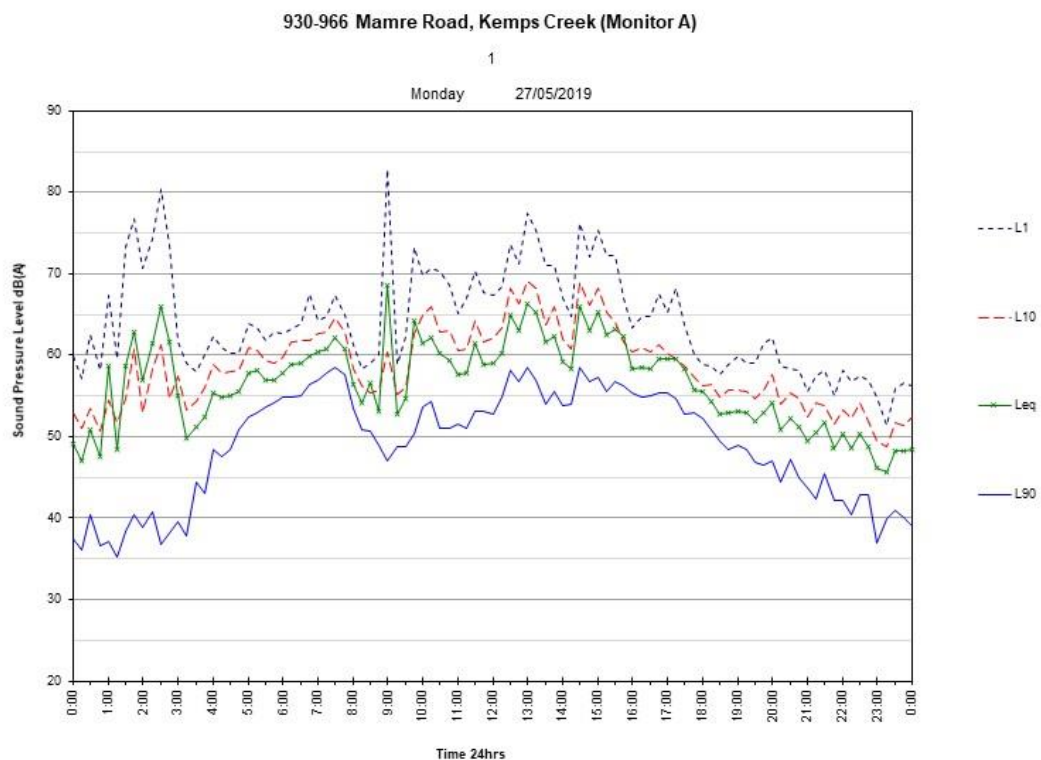
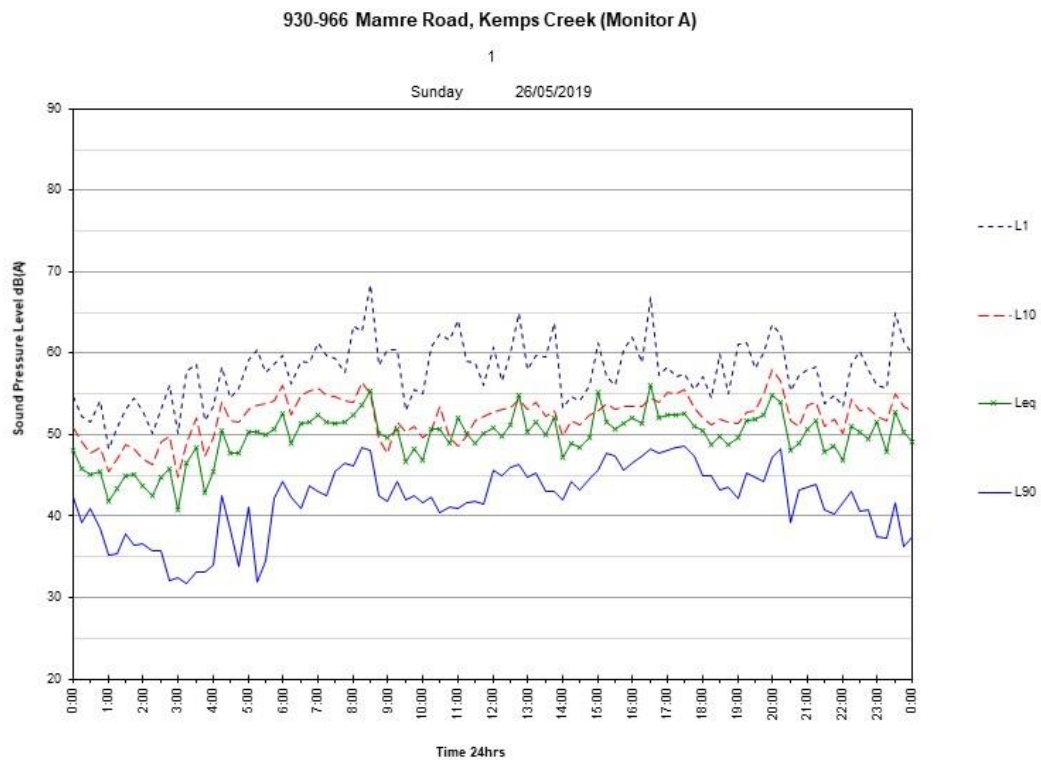
930-966 Mamre Road, Kemps Creek (Monitor A)

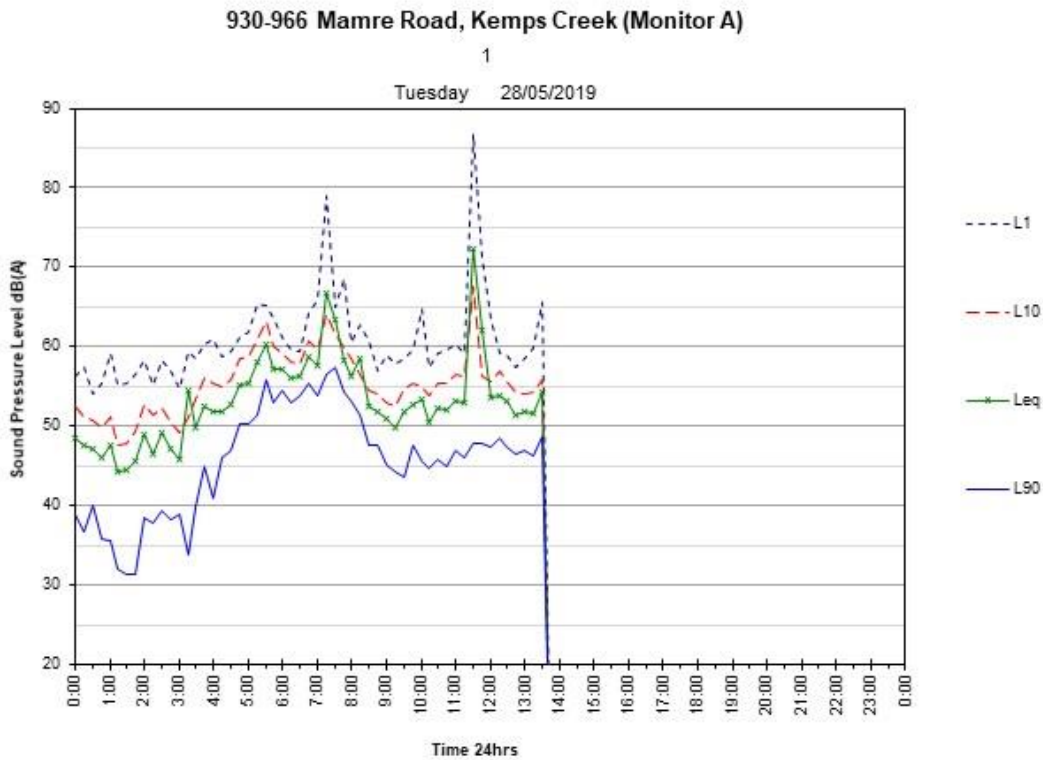


930-966 Mamre Road, Kemps Creek (Monitor A)

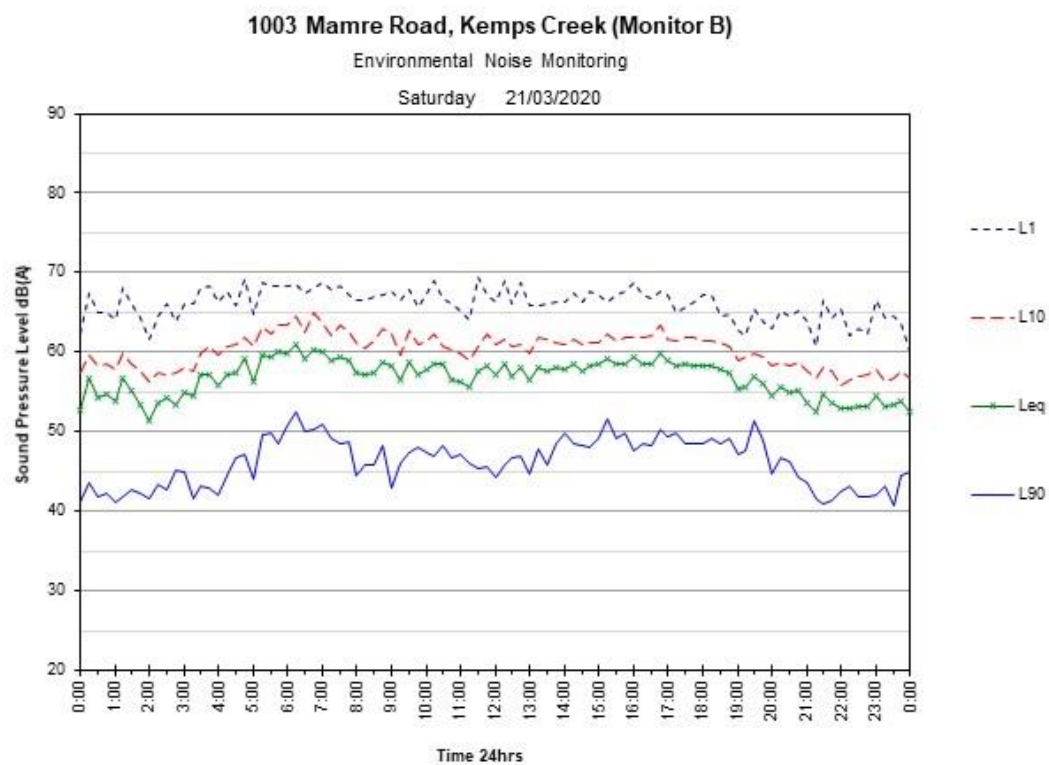
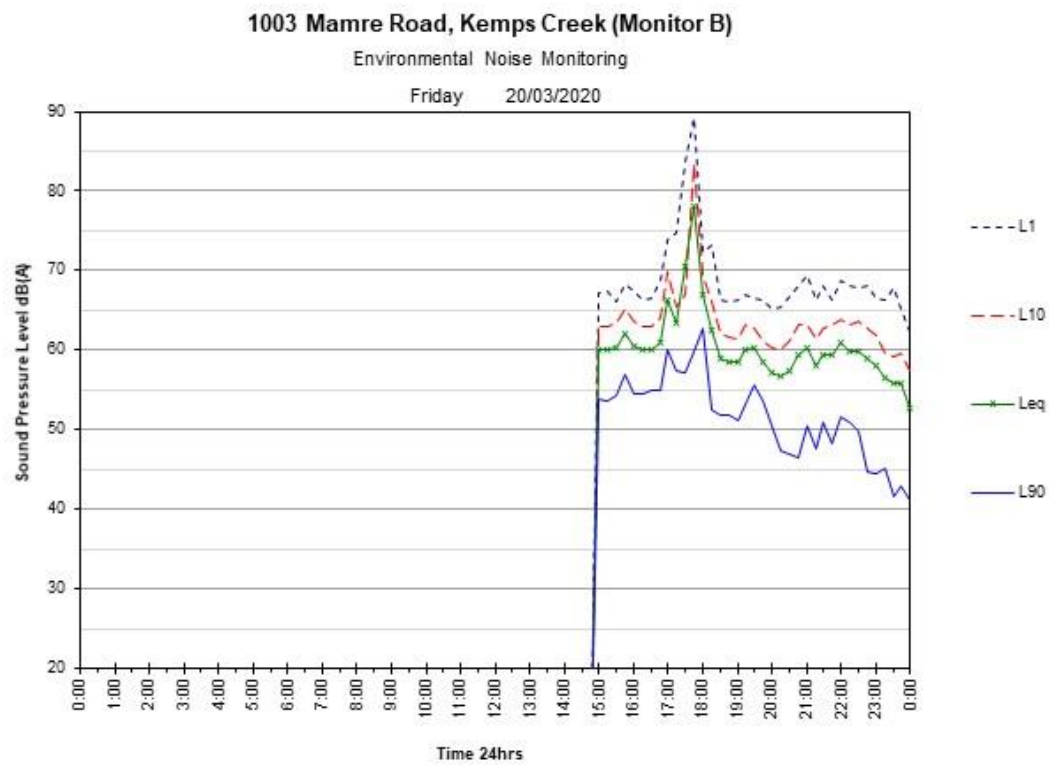


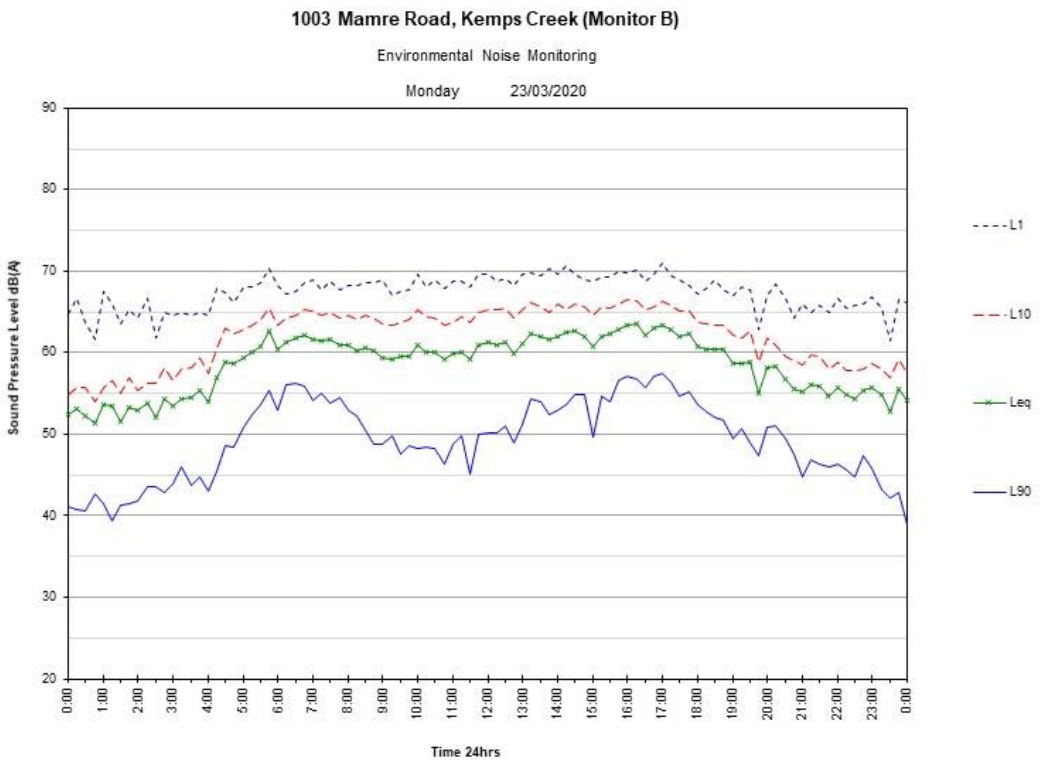
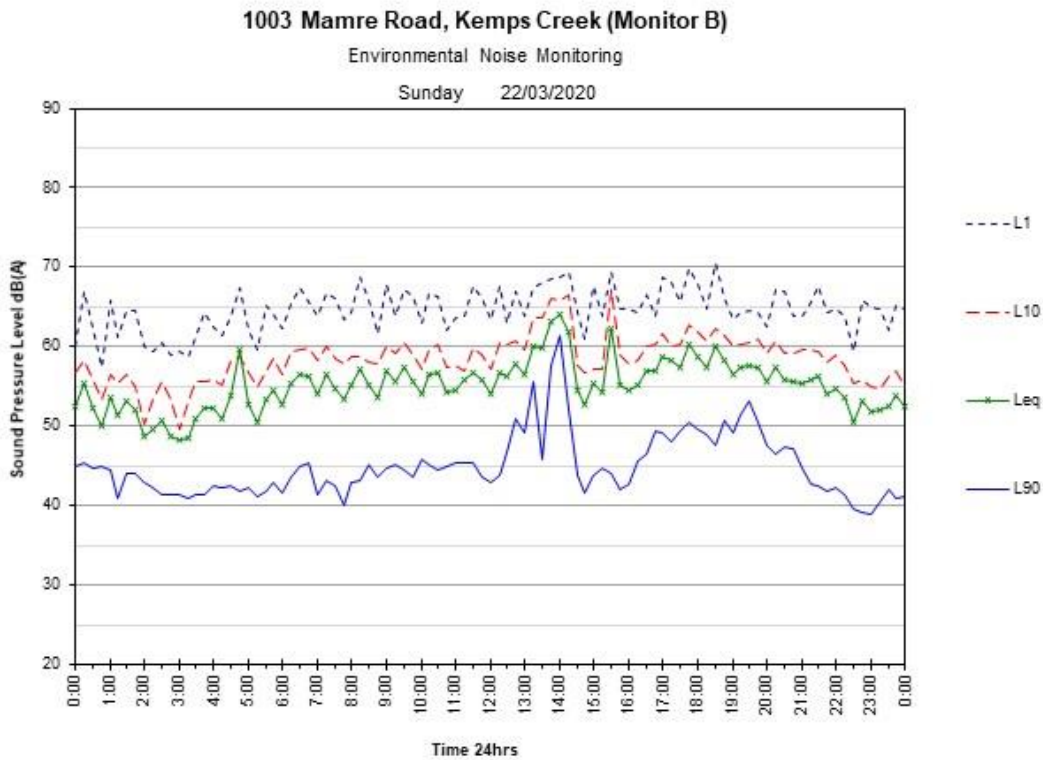


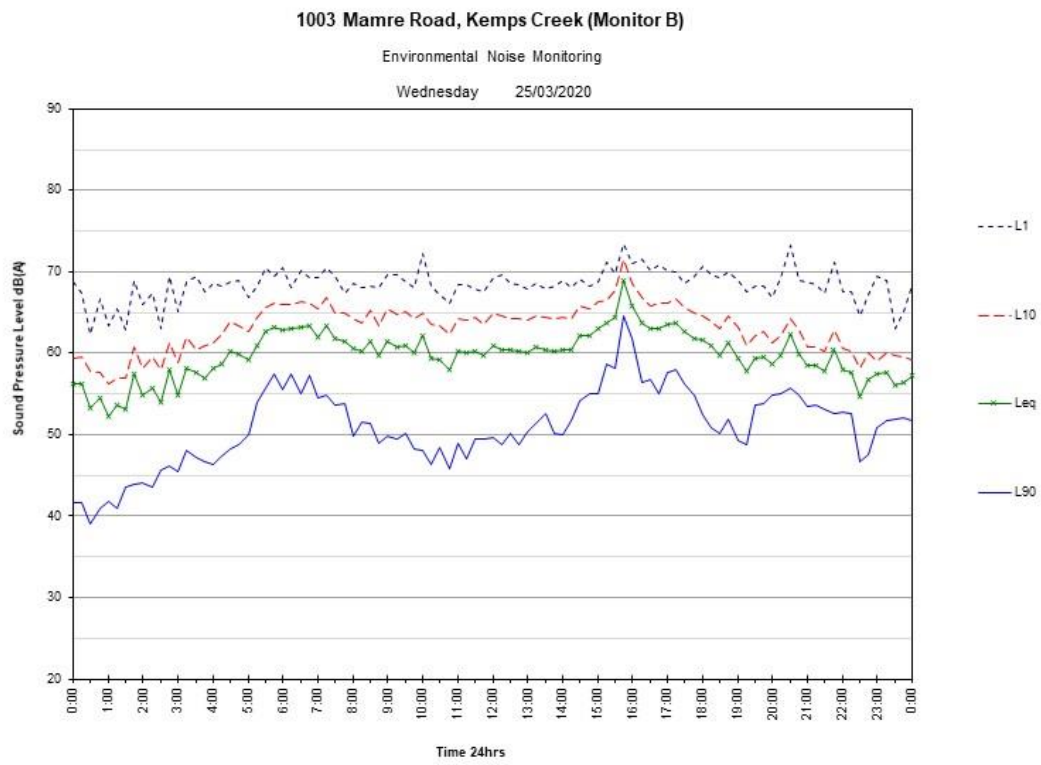
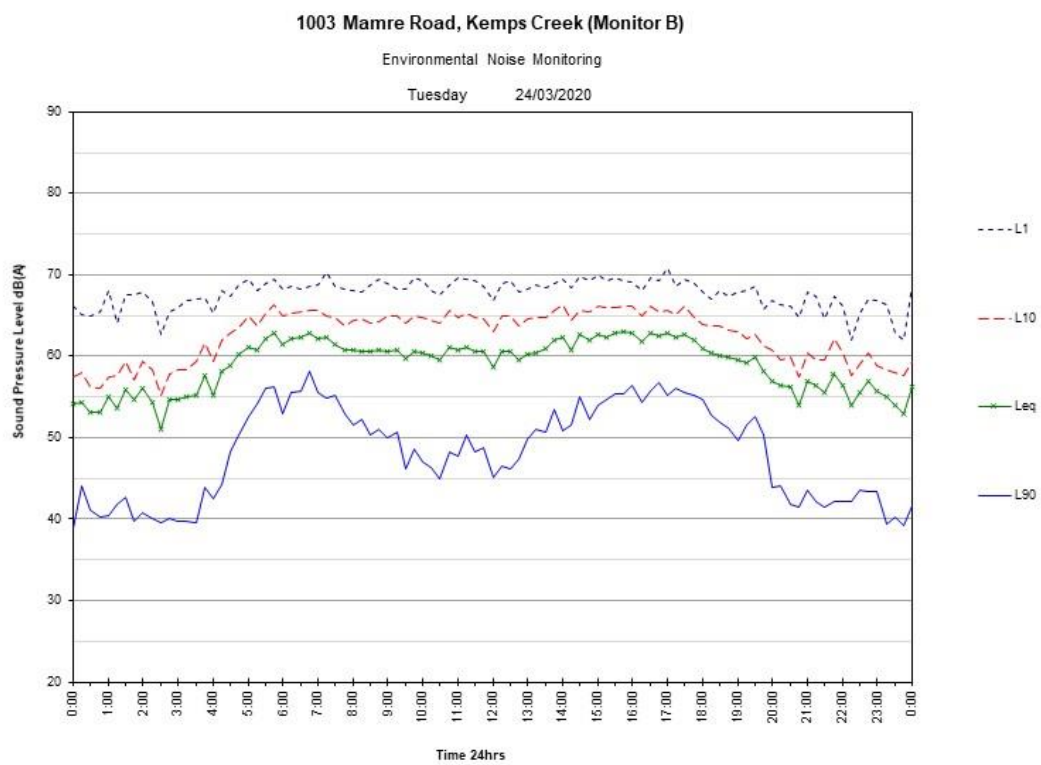


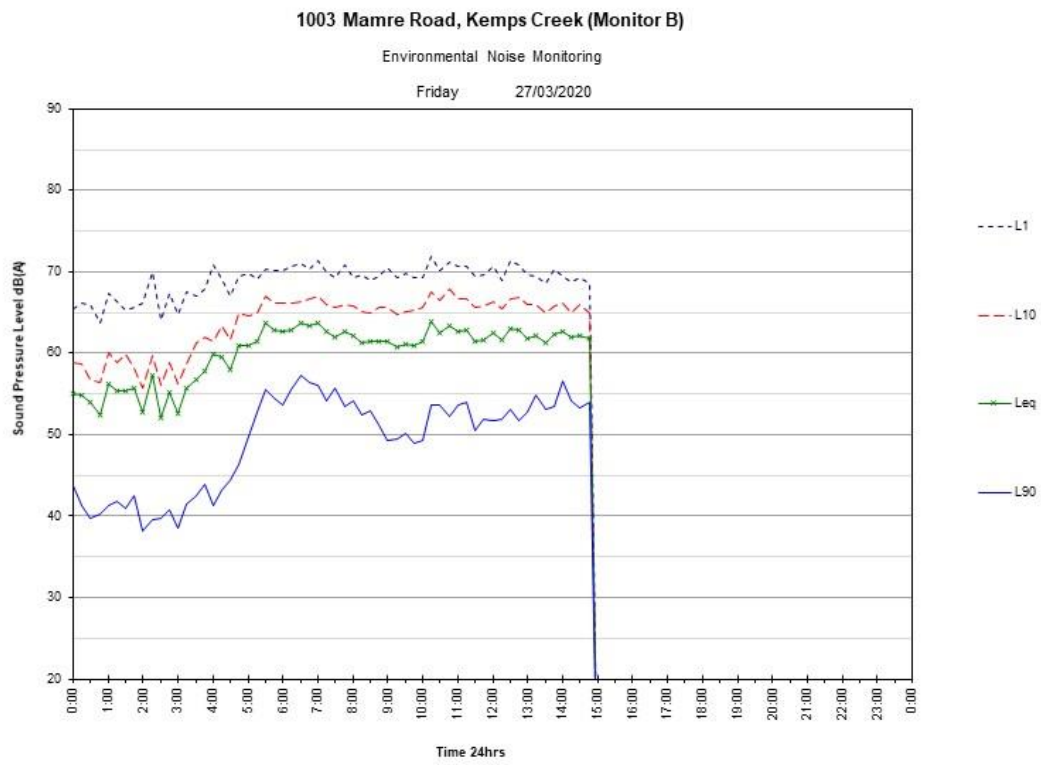
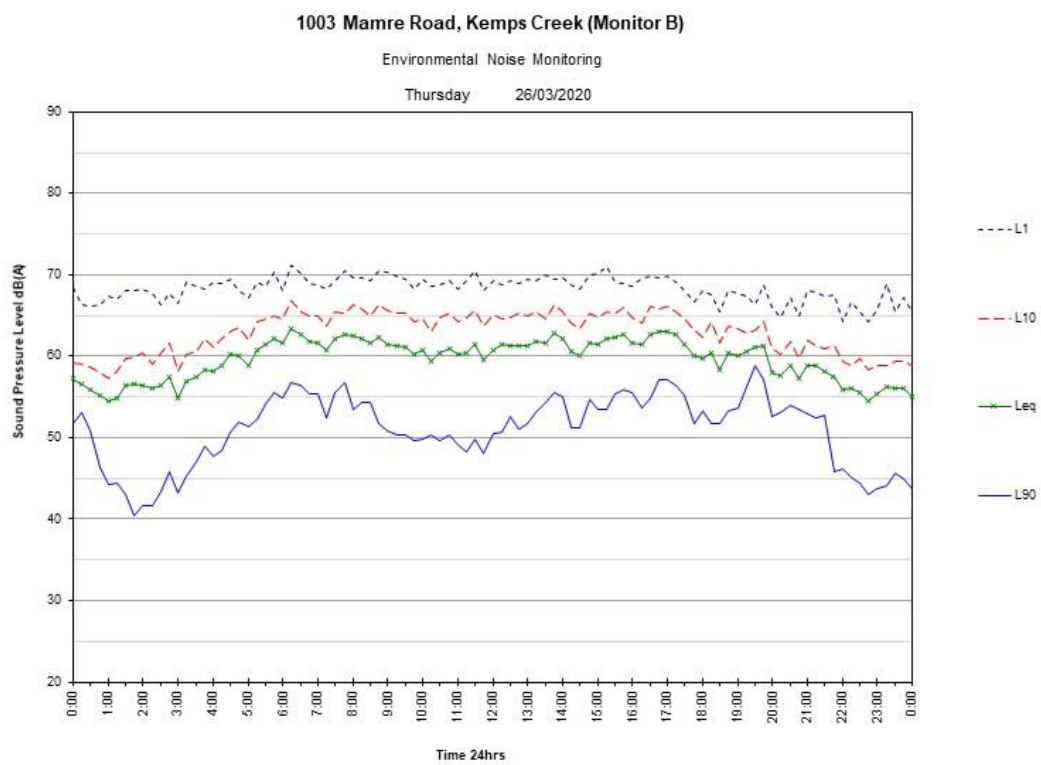


14.2.2 1003 Mamre Road (Monitor B)









14.3 Lot Calculation Sheets

Receivers 1. 885-899, 901, 917, 919-929 & 931 Mamre Rd (W) 2. 930-966 Mamre Rd (S) 3. 844-862 Mamre Rd (N)		Lot 2																						
		Corrected Lw (Leq) dB(A)	LwMax dB(A)	No. of events per 15min	No. of events per 15min Eve	No. of events per 15min Night	Duration per event (s)	Distance (m)	Inc	Barrier (height (m))	Barrier screening dB	Building/Topo Screening dB	Building TL dB	Dist atten. @-6dB/dd	3m/s W/ind correction dB	L _{Aeq} adj, 15min ext. dB(A)	L _{Aeq} adj, T ext. dB(A) Eve	L _{Aeq} adj, T ext. dB(A) Night	L _{Amax} dB(A) Night	L _{Aeq} 15 min Compliance				Sleep Disturbance
																				Day	Eve	Night	L _{Amax}	
Description																				Day	Eve	Night	L _{Amax}	
	Criteria																			51	46	41	56	
1	Truck passby	91	95	8	4	2	30	216			-12			-54.7	2.5	21	18	15	28	Yes	Yes	Yes	Yes	
	Truck reverse alarm	99	103	4	2	1	30	216			-12			-54.7	2.5	26	23	20	36	Yes	Yes	Yes	Yes	
	Truck air brakes	112	114	4	2	1	1	216			-12			-54.7	2.5	24	21	18	47	Yes	Yes	Yes	Yes	
	Truck door closing	96	98	8	4	2	2	216			-12			-54.7	2.5	14	11	8	31	Yes	Yes	Yes	Yes	
	Truck starting	102	105	4	2	1	2	216			-12			-54.7	2.5	17	14	11	38	Yes	Yes	Yes	Yes	
	Truck idle	95	97	4	2	1	30	216			-12			-54.7	2.5	22	19	16	30	Yes	Yes	Yes	Yes	
	Forklift reverse	102	106	3	2	1	10	123					-8	-49.8	2.5	32	31	26	48	Yes	Yes	Yes	Yes	
	Forklift unloading	92	95	3	2	1	240	123					-8	-49.8	2.5	36	34	30	37	Yes	Yes	Yes	Yes	
	Forklift passby	100	104	6	5	2	10	123					-8	-49.8	2.5	33	32	27	46	Yes	Yes	Yes	Yes	
	Car door closure	85	88	20	15	5	2	97						-47.7	2.5	26	25	20	40	Yes	Yes	Yes	Yes	
	Car passby	77	80	20	15	5	15	97						-47.7	2.5	27	26	21	32	Yes	Yes	Yes	Yes	
	Car start	84	88	20	15	5	2	97						-47.7	2.5	25	24	19	40	Yes	Yes	Yes	Yes	
	Voice conversation	78	81	1	1	1	900	95						-47.6	2	32	32	32	33	Yes	Yes	Yes	Yes	
Total																41	39	36		Yes	Yes	Yes		
	Criteria																			46	46	41	53	
2	Truck passby	91	95	8	4	2	30	96	6	-9				-47.6	1.8	30	27	24	38	Yes	Yes	Yes	Yes	
	Truck reverse alarm	99	103	4	2	1	30	96	6	-9				-47.6	1.8	35	32	29	46	Yes	Yes	Yes	Yes	
	Truck air brakes	112	114	4	2	1	1	96	6	-13				-47.6	1.8	30	27	24	53	Yes	Yes	Yes	Yes	
	Truck door closing	96	98	8	4	2	2	96	6	-9				-47.6	1.8	24	21	18	41	Yes	Yes	Yes	Yes	
	Truck starting	102	105	4	2	1	2	96	6	-9				-47.6	1.8	27	24	21	48	Yes	Yes	Yes	Yes	
	Truck idle	95	97	4	2	1	30	96	6	-9				-47.6	1.8	31	28	25	40	Yes	Yes	Yes	Yes	
	Forklift reverse	102	106	3	2	1	10	85	3.6	-9		-8		-46.6	2.1	26	24	20	42	Yes	Yes	Yes	Yes	
	Forklift unloading	92	95	3	2	1	240	85	3.6	-9		-8		-46.6	2.1	30	28	24	31	Yes	Yes	Yes	Yes	
	Forklift passby	100	104	6	5	2	10	85	3.6	-9		-8		-46.6	2.1	27	26	21	40	Yes	Yes	Yes	Yes	
	Car door closure	85	88	20	15	5	2	100	3.6	-11				-48	2.4	15	14	9	29	Yes	Yes	Yes	Yes	
	Car passby	77	80	20	15	5	15	100	3.6	-11				-48	2.4	16	14	10	21	Yes	Yes	Yes	Yes	
	Car start	84	88	20	15	5	2	100	3.6	-11				-48	2.4	14	13	8	29	Yes	Yes	Yes	Yes	
	Voice conversation	78	81	1	1	1	900	90	3.6	-11				-47.1	2	22	22	22	23	Yes	Yes	Yes	Yes	
Total																40	37	34		Yes	Yes	Yes		
	Criteria																			46	46	41	53	
3	Truck passby	91	95	8	4	2	30	335				-17		-58.5	2.6	12	9	6	19	Yes	Yes	Yes	Yes	
	Truck reverse alarm	99	103	4	2	1	30	335				-17		-58.5	2.6	17	14	11	27	Yes	Yes	Yes	Yes	
	Truck air brakes	112	114	4	2	1	1	335				-17		-58.5	2.6	16	13	10	38	Yes	Yes	Yes	Yes	
	Truck door closing	96	98	8	4	2	2	335				-17		-58.5	2.6	6	3	0	22	Yes	Yes	Yes	Yes	
	Truck starting	102	105	4	2	1	2	335				-17		-58.5	2.6	9	6	3	29	Yes	Yes	Yes	Yes	
	Truck idle	95	97	4	2	1	30	335				-17		-58.5	2.6	13	10	7	21	Yes	Yes	Yes	Yes	
	Forklift reverse	102	106	3	2	1	10	271				-8		-56.7	2.7	25	24	19	41	Yes	Yes	Yes	Yes	
	Forklift unloading	92	95	3	2	1	240	271				-8		-56.7	2.7	29	28	23	30	Yes	Yes	Yes	Yes	
	Forklift passby	100	104	6	5	2	10	271				-8		-56.7	2.7	26	25	20	39	Yes	Yes	Yes	Yes	
	Car door closure	85	88	20	15	5	2	323						-58.2	2.8	16	15	10	30	Yes	Yes	Yes	Yes	
	Car passby	77	80	20	15	5	15	277						-56.8	2.8	18	17	12	23	Yes	Yes	Yes	Yes	
	Car start	84	88	20	15	5	2	323						-58.2	2.8	15	14	9	30	Yes	Yes	Yes	Yes	
	Voice conversation	78	81	1	1	1	900	270						-56.6	2.7	24	24	24	24	Yes	Yes	Yes	Yes	
Total																33	32	29		Yes	Yes	Yes		

	Receivers 1. 885-899, 901, 917, 919-929 & 931 Mamre Rd (W) 2. 930-966 Mamre Rd (S) 3. 844-862 Mamre Rd (N)	Lot 5																						
		Corrected Lw (Leq) dB(A)	LwMax dB(A)	No. of events per 15min	No. of events per 15min Eve	No. of events per 15min Night	Duration per event (s)	Distance (m)	Inc	Barrier (height (m))	Barrier screening dB	Building Screening dB	Building TL dB	Dist atten. @ -6dB/dd	3m/s Wind correction dB	L _{Aeq} adj, 15min ext. dB(A)	L _{Aeq} adj,T ext. dB(A) Eve	L _{Aeq} adj,T ext. dB(A) Night	L _{Amax} dB(A) Night	L _{Aeq} 15 min Compliance				Sleep Disturbance
																				Day	Eve	Night	L _{Amax}	
	Description																			51	46	41	56	
1	Criteria																							
	Truck 6T idle	93	97	1	1	0.3	30	350				-12		-58.9	2.7	10	9	4	26	Yes	Yes	Yes	Yes	
	Truck 6T passby	89	93	2	2	0.5	30	350				-12		-58.9	2.7	9	8	3	22	Yes	Yes	Yes	Yes	
	Truck reverse alarm	99	96	1	1	0.3	30	350				-12		-58.9	2.7	16	15	10	25	Yes	Yes	Yes	Yes	
	Truck air brakes	112	112	1	1	0.3	1	350				-12		-58.9	2.7	14	13	8	41	Yes	Yes	Yes	Yes	
	Truck door closing	96	94	2	2	0.5	2	350				-12		-58.9	2.7	4	3	0	23	Yes	Yes	Yes	Yes	
	Truck starting	102	104	1	1	0.3	2	350				-12		-58.9	2.7	7	6	1	33	Yes	Yes	Yes	Yes	
	Forklift reverse	102	100	1	1	0.3	10	340					-8	-58.6	2.8	19	17	13	33	Yes	Yes	Yes	Yes	
	Forklift unloading	92	94	1	1	0.3	240	340					-8	-58.6	2.8	22	21	16	27	Yes	Yes	Yes	Yes	
	Forklift passby	100	103	2	2	0.5	10	340					-8	-58.6	2.8	20	18	14	36	Yes	Yes	Yes	Yes	
	Car door closure	85	86	8	6	2	2	330				-12		-58.4	2.8	0	0	0	16	Yes	Yes	Yes	Yes	
	Car passby	77	81	8	6	2	15	330				-12		-58.4	2.8	1	0	0	11	Yes	Yes	Yes	Yes	
	Car start	84	85	7	5	2	2	330				-12		-58.4	2.8	0	0	0	15	Yes	Yes	Yes	Yes	
	Voice conversation	78	81	1	1	1	900	330				-12		-58.4	2.7	10	10	10	11	Yes	Yes	Yes	Yes	
	Total														26	25	21		Yes	Yes	Yes			
	Criteria																			46	46	41	53	
	Truck 6T idle	93	97	1	1	0.3	30	253	3.6	-2	-12			-56.1	2.5	11	9	5	27	Yes	Yes	Yes	Yes	
	Truck 6T passby	89	93	2	2	0.5	30	253	3.6	-2	-12			-56.1	2.5	10	8	4	23	Yes	Yes	Yes	Yes	
	Truck reverse alarm	99	96	1	1	0.3	30	253	3.6	-2	-12			-56.1	2.5	17	15	11	26	Yes	Yes	Yes	Yes	
	Truck air brakes	112	112	1	1	0.3	1	253	3.6	-2	-12			-56.1	2.5	15	14	9	42	Yes	Yes	Yes	Yes	
2	Truck door closing	96	94	2	2	0.5	2	253	3.6	-2	-12			-56.1	2.5	5	4	0	24	Yes	Yes	Yes	Yes	
	Truck starting	102	104	1	1	0.3	2	253	3.6	-2	-12			-56.1	2.5	8	7	2	34	Yes	Yes	Yes	Yes	
	Forklift reverse	102	100	1	1	0.3	10	265					-8	-56.5	2.7	21	19	15	36	Yes	Yes	Yes	Yes	
	Forklift unloading	92	94	1	1	0.3	240	265					-8	-56.5	2.7	24	23	18	30	Yes	Yes	Yes	Yes	
	Forklift passby	100	103	2	2	0.5	10	265					-8	-56.5	2.7	22	20	16	39	Yes	Yes	Yes	Yes	
	Car door closure	85	86	8	6	2	2	245						-55.8	2.8	15	13	8	30	Yes	Yes	Yes	Yes	
	Car passby	77	81	8	6	2	15	245						-55.8	2.8	15	14	9	25	Yes	Yes	Yes	Yes	
	Car start	84	85	7	5	2	2	245						-55.8	2.8	13	12	7	29	Yes	Yes	Yes	Yes	
	Voice conversation	78	81	1	1	1	900	245						-55.8	2.8	25	25	25	25	Yes	Yes	Yes	Yes	
	Total														30	29	27		Yes	Yes	Yes			
	Criteria																			46	46	41	53	
	Truck 6T idle	93	97	1	1	0.3	30	405				-12		-60.1	2.7	9	8	3	25	Yes	Yes	Yes	Yes	
	Truck 6T passby	89	93	2	2	0.5	30	405				-12		-60.1	2.7	8	7	2	21	Yes	Yes	Yes	Yes	
	Truck reverse alarm	99	96	1	1	0.3	30	405				-12		-60.1	2.7	15	14	9	24	Yes	Yes	Yes	Yes	
	Truck air brakes	112	112	1	1	0.3	1	405				-12		-60.1	2.7	13	12	7	40	Yes	Yes	Yes	Yes	
	Truck door closing	96	94	2	2	0.5	2	405				-12		-60.1	2.7	3	2	0	22	Yes	Yes	Yes	Yes	
	Truck starting	102	104	1	1	0.3	2	405				-12		-60.1	2.7	6	5	0	32	Yes	Yes	Yes	Yes	
	Forklift reverse	102	100	1	1	0.3	10	287					-8	-57.2	2.7	20	19	14	35	Yes	Yes	Yes	Yes	
	Forklift unloading	92	94	1	1	0.3	240	287					-8	-57.2	2.7	24	23	18	29	Yes	Yes	Yes	Yes	
	Forklift passby	100	103	2	2	0.5	10	287					-8	-57.2	2.7	21	20	15	38	Yes	Yes	Yes	Yes	
3	Car door closure	85	86	8	6	2	2	398				-12		-60	2.9	0	0	0	14	Yes	Yes	Yes	Yes	
	Car passby	77	81	8	6	2	15	398				-12		-60	2.9	0	0	0	9	Yes	Yes	Yes	Yes	
	Car start	84	85	7	5	2	2	398				-12		-60	2.9	0	0	0	13	Yes	Yes	Yes	Yes	
	Voice conversation	78	81	1	1	1	900	398				-12		-60	2.7	9	9	9	9	Yes	Yes	Yes	Yes	
	Total														27	26	22		Yes	Yes	Yes			

	Receivers		Lot 6																								
	1. 885-899, 901, 917, 919-929 & 931 Mamre Rd (W) 2. 930-966 Mamre Rd (S) 3. 844-862 Mamre Rd (N)		Corrected Lw (Leq) dB(A)	LwMax dB(A)	No. of events per 15min	No. of events per 15min Eve	No. of events per 15min Night	Duration per event (s)	Distance (m)	Inc	Barrier (height (m))	Barrier screening dB	Building Screening dB	Building TL dB	Dist atten. @ 6dB/dd	3m/s Wind correction dB	L _{eq} adj, 15min ext. dB(A)	L _{eq} adj, T ext. dB(A) Eve	L _{eq} adj, T ext. dB(A) Night	L _{max} dB(A) Night	L _{Aeq} 15 min Compliance				Sleep Disturbance		
	Description																				Day	Eve	Night	L _{max}			
	Criteria																				51	46	41	56			
1	Truck 6T idle	93	97	1	1	0.3	30	388				-12		-59.8	2.7	9	8	3	25	Yes	Yes	Yes	Yes				
	Truck 6T passby	89	93	2	2	0.5	30	388				-12		-59.8	2.7	8	7	2	21	Yes	Yes	Yes	Yes				
	Truck reverse alarm	99	96	1	1	0.3	30	388				-12		-59.8	2.7	15	14	9	24	Yes	Yes	Yes	Yes				
	Truck air brakes	112	112	1	1	0.3	1	388				-12		-59.8	2.7	13	12	7	40	Yes	Yes	Yes	Yes				
	Truck door closing	96	94	2	2	0.5	2	388				-12		-59.8	2.7	3	2	0	22	Yes	Yes	Yes	Yes				
	Truck starting	102	104	1	1	0.3	2	388				-12		-59.8	2.7	6	5	0	32	Yes	Yes	Yes	Yes				
	Forklift reverse	102	100	1	1	0.3	10	389					-8	-59.8	2.8	17	16	11	32	Yes	Yes	Yes	Yes				
	Forklift unloading	92	94	1	1	0.3	240	389					-8	-59.8	2.8	21	20	15	26	Yes	Yes	Yes	Yes				
	Forklift passby	100	103	2	2	0.5	10	389					-8	-59.8	2.8	18	17	12	35	Yes	Yes	Yes	Yes				
	Car door closure	85	86	8	6	2	2	400					-12	-60	2.9	0	0	0	14	Yes	Yes	Yes	Yes				
	Car passby	77	81	8	6	2	15	400					-12	-60	2.9	0	0	0	9	Yes	Yes	Yes	Yes				
	Car start	84	85	7	5	2	2	400					-12	-60	2.9	0	0	0	13	Yes	Yes	Yes	Yes				
	Voice conversation	78	81	1	1	1	900	400					-12	-60	2.8	9	9	9	9	Yes	Yes	Yes	Yes				
		Total															25	24	20		Yes	Yes	Yes				
	Criteria																				46	46	41	53			
2	Truck 6T idle	93	97	1	1	0.3	30	246				-12		-55.8	2.5	13	12	7	29	Yes	Yes	Yes	Yes				
	Truck 6T passby	89	93	2	2	0.5	30	246				-12		-55.8	2.5	12	11	6	25	Yes	Yes	Yes	Yes				
	Truck reverse alarm	99	96	1	1	0.3	30	246				-12		-55.8	2.5	19	18	13	28	Yes	Yes	Yes	Yes				
	Truck air brakes	112	112	1	1	0.3	1	246				-12		-55.8	2.5	17	16	11	44	Yes	Yes	Yes	Yes				
	Truck door closing	96	94	2	2	0.5	2	246				-12		-55.8	2.5	7	6	1	26	Yes	Yes	Yes	Yes				
	Truck starting	102	104	1	1	0.3	2	246				-12		-55.8	2.5	10	9	4	36	Yes	Yes	Yes	Yes				
	Forklift reverse	102	100	1	1	0.3	10	262					-8	-56.4	2.7	21	20	15	36	Yes	Yes	Yes	Yes				
	Forklift unloading	92	94	1	1	0.3	240	262					-8	-56.4	2.7	25	23	19	30	Yes	Yes	Yes	Yes				
	Forklift passby	100	103	2	2	0.5	10	262					-8	-56.4	2.7	22	21	16	39	Yes	Yes	Yes	Yes				
	Car door closure	85	86	8	6	2	2	240					-12	-55.6	2.8	3	1	0	18	Yes	Yes	Yes	Yes				
	Car passby	77	81	8	6	2	15	240					-12	-55.6	2.8	3	2	0	13	Yes	Yes	Yes	Yes				
	Car start	84	85	7	5	2	2	240					-12	-55.6	2.8	1	0	0	17	Yes	Yes	Yes	Yes				
	Voice conversation	78	81	1	1	1	900	240					-12	-55.6	2.6	13	13	13	13	Yes	Yes	Yes	Yes				
		Total															28	28	23		Yes	Yes	Yes				
	Criteria																				46	46	41	53			
3	Truck 6T idle	93	97	1	1	0.3	30	422				-12		-60.5	2.5	8	7	2	24	Yes	Yes	Yes	Yes				
	Truck 6T passby	89	93	2	2	0.5	30	422				-12		-60.5	2.5	7	6	1	20	Yes	Yes	Yes	Yes				
	Truck reverse alarm	99	96	1	1	0.3	30	422				-12		-60.5	2.5	14	13	8	23	Yes	Yes	Yes	Yes				
	Truck air brakes	112	112	1	1	0.3	1	422				-12		-60.5	2.5	12	11	6	39	Yes	Yes	Yes	Yes				
	Truck door closing	96	94	2	2	0.5	2	422				-12		-60.5	2.5	2	1	0	21	Yes	Yes	Yes	Yes				
	Truck starting	102	104	1	1	0.3	2	422				-12		-60.5	2.5	5	4	0	31	Yes	Yes	Yes	Yes				
	Forklift reverse	102	100	1	1	0.3	10	324					-8	-58.2	2.7	19	18	13	34	Yes	Yes	Yes	Yes				
	Forklift unloading	92	94	1	1	0.3	240	324					-8	-58.2	2.7	23	21	17	28	Yes	Yes	Yes	Yes				
	Forklift passby	100	103	2	2	0.5	10	324					-8	-58.2	2.7	20	19	14	37	Yes	Yes	Yes	Yes				
	Car door closure	85	86	8	6	2	2	415					-12	-60.4	2.8	0	0	0	14	Yes	Yes	Yes	Yes				
	Car passby	77	81	8	6	2	15	415					-12	-60.4	2.8	0	0	0	9	Yes	Yes	Yes	Yes				
	Car start	84	85	7	5	2	2	415					-12	-60.4	2.8	0	0	0	13	Yes	Yes	Yes	Yes				
	Voice conversation	78	81	1	1	1	900	415					-12	-60.4	2.6	8	8	8	9	Yes	Yes	Yes	Yes				
		Total															26	25	21		Yes	Yes	Yes				

Receivers 1. 885-899, 901, 917, 919-929 & 931 Mamre Rd (W) 2. 930-966 Mamre Rd (S) 3. 844-862 Mamre Rd (N)		Lot 7																							
		Corrected Lw (Leq) dB(A)	LwMax dB(A)	No. of events per 15min	No. of events per 15min Eve	No. of events per 15min Night	Duration per event (s)	Distance (m)	Inc	Barrier (height (m))	Barrier screening dB	Building Screening dB	Building TL dB	Dist atten. @-6dB/dd	3m/s Wind correction dB	L _{eq} adj, 15min ext. dB(A)	L _{eq} adj, T ext. dB(A) Eve	L _{eq} adj, T ext. dB(A) Night	L _{max} dB(A) Night	LAeq 15 min Compliance				Sleep Disturbance	
																				Day	Eve	Night	L _{Amax}		
Description																									
	Criteria																			51	46	41	56		
1	Truck 6T idle	93	97	1	1	0.3	30	420				-12		-60.5	2.7	8	7	2	25	Yes	Yes	Yes	Yes		
	Truck 6T passby	89	93	2	2	0.5	30	420				-12		-60.5	2.7	7	6	1	21	Yes	Yes	Yes	Yes		
	Truck reverse alarm	99	96	1	1	0.3	30	420				-12		-60.5	2.7	14	13	8	24	Yes	Yes	Yes	Yes		
	Truck air brakes	112	112	1	1	0.3	1	420				-12		-60.5	2.7	13	11	7	40	Yes	Yes	Yes	Yes		
	Truck door closing	96	94	2	2	0.5	2	420				-12		-60.5	2.7	3	1	0	22	Yes	Yes	Yes	Yes		
	Truck starting	102	104	1	1	0.3	2	420				-12		-60.5	2.7	6	4	0	32	Yes	Yes	Yes	Yes		
	Forklift reverse	102	100	1	1	0.3	10	430					-8	-60.7	2.8	17	15	11	31	Yes	Yes	Yes	Yes		
	Forklift unloading	92	94	1	1	0.3	240	430					-8	-60.7	2.8	20	19	14	25	Yes	Yes	Yes	Yes		
	Forklift passby	100	103	2	2	0.5	10	430					-8	-60.7	2.8	18	16	12	34	Yes	Yes	Yes	Yes		
	Car door closure	85	86	8	6	2	2	418				-12		-60.4	2.9	0	0	0	14	Yes	Yes	Yes	Yes		
	Car passby	77	81	8	6	2	15	418				-12		-60.4	2.9	0	0	0	9	Yes	Yes	Yes	Yes		
	Car start	84	85	7	5	2	2	418				-12		-60.4	2.9	0	0	0	13	Yes	Yes	Yes	Yes		
	Voice conversation	78	81	1	1	1	900	418				-12		-60.4	2.8	8	8	8	9	Yes	Yes	Yes	Yes		
	Total															24	23	19		Yes	Yes	Yes			
	Criteria																			46	46	41	53		
2	Truck 6T idle	93	97	1	1	0.3	30	255				-12		-56.1	2.5	13	11	7	29	Yes	Yes	Yes	Yes		
	Truck 6T passby	89	93	2	2	0.5	30	255				-12		-56.1	2.5	12	10	6	25	Yes	Yes	Yes	Yes		
	Truck reverse alarm	99	96	1	1	0.3	30	255				-12		-56.1	2.5	19	17	13	28	Yes	Yes	Yes	Yes		
	Truck air brakes	112	112	1	1	0.3	1	255				-12		-56.1	2.5	17	16	11	44	Yes	Yes	Yes	Yes		
	Truck door closing	96	94	2	2	0.5	2	255				-12		-56.1	2.5	7	6	1	26	Yes	Yes	Yes	Yes		
	Truck starting	102	104	1	1	0.3	2	255				-12		-56.1	2.5	10	9	4	36	Yes	Yes	Yes	Yes		
	Forklift reverse	102	100	1	1	0.3	10	272					-8	-56.7	2.7	20	19	14	35	Yes	Yes	Yes	Yes		
	Forklift unloading	92	94	1	1	0.3	240	272					-8	-56.7	2.7	24	23	18	29	Yes	Yes	Yes	Yes		
	Forklift passby	100	103	2	2	0.5	10	272					-8	-56.7	2.7	21	20	15	38	Yes	Yes	Yes	Yes		
	Car door closure	85	86	8	6	2	2	250				-12		-56	2.8	2	1	0	18	Yes	Yes	Yes	Yes		
	Car passby	77	81	8	6	2	15	250				-12		-56	2.8	3	2	0	13	Yes	Yes	Yes	Yes		
	Car start	84	85	7	5	2	2	250				-12		-56	2.8	1	0	0	17	Yes	Yes	Yes	Yes		
	Voice conversation	78	81	1	1	1	900	250				-12		-56	2.6	13	13	13	13	Yes	Yes	Yes	Yes		
	Total															28	27	23		Yes	Yes	Yes			
	Criteria																			46	46	41	53		
3	Truck 6T idle	93	97	1	1	0.3	30	450				-12		-61.1	2.5	8	6	2	24	Yes	Yes	Yes	Yes		
	Truck 6T passby	89	93	2	2	0.5	30	450				-12		-61.1	2.5	7	5	1	20	Yes	Yes	Yes	Yes		
	Truck reverse alarm	99	96	1	1	0.3	30	450				-12		-61.1	2.5	14	12	8	23	Yes	Yes	Yes	Yes		
	Truck air brakes	112	112	1	1	0.3	1	450				-12		-61.1	2.5	12	11	6	39	Yes	Yes	Yes	Yes		
	Truck door closing	96	94	2	2	0.5	2	450				-12		-61.1	2.5	2	1	0	21	Yes	Yes	Yes	Yes		
	Truck starting	102	104	1	1	0.3	2	450				-12		-61.1	2.5	5	4	0	31	Yes	Yes	Yes	Yes		
	Forklift reverse	102	100	1	1	0.3	10	356					-8	-59	2.7	18	17	12	33	Yes	Yes	Yes	Yes		
	Forklift unloading	92	94	1	1	0.3	240	356					-8	-59	2.7	22	21	16	27	Yes	Yes	Yes	Yes		
	Forklift passby	100	103	2	2	0.5	10	356					-8	-59	2.7	19	18	13	36	Yes	Yes	Yes	Yes		
	Car door closure	85	86	8	6	2	2	433				-12		-60.7	2.8	0	0	0	13	Yes	Yes	Yes	Yes		
	Car passby	77	81	8	6	2	15	433				-12		-60.7	2.8	0	0	0	8	Yes	Yes	Yes	Yes		
	Car start	84	85	7	5	2	2	433				-12		-60.7	2.8	0	0	0	12	Yes	Yes	Yes	Yes		
	Voice conversation	78	81	1	1	1	900	433				-12		-60.7	2.6	8	8	8	8	Yes	Yes	Yes	Yes		
	Total															25	24	20		Yes	Yes	Yes			

Receivers 1. 885-899, 901, 917, 919-929 & 931 Mamre Rd (W) 2. 930-966 Mamre Rd (S) 3. 844-862 Mamre Rd (N)		Lot 8																							
		Corrected Lw (Leq) dB(A)	LwMax dB(A)	No. of events per 15min	No. of events per 15min Eve	No. of events per 15min Night	Duration per event (s)	Distance (m)	Inc	Barrier (height (m))	Barrier screening dB	Building Screening dB	Building TL dB	Dist atten. @-6dB/dd	3m/s Wind correction dB	L _{eq} adj, 15min ext. dB(A)	L _{eq} adj, T ext. dB(A) Eve	L _{eq} adj, T ext. dB(A) Night	L _{max} dB(A) Night	LAeq 15 min Compliance			Sleep Disturbance		
																				Day	Eve	Night		L _{max}	
Description																				51	46	41	56		
1	Criteria	93	97	1	1	0.3	30	460			-12			-61.3	2.7	8	6	2	24	Yes	Yes	Yes	Yes		
	Truck 6T idle	89	93	2	2	0.5	30	460			-12			-61.3	2.7	7	5	1	20	Yes	Yes	Yes	Yes		
	Truck 6T passby	99	96	1	1	0.3	30	460			-12			-61.3	2.7	14	12	8	23	Yes	Yes	Yes	Yes		
	Truck reverse alarm	112	112	1	1	0.3	1	460			-12			-61.3	2.7	12	11	6	39	Yes	Yes	Yes	Yes		
	Truck air brakes	96	94	2	2	0.5	2	460			-12			-61.3	2.7	2	1	0	21	Yes	Yes	Yes	Yes		
	Truck door closing	102	104	1	1	0.3	2	460			-12			-61.3	2.7	5	4	0	31	Yes	Yes	Yes	Yes		
	Truck starting	102	100	1	1	0.3	10	465				-8	-61.3	2.8	16	15	10	31	Yes	Yes	Yes	Yes			
	Forklift reverse	92	94	1	1	0.3	240	465				-8	-61.3	2.8	20	18	14	25	Yes	Yes	Yes	Yes			
	Forklift unloading	100	103	2	2	0.5	10	465				-8	-61.3	2.8	17	16	11	34	Yes	Yes	Yes	Yes			
	Forklift passby	85	86	8	6	2	2	455			-12			-61.2	2.9	0	0	0	13	Yes	Yes	Yes	Yes		
	Car door closure	77	81	8	6	2	15	455			-12			-61.2	2.9	0	0	0	8	Yes	Yes	Yes	Yes		
	Car passby	84	85	7	5	2	2	455			-12			-61.2	2.9	0	0	0	12	Yes	Yes	Yes	Yes		
	Car start	78	81	1	1	1	900	455			-12			-61.2	2.8	8	8	8	8	Yes	Yes	Yes	Yes		
	Voice conversation	Total																			Yes	Yes	Yes	Yes	
2	Criteria															23	23	18		Yes	Yes	Yes	53		
	Truck 6T idle	93	97	1	1	0.3	30	275			-12			-56.8	2.6	12	11	6	28	Yes	Yes	Yes	Yes		
	Truck 6T passby	89	93	2	2	0.5	30	275			-12			-56.8	2.6	11	10	5	24	Yes	Yes	Yes	Yes		
	Truck reverse alarm	99	96	1	1	0.3	30	275			-12			-56.8	2.6	18	17	12	27	Yes	Yes	Yes	Yes		
	Truck air brakes	112	112	1	1	0.3	1	275			-12			-56.8	2.6	16	15	10	43	Yes	Yes	Yes	Yes		
	Truck door closing	96	94	2	2	0.5	2	275			-12			-56.8	2.6	6	5	0	25	Yes	Yes	Yes	Yes		
	Truck starting	102	104	1	1	0.3	2	275			-12			-56.8	2.6	9	8	3	35	Yes	Yes	Yes	Yes		
	Forklift reverse	102	100	1	1	0.3	10	292				-8	-57.3	2.7	20	19	14	35	Yes	Yes	Yes	Yes			
	Forklift unloading	92	94	1	1	0.3	240	292				-8	-57.3	2.7	24	22	18	29	Yes	Yes	Yes	Yes			
	Forklift passby	100	103	2	2	0.5	10	292				-8	-57.3	2.7	21	20	15	38	Yes	Yes	Yes	Yes			
	Car door closure	85	86	8	6	2	2	263			-12			-56.4	2.8	2	1	0	18	Yes	Yes	Yes	Yes		
	Car passby	77	81	8	6	2	15	263			-12			-56.4	2.8	3	1	0	13	Yes	Yes	Yes	Yes		
	Car start	84	85	7	5	2	2	263			-12			-56.4	2.8	0	0	0	17	Yes	Yes	Yes	Yes		
	Voice conversation	78	81	1	1	1	900	263			-12			-56.4	2.7	12	12	12	13	Yes	Yes	Yes	Yes		
Total															27	27	22		Yes	Yes	Yes				
3	Criteria																			46	46	41	53		
	Truck 6T idle	93	97	1	1	0.3	30	452			-12			-61.1	2.6	8	6	2	24	Yes	Yes	Yes	Yes		
	Truck 6T passby	89	93	2	2	0.5	30	452			-12			-61.1	2.6	7	5	1	20	Yes	Yes	Yes	Yes		
	Truck reverse alarm	99	96	1	1	0.3	30	452			-12			-61.1	2.6	14	12	8	23	Yes	Yes	Yes	Yes		
	Truck air brakes	112	112	1	1	0.3	1	452			-12			-61.1	2.6	12	11	6	39	Yes	Yes	Yes	Yes		
	Truck door closing	96	94	2	2	0.5	2	452			-12			-61.1	2.6	2	1	0	21	Yes	Yes	Yes	Yes		
	Truck starting	102	104	1	1	0.3	2	452			-12			-61.1	2.6	5	4	0	31	Yes	Yes	Yes	Yes		
	Forklift reverse	102	100	1	1	0.3	10	385				-8	-59.7	2.7	17	16	11	32	Yes	Yes	Yes	Yes			
	Forklift unloading	92	94	1	1	0.3	240	385				-8	-59.7	2.7	21	20	15	26	Yes	Yes	Yes	Yes			
	Forklift passby	100	103	2	2	0.5	10	385				-8	-59.7	2.7	18	17	12	35	Yes	Yes	Yes	Yes			
	Car door closure	85	86	8	6	2	2	444			-12			-60.9	2.8	0	0	0	13	Yes	Yes	Yes	Yes		
	Car passby	77	81	8	6	2	15	444			-12			-60.9	2.8	0	0	0	8	Yes	Yes	Yes	Yes		
	Car start	84	85	7	5	2	2	444			-12			-60.9	2.8	0	0	0	12	Yes	Yes	Yes	Yes		
	Voice conversation	78	81	1	1	1	900	444			-12			-60.9	2.7	8	8	8	8	Yes	Yes	Yes	Yes		
Total															25	24	19		Yes	Yes	Yes				

	Receivers 1. 885-899, 901, 917, 919-929 & 931 Mamre Rd (W) 2. 930-966 Mamre Rd (S) 3. 844-862 Mamre Rd (N)	Lot 9																						
		Corrected Lw (Leq) dB(A)	LwMax dB(A)	No. of events per 15min	No. of events per 15min Eve	No. of events per 15min Night	Duration per event (s)	Distance (m)	Inc	Barrier (height (m))	Barrier screening dB	Building Screening dB	Building TL dB	Dist atten. @ 60dB/dd	3m/s Wind correction dB	L _{eq} adj, 15min ext. dB(A)	L _{eq} adj, T ext. dB(A) Eve	L _{eq} adj, T ext. dB(A) Night	L _{max} dB(A) Night	L _{Aeq} 15 min Compliance			Sleep Disturbance	
																				Day	Eve	Night		L _{Amax}
	Description																							
1	Criteria																			51	46	41	56	
	Truck 6T idle	93	97	1	1	0.3	30	320				-12		-58.1	2.7	11	10	5	27	Yes	Yes	Yes	Yes	
	Truck 6T passby	89	93	2	2	0.5	30	320				-12		-58.1	2.7	10	9	4	23	Yes	Yes	Yes	Yes	
	Truck reverse alarm	99	96	1	1	0.3	30	320				-12		-58.1	2.7	17	16	11	26	Yes	Yes	Yes	Yes	
	Truck air brakes	112	112	1	1	0.3	1	320				-12		-58.1	2.7	15	14	9	42	Yes	Yes	Yes	Yes	
	Truck door closing	96	94	2	2	0.5	2	320				-12		-58.1	2.7	5	4	0	24	Yes	Yes	Yes	Yes	
	Truck starting	102	104	1	1	0.3	2	320				-12		-58.1	2.7	8	7	2	34	Yes	Yes	Yes	Yes	
	Forklift reverse	102	100	1	1	0.3	10	328					-8	-58.3	2.8	19	18	13	34	Yes	Yes	Yes	Yes	
	Forklift unloading	92	94	1	1	0.3	240	328					-8	-58.3	2.8	23	21	17	28	Yes	Yes	Yes	Yes	
	Forklift passby	100	103	2	2	0.5	10	328					-8	-58.3	2.8	20	19	14	37	Yes	Yes	Yes	Yes	
2	Car door closure	85	86	8	6	2	2	315				-12		-58	2.8	0	0	0	16	Yes	Yes	Yes	Yes	
	Car passby	77	81	8	6	2	15	315				-12		-58	2.8	1	0	0	11	Yes	Yes	Yes	Yes	
	Car start	84	85	7	5	2	2	315				-12		-58	2.8	0	0	0	15	Yes	Yes	Yes	Yes	
	Voice conversation	78	81	1	1	1	900	315				-12		-58	2.8	11	11	11	11	Yes	Yes	Yes	Yes	
	Total															26	26	21		Yes	Yes	Yes		
	Criteria																			46	46	41	53	
	Truck 6T idle	93	97	1	1	0.3	30	195				-12		-53.8	2.4	15	14	9	31	Yes	Yes	Yes	Yes	
	Truck 6T passby	89	93	2	2	0.5	30	195				-12		-53.8	2.4	14	13	8	27	Yes	Yes	Yes	Yes	
	Truck reverse alarm	99	96	1	1	0.3	30	195				-12		-53.8	2.4	21	20	15	30	Yes	Yes	Yes	Yes	
	Truck air brakes	112	112	1	1	0.3	1	195				-12		-53.8	2.4	19	18	13	46	Yes	Yes	Yes	Yes	
3	Truck door closing	96	94	2	2	0.5	2	195				-12		-53.8	2.4	9	8	3	28	Yes	Yes	Yes	Yes	
	Truck starting	102	104	1	1	0.3	2	195				-12		-53.8	2.4	12	11	6	38	Yes	Yes	Yes	Yes	
	Forklift reverse	102	100	1	1	0.3	10	180					-8	-53.1	2.6	24	23	18	39	Yes	Yes	Yes	Yes	
	Forklift unloading	92	94	1	1	0.3	240	180					-8	-53.1	2.6	28	27	22	33	Yes	Yes	Yes	Yes	
	Forklift passby	100	103	2	2	0.5	10	180					-8	-53.1	2.6	25	24	19	42	Yes	Yes	Yes	Yes	
	Car door closure	85	86	8	6	2	2	175						-52.9	2.7	17	16	11	33	Yes	Yes	Yes	Yes	
	Car passby	77	81	8	6	2	15	175						-52.9	2.7	18	17	12	28	Yes	Yes	Yes	Yes	
	Car start	84	85	7	5	2	2	175						-52.9	2.7	16	15	10	32	Yes	Yes	Yes	Yes	
	Voice conversation	78	81	1	1	1	900	175						-52.9	2.5	28	28	28	28	Yes	Yes	Yes	Yes	
	Total																33	32	30		Yes	Yes	Yes	
4	Criteria																			46	46	41	53	
	Truck 6T idle	93	97	1	1	0.3	30	474				-12		-61.5	2.4	7	6	1	23	Yes	Yes	Yes	Yes	
	Truck 6T passby	89	93	2	2	0.5	30	474				-12		-61.5	2.4	6	5	0	19	Yes	Yes	Yes	Yes	
	Truck reverse alarm	99	96	1	1	0.3	30	474				-12		-61.5	2.4	13	12	7	22	Yes	Yes	Yes	Yes	
	Truck air brakes	112	112	1	1	0.3	1	474				-12		-61.5	2.4	11	10	5	38	Yes	Yes	Yes	Yes	
	Truck door closing	96	94	2	2	0.5	2	474				-12		-61.5	2.4	1	0	0	20	Yes	Yes	Yes	Yes	
	Truck starting	102	104	1	1	0.3	2	474				-12		-61.5	2.4	4	3	0	30	Yes	Yes	Yes	Yes	
	Forklift reverse	102	100	1	1	0.3	10	461					-8	-61.3	2.6	16	15	10	31	Yes	Yes	Yes	Yes	
	Forklift unloading	92	94	1	1	0.3	240	461					-8	-61.3	2.6	20	18	14	25	Yes	Yes	Yes	Yes	
	Forklift passby	100	103	2	2	0.5	10	461					-8	-61.3	2.6	17	16	11	34	Yes	Yes	Yes	Yes	
5	Car door closure	85	86	8	6	2	2	455				-12		-61.2	2.7	0	0	0	13	Yes	Yes	Yes	Yes	
	Car passby	77	81	8	6	2	15	455				-12		-61.2	2.7	0	0	0	8	Yes	Yes	Yes	Yes	
	Car start	84	85	7	5	2	2	455				-12		-61.2	2.7	0	0	0	12	Yes	Yes	Yes	Yes	
	Voice conversation	78	81	1	1	1	900	455				-12		-61.2	2.7	8	8	8	8	Yes	Yes	Yes	Yes	
	Total																23	22	18		Yes	Yes	Yes	

Receivers 1. 885-899, 901, 917, 919-929 & 931 Mamre Rd (W) 2. 930-966 Mamre Rd (S) 3. 844-862 Mamre Rd (N)		Lot 10																						
		Corrected Lw (Leq) dB(A)	LwMax dB(A)	No. of events per 15min	No. of events per 15min Eve	No. of events per 15min Night	Duration per event (s)	Distance (m)	Inc	Barrier (height (m))	Barrier screening dB	Building Screening dB	Building TL dB	Dist atten. @-6dB/dd	3m/s Wind correction dB	L _{eq} adj,15min ext. dB(A)	L _{eq} adj,T ext. dB(A) Eve	L _{eq} adj,T ext. dB(A) Night	L _{max} dB(A) Night	L _{Aeq} 15 min Compliance				Sleep Disturbance
																				Day	Eve	Night	L _{Amax}	
Description																				51	46	41	56	
1	Criteria																							
	Truck 6T idle	93	97	1	1	0.3	30	295			-12		-57.4	2.7	12	10	6	28	Yes	Yes	Yes	Yes		
	Truck 6T passby	89	93	2	2	0.5	30	295			-12		-57.4	2.7	11	9	5	24	Yes	Yes	Yes	Yes		
	Truck reverse alarm	99	96	1	1	0.3	30	295			-12		-57.4	2.7	18	16	12	27	Yes	Yes	Yes	Yes		
	Truck air brakes	112	112	1	1	0.3	1	295			-12		-57.4	2.7	16	15	10	43	Yes	Yes	Yes	Yes		
	Truck door closing	96	94	2	2	0.5	2	295			-12		-57.4	2.7	6	5	0	25	Yes	Yes	Yes	Yes		
	Truck starting	102	104	1	1	0.3	2	295			-12		-57.4	2.7	9	8	3	35	Yes	Yes	Yes	Yes		
	Forklift reverse	102	100	1	1	0.3	10	304				-8	-57.7	2.8	20	18	14	34	Yes	Yes	Yes	Yes		
	Forklift unloading	92	94	1	1	0.3	240	304				-8	-57.7	2.8	23	22	17	28	Yes	Yes	Yes	Yes		
	Forklift passby	100	103	2	2	0.5	10	304				-8	-57.7	2.8	21	19	15	37	Yes	Yes	Yes	Yes		
	Car door closure	85	86	8	6	2	2	290			-12		-57.2	2.8	1	0	0	17	Yes	Yes	Yes	Yes		
	Car passby	77	81	8	6	2	15	290			-12		-57.2	2.8	2	1	0	12	Yes	Yes	Yes	Yes		
	Car start	84	85	7	5	2	2	290			-12		-57.2	2.8	0	0	0	16	Yes	Yes	Yes	Yes		
	Voice conversation	78	81	1	1	1	900	290			-12		-57.2	2.8	12	12	12	12	Yes	Yes	Yes	Yes		
Total															27	26	22		Yes	Yes	Yes			
2	Criteria																			46	46	41	53	
	Truck 6T idle	93	97	1	1	0.3	30	145			-12		-51.2	2.2	17	16	11	34	Yes	Yes	Yes	Yes		
	Truck 6T passby	89	93	2	2	0.5	30	145			-12		-51.2	2.2	16	15	10	30	Yes	Yes	Yes	Yes		
	Truck reverse alarm	99	96	1	1	0.3	30	145			-12		-51.2	2.2	23	22	17	33	Yes	Yes	Yes	Yes		
	Truck air brakes	112	112	1	1	0.3	1	145			-12		-51.2	2.2	21	20	15	49	Yes	Yes	Yes	Yes		
	Truck door closing	96	94	2	2	0.5	2	145			-12		-51.2	2.2	11	10	5	31	Yes	Yes	Yes	Yes		
	Truck starting	102	104	1	1	0.3	2	145			-12		-51.2	2.2	14	13	8	41	Yes	Yes	Yes	Yes		
	Forklift reverse	102	100	1	1	0.3	10	135				-8	-50.6	2.4	26	25	20	41	Yes	Yes	Yes	Yes		
	Forklift unloading	92	94	1	1	0.3	240	135				-8	-50.6	2.4	30	29	24	35	Yes	Yes	Yes	Yes		
	Forklift passby	100	103	2	2	0.5	10	135				-8	-50.6	2.4	27	26	21	44	Yes	Yes	Yes	Yes		
	Car door closure	85	86	8	6	2	2	136			-12		-50.7	2.6	7	6	1	23	Yes	Yes	Yes	Yes		
	Car passby	77	81	8	6	2	15	136			-12		-50.7	2.6	8	7	2	18	Yes	Yes	Yes	Yes		
	Car start	84	85	7	5	2	2	136			-12		-50.7	2.6	6	5	0	22	Yes	Yes	Yes	Yes		
	Voice conversation	78	81	1	1	1	900	136			-12		-50.7	2.3	18	18	18	18	Yes	Yes	Yes	Yes		
Total															34	33	28		Yes	Yes	Yes			
3	Criteria																			46	46	41	53	
	Truck 6T idle	93	97	1	1	0.3	30	488			-12		-61.8	2.8	7	6	1	23	Yes	Yes	Yes	Yes		
	Truck 6T passby	89	93	2	2	0.5	30	488			-12		-61.8	2.8	6	5	0	19	Yes	Yes	Yes	Yes		
	Truck reverse alarm	99	96	1	1	0.3	30	488			-12		-61.8	2.8	13	12	7	22	Yes	Yes	Yes	Yes		
	Truck air brakes	112	112	1	1	0.3	1	488			-12		-61.8	2.8	11	10	5	38	Yes	Yes	Yes	Yes		
	Truck door closing	96	94	2	2	0.5	2	488			-12		-61.8	2.8	2	0	0	20	Yes	Yes	Yes	Yes		
	Truck starting	102	104	1	1	0.3	2	488			-12		-61.8	2.8	4	3	0	30	Yes	Yes	Yes	Yes		
	Forklift reverse	102	100	1	1	0.3	10	484				-8	-61.7	2.9	16	14	10	30	Yes	Yes	Yes	Yes		
	Forklift unloading	92	94	1	1	0.3	240	484				-8	-61.7	2.9	19	18	13	24	Yes	Yes	Yes	Yes		
	Forklift passby	100	103	2	2	0.5	10	484				-8	-61.7	2.9	17	15	11	33	Yes	Yes	Yes	Yes		
	Car door closure	85	86	8	6	2	2	503			-12		-62	2.9	0	0	0	12	Yes	Yes	Yes	Yes		
	Car passby	77	81	8	6	2	15	503			-12		-62	2.9	0	0	0	7	Yes	Yes	Yes	Yes		
	Car start	84	85	7	5	2	2	503			-12		-62	2.9	0	0	0	11	Yes	Yes	Yes	Yes		
	Voice conversation	78	81	1	1	1	900	503			-12		-62	2.8	7	7	7	7	Yes	Yes	Yes	Yes		
Total															23	22	18		Yes	Yes	Yes			

Receivers 1. 885-899, 901, 917, 919-929 & 931 Mamre Rd (W) 2. 930-966 Mamre Rd (S) 3. 844-862 Mamre Rd (N)		Lot 11																								
		Corrected Lw (Leq) dB(A)	LwMax dB(A)	No. of events per 15min	No. of events per 15min Eve	No. of events per 15min Night	Duration per event (s)	Distance (m)	Inc	Barrier (height (m))	Barrier screening dB	Building Screening dB	Building TL dB	Dist atten. @ 6dB/dd	3m/s Wind correction dB	L _{Aeq} adj, 15min ext. dB(A)	L _{Aeq} adj, T ext. dB(A) Eve	L _{Aeq} adj, T ext. dB(A) Night	L _{Amax} dB(A) Night	L _{Aeq} 15 min Compliance			Sleep Disturbance			
																				Day	Eve	Night		L _{Amax}		
Description																										
1	Criteria																			51	46	41	56			
	Truck 6T idle	93	97	1	1	0.3	30	286			-12		-57.1	2.7	12	11	6	28	Yes	Yes	Yes	Yes				
	Truck 6T passby	89	93	2	2	0.5	30	286			-12		-57.1	2.7	11	10	5	24	Yes	Yes	Yes	Yes				
	Truck reverse alarm	99	96	1	1	0.3	30	286			-12		-57.1	2.7	18	17	12	27	Yes	Yes	Yes	Yes				
	Truck air brakes	112	112	1	1	0.3	1	286			-12		-57.1	2.7	16	15	10	43	Yes	Yes	Yes	Yes				
	Truck door closing	96	94	2	2	0.5	2	286			-12		-57.1	2.7	6	5	0	25	Yes	Yes	Yes	Yes				
	Truck starting	102	104	1	1	0.3	2	286			-12		-57.1	2.7	9	8	3	35	Yes	Yes	Yes	Yes				
	Forklift reverse	102	100	1	1	0.3	10	294				-8	-57.4	2.8	20	19	14	35	Yes	Yes	Yes	Yes				
	Forklift unloading	92	94	1	1	0.3	240	294				-8	-57.4	2.8	24	22	18	29	Yes	Yes	Yes	Yes				
	Forklift passby	100	103	2	2	0.5	10	294				-8	-57.4	2.8	21	20	15	38	Yes	Yes	Yes	Yes				
	Car door closure	85	86	8	6	2	2	281			-12		-57	2.8	1	0	0	17	Yes	Yes	Yes	Yes				
	Car passby	77	81	8	6	2	15	281			-12		-57	2.8	2	1	0	12	Yes	Yes	Yes	Yes				
	Car start	84	85	7	5	2	2	281			-12		-57	2.8	0	0	0	16	Yes	Yes	Yes	Yes				
	Voice conversation	78	81	1	1	1	900	281			-12		-57	2.8	12	12	12	12	Yes	Yes	Yes	Yes				
Total															27	27	22		Yes	Yes	Yes					
2	Criteria																			46	46	41	53			
	Truck 6T idle	93	97	1	1	0.3	30	116			-12		-49.3	2	19	18	13	36	Yes	Yes	Yes	Yes				
	Truck 6T passby	89	93	2	2	0.5	30	116			-12		-49.3	2	18	17	12	32	Yes	Yes	Yes	Yes				
	Truck reverse alarm	99	96	1	1	0.3	30	116			-12		-49.3	2	25	24	19	35	Yes	Yes	Yes	Yes				
	Truck air brakes	112	112	1	1	0.3	1	116			-12		-49.3	2	23	22	17	51	Yes	Yes	Yes	Yes				
	Truck door closing	96	94	2	2	0.5	2	116			-12		-49.3	2	13	12	7	33	Yes	Yes	Yes	Yes				
	Truck starting	102	104	1	1	0.3	2	116			-12		-49.3	2	16	15	10	43	Yes	Yes	Yes	Yes				
	Forklift reverse	102	100	1	1	0.3	10	87				-8	-46.8	2.1	30	29	24	45	Yes	Yes	Yes	Yes				
	Forklift unloading	92	94	1	1	0.3	240	87				-8	-46.8	2.1	34	32	28	39	Yes	Yes	Yes	Yes				
	Forklift passby	100	103	2	2	0.5	10	87				-8	-46.8	2.1	31	30	25	48	Yes	Yes	Yes	Yes				
	Car door closure	85	86	8	6	2	2	90			-12		-47.1	2.3	11	9	5	27	Yes	Yes	Yes	Yes				
	Car passby	77	81	8	6	2	15	90			-12		-47.1	2.3	11	10	5	22	Yes	Yes	Yes	Yes				
	Car start	84	85	7	5	2	2	90			-12		-47.1	2.3	9	8	3	26	Yes	Yes	Yes	Yes				
	Voice conversation	78	81	1	1	1	900	90			-12		-47.1	2	21	21	21	22	Yes	Yes	Yes	Yes				
Total															37	36	32		Yes	Yes	Yes					
3	Criteria																			46	46	41	53			
	Truck 6T idle	93	97	1	1	0.3	30	540			-12		-62.6	2.8	6	5	0	22	Yes	Yes	Yes	Yes				
	Truck 6T passby	89	93	2	2	0.5	30	540			-12		-62.6	2.8	5	4	0	18	Yes	Yes	Yes	Yes				
	Truck reverse alarm	99	96	1	1	0.3	30	540			-12		-62.6	2.8	12	11	6	21	Yes	Yes	Yes	Yes				
	Truck air brakes	112	112	1	1	0.3	1	540			-12		-62.6	2.8	11	9	5	37	Yes	Yes	Yes	Yes				
	Truck door closing	96	94	2	2	0.5	2	540			-12		-62.6	2.8	1	0	0	19	Yes	Yes	Yes	Yes				
	Truck starting	102	104	1	1	0.3	2	540			-12		-62.6	2.8	4	2	0	29	Yes	Yes	Yes	Yes				
	Forklift reverse	102	100	1	1	0.3	10	531				-8	-62.5	2.9	15	14	9	29	Yes	Yes	Yes	Yes				
	Forklift unloading	92	94	1	1	0.3	240	531				-8	-62.5	2.9	19	17	13	23	Yes	Yes	Yes	Yes				
	Forklift passby	100	103	2	2	0.5	10	531				-8	-62.5	2.9	16	15	10	32	Yes	Yes	Yes	Yes				
	Car door closure	85	86	8	6	2	2	560			-12		-63	2.9	0	0	0	11	Yes	Yes	Yes	Yes				
	Car passby	77	81	8	6	2	15	560			-12		-63	2.9	0	0	0	6	Yes	Yes	Yes	Yes				
	Car start	84	85	7	5	2	2	560			-12		-63	2.9	0	0	0	10	Yes	Yes	Yes	Yes				
	Voice conversation	78	81	1	1	1	900	560			-12		-63	2.8	6	6	6	6	Yes	Yes	Yes	Yes				
Total															22	22	17		Yes	Yes	Yes					

Receivers 1. 885-899, 901, 917, 919-929 & 931 Mamre Rd (W) 2. 930-966 Mamre Rd (S) 3. 844-862 Mamre Rd (N)		Lot 12																				
		Corrected Lw (Leq) dB(A)	LwMax dB(A)	No. of events per 15min	No. of events per 15min Eve	No. of events per 15min Night	Duration per event (s)	Distance (m)	Inc Barrier (height (m))	Barrier screening dB	Building Screening dB	Building TL dB	Dist atten. @-6dB/dd	3m/s Wind correction dB	L _{Aeq} adj, 15min ext. dB(A)	L _{Aeq} adj, T ext. dB(A) Eve	L _{Aeq} adj, T ext. dB(A) Night	L _{Amax} dB(A) Night	L _{Aeq} 15 min Compliance			Sleep Disturbance
																			Day	Eve	Night	
Description																			51	46	41	56
1	Criteria																		Yes	Yes	Yes	Yes
	Truck 6T idle	93	97	1	1	0.3	30	332			-12		-58.4	2.7	11	9	4	27	Yes	Yes	Yes	Yes
	Truck 6T passby	89	93	2	2	0.5	30	332			-12		-58.4	2.7	10	8	3	23	Yes	Yes	Yes	Yes
	Truck reverse alarm	99	96	1	1	0.3	30	332			-12		-58.4	2.7	17	15	10	26	Yes	Yes	Yes	Yes
	Truck air brakes	112	112	1	1	0.3	1	332			-12		-58.4	2.7	15	13	9	42	Yes	Yes	Yes	Yes
	Truck door closing	96	94	2	2	0.5	2	332			-12		-58.4	2.7	5	4	0	24	Yes	Yes	Yes	Yes
	Truck starting	102	104	1	1	0.3	2	332			-12		-58.4	2.7	8	6	2	34	Yes	Yes	Yes	Yes
	Forklift reverse	102	100	1	1	0.3	10	288				-8	-57.2	2.8	20	19	14	35	Yes	Yes	Yes	Yes
	Forklift unloading	92	94	1	1	0.3	240	288				-8	-57.2	2.8	24	23	18	29	Yes	Yes	Yes	Yes
	Forklift passby	100	103	2	2	0.5	10	288				-8	-57.2	2.8	21	20	15	38	Yes	Yes	Yes	Yes
2	Car door closure	85	86	8	6	2	2	282			-12		-57	2.8	1	0	0	17	Yes	Yes	Yes	Yes
	Car passby	77	81	8	6	2	15	282			-12		-57	2.8	2	1	0	12	Yes	Yes	Yes	Yes
	Car start	84	85	7	5	2	2	282			-12		-57	2.8	0	0	0	16	Yes	Yes	Yes	Yes
	Voice conversation	78	81	1	1	1	900	280			-12		-56.9	2.8	12	12	12	12	Yes	Yes	Yes	Yes
	Total														27	27	22		Yes	Yes	Yes	
	Criteria																		46	46	41	53
	Truck 6T idle	93	97	1	1	0.3	30	85	4.6	-6	-7		-46.6	1.6	20	19	14	37	Yes	Yes	Yes	Yes
	Truck 6T passby	89	93	2	2	0.5	30	85	4.6	-6	-7		-46.6	1.6	19	18	13	33	Yes	Yes	Yes	Yes
	Truck reverse alarm	99	96	1	1	0.3	30	85	4.6	-6	-7		-46.6	1.6	26	25	20	36	Yes	Yes	Yes	Yes
	Truck air brakes	112	112	1	1	0.3	1	85	4.6	-6	-7		-46.6	1.6	24	23	18	52	Yes	Yes	Yes	Yes
3	Truck door closing	96	94	2	2	0.5	2	85	4.6	-6	-7		-46.6	1.6	14	13	8	34	Yes	Yes	Yes	Yes
	Truck starting	102	104	1	1	0.3	2	85	4.6	-6	-7		-46.6	1.6	17	16	11	44	Yes	Yes	Yes	Yes
	Forklift reverse	102	100	1	1	0.3	10	56	4.6	-7		-8	-43	1.7	26	25	20	42	Yes	Yes	Yes	Yes
	Forklift unloading	92	94	1	1	0.3	240	56	4.6	-7		-8	-43	1.7	30	29	24	36	Yes	Yes	Yes	Yes
	Forklift passby	100	103	2	2	0.5	10	56	4.6	-7		-8	-43	1.7	27	26	21	45	Yes	Yes	Yes	Yes
	Car door closure	85	86	8	6	2	2	73	4.6	-8	-7		-45.3	2.2	9	8	3	26	Yes	Yes	Yes	Yes
	Car passby	77	81	8	6	2	15	73	4.6	-8	-7		-45.3	2.2	10	9	4	21	Yes	Yes	Yes	Yes
	Car start	84	85	7	5	2	2	73	4.6	-8	-7		-45.3	2.2	8	7	2	25	Yes	Yes	Yes	Yes
	Voice conversation	78	81	1	1	1	900	73	4.6	-7	-5		-45.3	1.8	23	23	23	24	Yes	Yes	Yes	Yes
	Total														34	34	30		Yes	Yes	Yes	
3	Criteria																		46	46	41	53
	Truck 6T idle	93	97	1	1	0.3	30	596			-12		-63.5	2.8	6	4	0	21	Yes	Yes	Yes	Yes
	Truck 6T passby	89	93	2	2	0.5	30	596			-12		-63.5	2.8	5	3	0	17	Yes	Yes	Yes	Yes
	Truck reverse alarm	99	96	1	1	0.3	30	596			-12		-63.5	2.8	12	10	6	20	Yes	Yes	Yes	Yes
	Truck air brakes	112	112	1	1	0.3	1	596			-12		-63.5	2.8	10	9	4	36	Yes	Yes	Yes	Yes
	Truck door closing	96	94	2	2	0.5	2	596			-12		-63.5	2.8	0	0	0	18	Yes	Yes	Yes	Yes
	Truck starting	102	104	1	1	0.3	2	596			-12		-63.5	2.8	3	2	0	28	Yes	Yes	Yes	Yes
	Forklift reverse	102	100	1	1	0.3	10	572				-8	-63.1	2.9	14	13	8	29	Yes	Yes	Yes	Yes
	Forklift unloading	92	94	1	1	0.3	240	572				-8	-63.1	2.9	18	17	12	23	Yes	Yes	Yes	Yes
	Forklift passby	100	103	2	2	0.5	10	572				-8	-63.1	2.9	15	14	9	32	Yes	Yes	Yes	Yes
3	Car door closure	85	86	8	6	2	2	578			-12		-63.2	2.9	0	0	0	11	Yes	Yes	Yes	Yes
	Car passby	77	81	8	6	2	15	578			-12		-63.2	2.9	0	0	0	6	Yes	Yes	Yes	Yes
	Car start	84	85	7	5	2	2	578			-12		-63.2	2.9	0	0	0	10	Yes	Yes	Yes	Yes
	Voice conversation	78	81	1	1	1	900	578			-12		-63.2	2.8	6	6	6	6	Yes	Yes	Yes	Yes
	Total														22	21	17		Yes	Yes	Yes	

Receivers		Lot 13																					
1. 885-899, 901, 917, 919-929 & 931 Mamre Rd (W) 2. 930-966 Mamre Rd (S) 3. 844-862 Mamre Rd (N)		Corrected Lw (Leq) dB(A)	LwMax dB(A)	No. of events per 15min	No. of events per 15min Eve	No. of events per 15min Night	Duration per event (s)	Distance (m)	Inc	Barrier (height (m))	Barrier screening dB	Building Screening dB	Building TL dB	Dist atten. @ 6dB/dd	3m/s Wind correction dB	L _{eq} adj, 15min ext. dB(A)	L _{eq} adj, T ext. dB(A) Eve	L _{eq} adj, T ext. dB(A) Night	L _{max} dB(A) Night	L _{Aeq} 15 min Compliance			Sleep Disturbance
Description																				Day	Eve	Night	L _{max}
Criteria																				51	46	41	56
1	Truck 6T idle	93	97	1	1	0.3	30	368				-12		-59.3	2.7	10	8	4	26	Yes	Yes	Yes	Yes
	Truck 6T passby	89	93	2	2	1	30	368				-12		-59.3	2.7	9	7	3	22	Yes	Yes	Yes	Yes
	Truck reverse alarm	99	96	1	1	0.3	30	368				-12		-59.3	2.7	16	14	10	25	Yes	Yes	Yes	Yes
Truck air brakes		112	112	2	2	1	1	368				-12		-59.3	2.7	17	16	11	41	Yes	Yes	Yes	Yes
Truck door closing		96	94	2	2	1	2	368				-12		-59.3	2.7	4	3	0	23	Yes	Yes	Yes	Yes
Truck starting		102	104	1	1	0.3	2	368				-12		-59.3	2.7	7	6	1	33	Yes	Yes	Yes	Yes
Forklift reverse		102	100	2	2	1	10	389					-8	-59.8	2.8	20	19	14	32	Yes	Yes	Yes	Yes
Forklift unloading		92	94	2	2	1	240	389					-8	-59.8	2.8	24	23	18	26	Yes	Yes	Yes	Yes
Forklift passby		100	103	4	3	1	10	389					-8	-59.8	2.8	21	20	15	35	Yes	Yes	Yes	Yes
Car door closure		85	86	15	11	4	2	361				-12		-59.2	2.9	2	1	0	15	Yes	Yes	Yes	Yes
Car passby		77	81	15	11	4	15	361				-12		-59.2	2.9	3	1	0	10	Yes	Yes	Yes	Yes
Car start		84	85	15	11	4	2	361				-12		-59.2	2.9	1	0	0	14	Yes	Yes	Yes	Yes
Voice conversation		78	81	1	1	1	900	361				-12		-59.2	2.8	10	10	10	10	Yes	Yes	Yes	Yes
Total																28	27	22		Yes	Yes	Yes	
Criteria																				46	46	41	53
2	Truck 6T idle	93	97	1	1	0.3	30	136	3	-7				-50.7	2.1	23	21	17	39	Yes	Yes	Yes	Yes
	Truck 6T passby	89	93	2	2	1	30	136	3	-7				-50.7	2.1	22	20	16	35	Yes	Yes	Yes	Yes
	Truck reverse alarm	99	96	1	1	0.3	30	136	3	-7				-50.7	2.1	29	27	23	38	Yes	Yes	Yes	Yes
	Truck air brakes	112	112	2	2	1	1	136	3	-8				-50.7	2.1	29	28	23	53	Yes	Yes	Yes	Yes
	Truck door closing	96	94	2	2	1	2	136	3	-7				-50.7	2.1	17	16	11	36	Yes	Yes	Yes	Yes
	Truck starting	102	104	1	1	0.3	2	136	3	-7				-50.7	2.1	20	19	14	46	Yes	Yes	Yes	Yes
	Forklift reverse	102	100	2	2	1	10	120	3	-8		-8		-49.6	2.4	22	21	16	34	Yes	Yes	Yes	Yes
	Forklift unloading	92	94	2	2	1	240	120	3	-8		-8		-49.6	2.4	26	25	20	28	Yes	Yes	Yes	Yes
	Forklift passby	100	103	4	3	1	10	120	3	-8		-8		-49.6	2.4	23	22	17	37	Yes	Yes	Yes	Yes
	Car door closure	85	86	15	11	4	2	114	3	-9				-49.1	2.5	15	13	9	28	Yes	Yes	Yes	Yes
	Car passby	77	81	15	11	4	15	114	3	-9				-49.1	2.5	15	14	9	23	Yes	Yes	Yes	Yes
	Car start	84	85	15	11	4	2	114	3	-9				-49.1	2.5	14	12	8	27	Yes	Yes	Yes	Yes
	Voice conversation	78	81	1	1	1	900	114	3	-8				-49.1	2.2	23	23	23	24	Yes	Yes	Yes	Yes
	Total																34	34	30		Yes	Yes	Yes
Criteria																				46	46	41	53
3	Truck 6T idle	93	97	1	1	0.3	30	572				-12		-63.1	2.8	6	5	0	22	Yes	Yes	Yes	Yes
	Truck 6T passby	89	93	2	2	1	30	572				-12		-63.1	2.8	5	4	0	18	Yes	Yes	Yes	Yes
	Truck reverse alarm	99	96	1	1	0.3	30	572				-12		-63.1	2.8	12	11	6	21	Yes	Yes	Yes	Yes
	Truck air brakes	112	112	2	2	1	1	572				-12		-63.1	2.8	13	12	7	37	Yes	Yes	Yes	Yes
	Truck door closing	96	94	2	2	1	2	572				-12		-63.1	2.8	0	0	0	19	Yes	Yes	Yes	Yes
	Truck starting	102	104	1	1	0.3	2	572				-12		-63.1	2.8	3	2	0	29	Yes	Yes	Yes	Yes
	Forklift reverse	102	100	2	2	1	10	551					-8	-62.8	2.9	18	16	12	29	Yes	Yes	Yes	Yes
	Forklift unloading	92	94	2	2	1	240	551					-8	-62.8	2.9	21	20	15	23	Yes	Yes	Yes	Yes
	Forklift passby	100	103	4	3	1	10	551					-8	-62.8	2.9	19	17	13	32	Yes	Yes	Yes	Yes
	Car door closure	85	86	15	11	4	2	544				-12		-62.7	2.9	0	0	0	11	Yes	Yes	Yes	Yes
	Car passby	77	81	15	11	4	15	544				-12		-62.7	2.9	0	0	0	6	Yes	Yes	Yes	Yes
	Car start	84	85	15	11	4	2	544				-12		-62.7	2.9	0	0	0	10	Yes	Yes	Yes	Yes
	Voice conversation	78	81	1	1	1	900	544				-12		-62.7	2.8	6	6	6	6	Yes	Yes	Yes	Yes
	Total																25	24	19		Yes	Yes	Yes

Receivers		Lot 14																					
1. 885-899, 901, 917, 919-929 & 931 Mamre Rd (W) 2. 930-966 Mamre Rd (S) 3. 844-862 Mamre Rd (N)		Corrected Lw (Leq) dB(A)	LwMax dB(A)	No. of events per 15min	No. of events per 15min Eve	No. of events per 15min Night	Duration per event (s)	Distance (m)	Inc	Barrier (height (m))	Barrier screening dB	Building Screening dB	Building TL dB	Dist atten. @ 6dB/dd	3m/s Wind correction dB	L _{eq} adj, 15min ext. dB(A)	L _{eq} adj, T ext. dB(A) Eve	L _{eq} adj, T ext. dB(A) Night	L _{max} dB(A) Night	L _{Aeq} 15 min Compliance			Sleep Disturbance
Description																				Day	Eve	Night	L _{max}
Criteria																				51	46	41	56
1	Truck 6T idle	93	97	1	1	0.3	30	405			-12			-60.1	2.7	9	8	3	25	Yes	Yes	Yes	Yes
	Truck 6T passby	89	93	2	2	1	30	405			-12			-60.1	2.7	8	7	2	21	Yes	Yes	Yes	Yes
	Truck reverse alarm	99	96	1	1	0.3	30	405			-12			-60.1	2.7	15	14	9	24	Yes	Yes	Yes	Yes
Truck air brakes		112	112	2	2	1	1	405			-12			-60.1	2.7	16	15	10	40	Yes	Yes	Yes	Yes
Truck door closing		96	94	2	2	1	2	405			-12			-60.1	2.7	3	2	0	22	Yes	Yes	Yes	Yes
Truck starting		102	104	1	1	0.3	2	405			-12			-60.1	2.7	6	5	0	32	Yes	Yes	Yes	Yes
Forklift reverse		102	100	2	2	1	10	367					-8	-59.3	2.8	21	20	15	33	Yes	Yes	Yes	Yes
Forklift unloading		92	94	2	2	1	240	367					-8	-59.3	2.8	25	24	19	27	Yes	Yes	Yes	Yes
Forklift passby		100	103	4	3	1	10	367					-8	-59.3	2.8	22	21	16	36	Yes	Yes	Yes	Yes
Car door closure		85	86	15	11	4	2	433			-12			-60.7	2.9	0	0	0	13	Yes	Yes	Yes	Yes
Car passby		77	81	15	11	4	15	433			-12			-60.7	2.9	1	0	0	8	Yes	Yes	Yes	Yes
Car start		84	85	15	11	4	2	433			-12			-60.7	2.9	0	0	0	12	Yes	Yes	Yes	Yes
Voice conversation		78	81	1	1	1	900	433			-12			-60.7	2.8	8	8	8	8	Yes	Yes	Yes	Yes
Total																28	27	23		Yes	Yes	Yes	
Criteria																				46	46	41	53
2	Truck 6T idle	93	97	1	1	0.3	30	214			-12			-54.6	2.4	14	13	8	30	Yes	Yes	Yes	Yes
	Truck 6T passby	89	93	2	2	1	30	214			-12			-54.6	2.4	13	12	7	26	Yes	Yes	Yes	Yes
	Truck reverse alarm	99	96	1	1	0.3	30	214			-12			-54.6	2.4	20	19	14	29	Yes	Yes	Yes	Yes
	Truck air brakes	112	112	2	2	1	1	214			-12			-54.6	2.4	21	20	15	45	Yes	Yes	Yes	Yes
	Truck door closing	96	94	2	2	1	2	214			-12			-54.6	2.4	8	7	2	27	Yes	Yes	Yes	Yes
	Truck starting	102	104	1	1	0.3	2	214			-12			-54.6	2.4	11	10	5	37	Yes	Yes	Yes	Yes
	Forklift reverse	102	100	2	2	1	10	158			-5	-8	-52	-52	2.5	23	22	17	35	Yes	Yes	Yes	Yes
	Forklift unloading	92	94	2	2	1	240	158			-5	-8	-52	-52	2.5	27	26	21	29	Yes	Yes	Yes	Yes
	Forklift passby	100	103	4	3	1	10	158			-5	-8	-52	-52	2.5	24	23	18	38	Yes	Yes	Yes	Yes
	Car door closure	85	86	15	11	4	2	230			-12			-55.2	2.7	6	4	0	19	Yes	Yes	Yes	Yes
	Car passby	77	81	15	11	4	15	230			-12			-55.2	2.7	6	5	0	14	Yes	Yes	Yes	Yes
	Car start	84	85	15	11	4	2	230			-12			-55.2	2.7	5	3	0	18	Yes	Yes	Yes	Yes
	Voice conversation	78	81	1	1	1	900	230			-12			-55.2	2.6	13	13	13	14	Yes	Yes	Yes	Yes
	Total																31	30	25		Yes	Yes	Yes
Criteria																				46	46	41	53
3	Truck 6T idle	93	97	1	1	0.3	30	475			-12			-61.5	2.8	7	6	1	23	Yes	Yes	Yes	Yes
	Truck 6T passby	89	93	2	2	1	30	475			-12			-61.5	2.8	7	5	0	19	Yes	Yes	Yes	Yes
	Truck reverse alarm	99	96	1	1	0.3	30	475			-12			-61.5	2.8	13	12	7	22	Yes	Yes	Yes	Yes
	Truck air brakes	112	112	2	2	1	1	475			-12			-61.5	2.8	15	13	9	38	Yes	Yes	Yes	Yes
	Truck door closing	96	94	2	2	1	2	475			-12			-61.5	2.8	2	0	0	20	Yes	Yes	Yes	Yes
	Truck starting	102	104	1	1	0.3	2	475			-12			-61.5	2.8	5	3	0	30	Yes	Yes	Yes	Yes
	Forklift reverse	102	100	2	2	1	10	493					-8	-61.9	2.9	19	17	12	30	Yes	Yes	Yes	Yes
	Forklift unloading	92	94	2	2	1	240	493					-8	-61.9	2.9	22	21	16	24	Yes	Yes	Yes	Yes
	Forklift passby	100	103	4	3	1	10	493					-8	-61.9	2.9	20	18	14	33	Yes	Yes	Yes	Yes
	Car door closure	85	86	15	11	4	2	498			-12			-61.9	2.9	0	0	0	12	Yes	Yes	Yes	Yes
	Car passby	77	81	15	11	4	15	498			-12			-61.9	2.9	0	0	0	7	Yes	Yes	Yes	Yes
	Car start	84	85	15	11	4	2	498			-12			-61.9	2.9	0	0	0	11	Yes	Yes	Yes	Yes
	Voice conversation	78	81	1	1	1	900	498			-12			-61.9	2.8	7	7	7	7	Yes	Yes	Yes	Yes
	Total																26	25	20		Yes	Yes	Yes

	Receivers 1. 885-899, 901, 917, 919-929 & 931 Mamre Rd (W) 2. 930-966 Mamre Rd (S) 3. 844-862 Mamre Rd (N)	Lot 15																					
		Corrected Lw (Leq) dB(A)	LwMax dB(A)	No. of events per 15min	No. of events per 15min Eve	No. of events per 15min Night	Duration per event (s)	Distance (m)	Inc	Barrier (height (m))	Barrier screening dB	Building Screening dB	Building TL dB	Dist atten. @-6dB/dd	3m/s Wind correction dB	L _{eq} adj,15min ext. dB(A)	L _{eq} adj,T ext. dB(A) Eve	L _{eq} adj,T ext. dB(A) Night	L _{max} dB(A) Night	L _{Aeq} 15 min Compliance			Sleep Disturbance
																				Day	Eve	Night	
	Description																						
	Criteria																			51	46	41	56
1	Truck passby	91	95	8	6	2	30	481			-12		-61.6	2.8	14	13	8	21	Yes	Yes	Yes	Yes	
	Truck reverse alarm	99	103	4	3	1	30	481			-12		-61.6	2.8	19	18	13	29	Yes	Yes	Yes	Yes	
	Truck air brakes	112	114	4	3	1	1	481			-12		-61.6	2.8	18	16	12	40	Yes	Yes	Yes	Yes	
	Truck door closing	96	98	8	6	2	2	481			-12		-61.6	2.8	8	6	2	24	Yes	Yes	Yes	Yes	
	Truck starting	102	105	4	3	1	2	481			-12		-61.6	2.8	11	9	5	31	Yes	Yes	Yes	Yes	
	Truck idle	95	97	4	3	1	30	481			-12		-61.6	2.8	15	14	9	23	Yes	Yes	Yes	Yes	
	Forklift reverse	102	106	3	2	1	10	492				-8	-61.8	2.9	20	19	14	36	Yes	Yes	Yes	Yes	
	Forklift unloading	92	95	3	2	1	240	492				-8	-61.8	2.9	24	23	18	25	Yes	Yes	Yes	Yes	
	Forklift passby	100	104	6	5	2	10	492				-8	-61.8	2.9	21	20	15	34	Yes	Yes	Yes	Yes	
	Car door closure	85	88	20	15	5	2	580			-12		-63.3	2.9	0	0	0	13	Yes	Yes	Yes	Yes	
	Car passby	77	80	20	15	5	15	580			-12		-63.3	2.9	0	0	0	5	Yes	Yes	Yes	Yes	
	Car start	84	88	20	15	5	2	580			-12		-63.3	2.9	0	0	0	13	Yes	Yes	Yes	Yes	
	Voice conversation	78	81	1	1	1	900	580			-12		-63.3	2.9	6	6	6	6	Yes	Yes	Yes	Yes	
	Total														28	27	23		Yes	Yes	Yes		
	Criteria																			46	46	41	53
2	Truck passby	91	95	8	5	2	30	206			-12		-54.3	2.4	21	19	15	29	Yes	Yes	Yes	Yes	
	Truck reverse alarm	99	103	4	3	1	30	206			-12		-54.3	2.4	26	25	20	37	Yes	Yes	Yes	Yes	
	Truck air brakes	112	114	4	3	1	1	206			-12		-54.3	2.4	25	23	19	48	Yes	Yes	Yes	Yes	
	Truck door closing	96	98	8	5	2	2	206			-12		-54.3	2.4	15	13	9	32	Yes	Yes	Yes	Yes	
	Truck starting	102	105	4	3	1	2	206			-12		-54.3	2.4	18	16	12	39	Yes	Yes	Yes	Yes	
	Truck idle	95	97	4	3	1	30	206			-12		-54.3	2.4	22	21	16	31	Yes	Yes	Yes	Yes	
	Forklift reverse	102	106	3	2	1	10	217				-8	-54.7	2.7	27	26	21	43	Yes	Yes	Yes	Yes	
	Forklift unloading	92	95	3	2	1	240	217				-8	-54.7	2.7	31	30	25	32	Yes	Yes	Yes	Yes	
	Forklift passby	100	104	6	5	2	10	217				-8	-54.7	2.7	28	27	22	41	Yes	Yes	Yes	Yes	
	Car door closure	85	88	20	15	5	2	352			-12		-58.9	2.8	3	2	0	17	Yes	Yes	Yes	Yes	
	Car passby	77	80	20	15	5	15	352			-12		-58.9	2.8	4	3	0	9	Yes	Yes	Yes	Yes	
	Car start	84	88	20	15	5	2	352			-12		-58.9	2.8	2	1	0	17	Yes	Yes	Yes	Yes	
	Voice conversation	78	81	1	1	1	900	352			-12		-58.9	2.7	10	10	10	10	Yes	Yes	Yes	Yes	
	Total														35	34	30		Yes	Yes	Yes		
	Criteria										-12									46	46	41	53
3	Truck passby	91	95	8	6	2	30	460			-12		-61.3	2.7	15	13	9	22	Yes	Yes	Yes	Yes	
	Truck reverse alarm	99	103	4	3	1	30	460			-12		-61.3	2.7	20	18	14	30	Yes	Yes	Yes	Yes	
	Truck air brakes	112	114	4	3	1	1	460			-12		-61.3	2.7	18	17	12	41	Yes	Yes	Yes	Yes	
	Truck door closing	96	98	8	6	2	2	460			-12		-61.3	2.7	8	7	2	25	Yes	Yes	Yes	Yes	
	Truck starting	102	105	4	3	1	2	460			-12		-61.3	2.7	11	10	5	32	Yes	Yes	Yes	Yes	
	Truck idle	95	97	4	3	1	30	460			-12		-61.3	2.7	16	14	10	24	Yes	Yes	Yes	Yes	
	Forklift reverse	102	106	3	2	1	10	455				-8	-61.2	2.8	21	20	15	37	Yes	Yes	Yes	Yes	
	Forklift unloading	92	95	3	2	1	240	455				-8	-61.2	2.8	25	23	19	26	Yes	Yes	Yes	Yes	
	Forklift passby	100	104	6	5	2	10	455				-8	-61.2	2.8	22	21	16	35	Yes	Yes	Yes	Yes	
	Car door closure	85	88	20	15	5	2	574			-12		-63.2	2.9	0	0	0	13	Yes	Yes	Yes	Yes	
	Car passby	77	80	20	15	5	15	574			-12		-63.2	2.9	0	0	0	5	Yes	Yes	Yes	Yes	
	Car start	84	88	20	15	5	2	574			-12		-63.2	2.9	0	0	0	13	Yes	Yes	Yes	Yes	
	Voice conversation	78	81	1	1	1	900	574			-12		-63.2	2.8	6	6	6	6	Yes	Yes	Yes	Yes	
	Total														29	28	23		Yes	Yes	Yes		

Receivers 1. 885-899, 901, 917, 919-929 & 931 Mamre Rd (W) 2. 930-966 Mamre Rd (S) 3. 844-862 Mamre Rd (N)		Lot 16																					
		Corrected Lw (Leq) dB(A)	LwMax dB(A)	No. of events per 15min	No. of events per 15min Eve	No. of events per 15min Night	Duration per event (s)	Distance (m)	Inc	Barrier (height (m))	Barrier screening dB	Building Screening dB	Building TL dB	Dist atten. @-6dB/dd	3m/s Wind correction dB	L _{eq} adj,15min ext. dB(A)	L _{eq} adj,T ext. dB(A) Eve	L _{eq} adj,T ext. dB(A) Night	L _{max} dB(A) Night	L _{Aeq} 15 min Compliance			Sleep Disturbance
																				Day	Eve	Night	
	Description																						
	Criteria																			51	46	41	56
1	Truck 6T idle	93	97	1	1	0.3	30	720			-12		-65.1	2.9	4	3	0	20	Yes	Yes	Yes	Yes	
	Truck 6T passby	89	93	2	2	1	30	720			-12		-65.1	2.9	3	2	0	16	Yes	Yes	Yes	Yes	
	Truck reverse alarm	99	96	1	1	0.3	30	720			-12		-65.1	2.9	10	9	4	19	Yes	Yes	Yes	Yes	
	Truck air brakes	112	112	2	2	1	1	720			-12		-65.1	2.9	11	10	5	35	Yes	Yes	Yes	Yes	
	Truck door closing	96	94	2	2	1	2	720			-12		-65.1	2.9	0	0	0	17	Yes	Yes	Yes	Yes	
	Truck starting	102	104	1	1	0.3	2	720			-12		-65.1	2.9	1	0	0	27	Yes	Yes	Yes	Yes	
	Forklift reverse	102	100	2	2	1	10	672				-8	-64.5	2.9	16	15	10	27	Yes	Yes	Yes	Yes	
	Forklift unloading	92	94	2	2	1	240	672				-8	-64.5	2.9	20	18	14	21	Yes	Yes	Yes	Yes	
	Forklift passby	100	103	4	3	1	10	672				-8	-64.5	2.9	17	16	11	30	Yes	Yes	Yes	Yes	
	Car door closure	85	86	15	11	4	2	650			-12		-64.3	2.9	0	0	0	10	Yes	Yes	Yes	Yes	
	Car passby	77	81	15	11	4	15	650			-12		-64.3	2.9	0	0	0	5	Yes	Yes	Yes	Yes	
	Car start	84	85	15	11	4	2	650			-12		-64.3	2.9	0	0	0	9	Yes	Yes	Yes	Yes	
	Voice conversation	78	81	1	1	1	900	650			-12		-64.3	2.9	5	5	5	5	Yes	Yes	Yes	Yes	
	Total															23	22	18		Yes	Yes	Yes	
	Criteria																		46	46	41	53	
2	Truck 6T idle	93	97	1	1	0.3	30	485			-12		-61.7	2.8	7	6	1	23	Yes	Yes	Yes	Yes	
	Truck 6T passby	89	93	2	2	1	30	485			-12		-61.7	2.8	6	5	0	19	Yes	Yes	Yes	Yes	
	Truck reverse alarm	99	96	1	1	0.3	30	485			-12		-61.7	2.8	13	12	7	22	Yes	Yes	Yes	Yes	
	Truck air brakes	112	112	2	2	1	1	485			-12		-61.7	2.8	15	13	9	38	Yes	Yes	Yes	Yes	
	Truck door closing	96	94	2	2	1	2	485			-12		-61.7	2.8	2	0	0	20	Yes	Yes	Yes	Yes	
	Truck starting	102	104	1	1	0.3	2	485			-12		-61.7	2.8	5	3	0	30	Yes	Yes	Yes	Yes	
	Forklift reverse	102	100	2	2	1	10	402					-60.1	2.8	28	27	22	40	Yes	Yes	Yes	Yes	
	Forklift unloading	92	94	2	2	1	240	402					-60.1	2.8	32	31	26	34	Yes	Yes	Yes	Yes	
	Forklift passby	100	103	4	3	1	10	402					-60.1	2.8	29	28	23	43	Yes	Yes	Yes	Yes	
	Car door closure	85	86	15	11	4	2	394					-59.9	2.9	13	12	7	26	Yes	Yes	Yes	Yes	
	Car passby	77	81	15	11	4	15	394					-59.9	2.9	14	13	8	21	Yes	Yes	Yes	Yes	
	Car start	84	85	15	11	4	2	394					-59.9	2.9	12	11	6	25	Yes	Yes	Yes	Yes	
	Voice conversation	78	81	1	1	1	900	394					-59.9	2.7	21	21	21	21	Yes	Yes	Yes	Yes	
	Total															35	34	30		Yes	Yes	Yes	
	Criteria																		46	46	41	53	
3	Truck 6T idle	93	97	1	1	0.3	30	681			-12		-64.7	2.8	4	3	0	20	Yes	Yes	Yes	Yes	
	Truck 6T passby	89	93	2	2	1	30	681			-12		-64.7	2.8	3	2	0	16	Yes	Yes	Yes	Yes	
	Truck reverse alarm	99	96	1	1	0.3	30	681			-12		-64.7	2.8	10	9	4	19	Yes	Yes	Yes	Yes	
	Truck air brakes	112	112	2	2	1	1	681			-12		-64.7	2.8	12	10	6	35	Yes	Yes	Yes	Yes	
	Truck door closing	96	94	2	2	1	2	681			-12		-64.7	2.8	0	0	0	17	Yes	Yes	Yes	Yes	
	Truck starting	102	104	1	1	0.3	2	681			-12		-64.7	2.8	2	0	0	27	Yes	Yes	Yes	Yes	
	Forklift reverse	102	100	2	2	1	10	603				-8	-63.6	2.9	17	16	11	28	Yes	Yes	Yes	Yes	
	Forklift unloading	92	94	2	2	1	240	603				-8	-63.6	2.9	21	19	15	22	Yes	Yes	Yes	Yes	
	Forklift passby	100	103	4	3	1	10	603				-8	-63.6	2.9	18	17	12	31	Yes	Yes	Yes	Yes	
	Car door closure	85	86	15	11	4	2	527			-12		-62.4	2.9	0	0	0	12	Yes	Yes	Yes	Yes	
	Car passby	77	81	15	11	4	15	527			-12		-62.4	2.9	0	0	0	7	Yes	Yes	Yes	Yes	
	Car start	84	85	15	11	4	2	527			-12		-62.4	2.9	0	0	0	11	Yes	Yes	Yes	Yes	
	Voice conversation	78	81	1	1	1	900	527			-12		-62.4	2.8	6	6	6	7	Yes	Yes	Yes	Yes	
	Total															24	23	19		Yes	Yes	Yes	

	Receivers 1. 885-899, 901, 917, 919-929 & 931 Mamre Rd (W) 2. 930-966 Mamre Rd (S) 3. 844-862 Mamre Rd (N)		Mechanical																							
			Corrected Lw (Leq) dB(A)	LwMax dB(A)	No. of events per 15min	No. of events per 15min Eve	No. of events per 15min Night	Duration per event (s)	Distance (m)	Barrier (height (m))		Barrier screening dB	Building Screening dB	Building TL dB	Dist atten. @-6dB/dd	3m/s Wind correction dB	L _{eq} adj, 15min ext. dB(A)	L _{eq} adj, T ext. dB(A) Eve	L _{eq} adj, T ext. dB(A) Night	L _{max} dB(A) Night	L _{Aeq} 15 min Compliance				Sleep Disturbance	
										Inc											Day	Eve	Night	L _{Amax}		
	Description																									
	Criteria																			51	46	41	56			
1	Lot 2	77	80	1	1	1	900	94						-47.5	2.5	32	32	32	33	Yes	Yes	Yes	Yes			
	Lot 5	77	80	1	1	1	900	344				-12		-58.7	2.8	9	9	9	9	Yes	Yes	Yes	Yes			
	Lot 6	77	80	1	1	1	900	379				-12		-59.6	2.8	8	8	8	8	Yes	Yes	Yes	Yes			
	Lot 7	77	80	1	1	1	900	410				-12		-60.3	2.8	8	8	8	8	Yes	Yes	Yes	Yes			
	Lot 8	77	80	1	1	1	900	453				-12		-61.1	2.8	7	7	7	7	Yes	Yes	Yes	Yes			
	Lot 9	77	80	1	1	1	900	333				-12		-58.4	2.8	9	9	9	10	Yes	Yes	Yes	Yes			
	Lot 10	77	80	1	1	1	900	314				-12		-57.9	2.8	10	10	10	10	Yes	Yes	Yes	Yes			
	Lot 11	77	80	1	1	1	900	299				-12		-57.5	2.8	10	10	10	10	Yes	Yes	Yes	Yes			
Lot 12	77	80	1	1	1	900	292						-57.3	2.8	22	22	22	23	Yes	Yes	Yes	Yes				
Lot 13	77	80	1	1	1	900	391				-12		-59.8	2.8	8	8	8	8	Yes	Yes	Yes	Yes				
Lot 14	77	80	1	1	1	900	396				-12		-60	2.8	8	8	8	8	Yes	Yes	Yes	Yes				
Lot 15	77	80	1	1	1	900	502				-12		-62	2.9	6	6	6	6	Yes	Yes	Yes	Yes				
Lot 16	77	80	1	1	1	900	672				-12		-64.5	2.9	3	3	3	3	Yes	Yes	Yes	Yes				
Total																32	33	33		Yes	Yes	Yes				
	Criteria																			46	46	41	53			
2	Lot 2	77	80	1	1	1	900	208				-12		-54.4	2.1	13	13	13	14	Yes	Yes	Yes	Yes			
	Lot 5	77	80	1	1	1	900	272						-56.7	2.7	23	23	23	23	Yes	Yes	Yes	Yes			
	Lot 6	77	80	1	1	1	900	272				-12		-56.7	2.7	11	11	11	11	Yes	Yes	Yes	Yes			
	Lot 7	77	80	1	1	1	900	283				-12		-57	2.7	11	11	11	11	Yes	Yes	Yes	Yes			
	Lot 8	77	80	1	1	1	900	299				-12		-57.5	2.7	10	10	10	10	Yes	Yes	Yes	Yes			
	Lot 9	77	80	1	1	1	900	210				-12		-54.4	2.6	13	13	13	14	Yes	Yes	Yes	Yes			
	Lot 10	77	80	1	1	1	900	145				-12		-51.2	2.4	16	16	16	17	Yes	Yes	Yes	Yes			
	Lot 11	77	80	1	1	1	900	104				-12		-48.3	2.1	19	19	19	20	Yes	Yes	Yes	Yes			
	Lot 12	77	80	1	1	1	900	67	4.6	-8				-44.5	1.7	26	26	26	27	Yes	Yes	Yes	Yes			
	Lot 13	77	80	1	1	1	900	139	3	-9				-50.9	2.4	20	20	20	20	Yes	Yes	Yes	Yes			
	Lot 14	77	80	1	1	1	900	221				-12		-54.9	2.5	13	13	13	13	Yes	Yes	Yes	Yes			
	Lot 15	77	80	1	1	1	900	247				-12		-55.9	2.7	12	12	12	12	Yes	Yes	Yes	Yes			
Lot 16	77	80	1	1	1	900	398						-60	2.8	20	20	20	20	Yes	Yes	Yes	Yes				
Total																30	30	30		Yes	Yes	Yes				
	Criteria																			46	46	41	53			
3	Lot 2	77	80	1	1	1	900	587						-63.4	2.7	16	16	16	17	Yes	Yes	Yes	Yes			
	Lot 5	77	80	1	1	1	900	413						-60.3	2.7	19	19	19	20	Yes	Yes	Yes	Yes			
	Lot 6	77	80	1	1	1	900	427						-60.6	2.7	19	19	19	19	Yes	Yes	Yes	Yes			
	Lot 7	77	80	1	1	1	900	450						-61.1	2.7	19	19	19	19	Yes	Yes	Yes	Yes			
	Lot 8	77	80	1	1	1	900	471						-61.5	2.7	18	18	18	19	Yes	Yes	Yes	Yes			
	Lot 9	77	80	1	1	1	900	478						-61.6	2.6	18	18	18	18	Yes	Yes	Yes	Yes			
	Lot 10	77	80	1	1	1	900	540						-62.6	2.9	17	17	17	17	Yes	Yes	Yes	Yes			
	Lot 11	77	80	1	1	1	900	560						-63	2.9	17	17	17	17	Yes	Yes	Yes	Yes			
	Lot 12	77	80	1	1	1	900	588						-63.4	2.9	17	17	17	17	Yes	Yes	Yes	Yes			
	Lot 13	77	80	1	1	1	900	638						-64.1	2.9	16	16	16	16	Yes	Yes	Yes	Yes			
	Lot 14	77	80	1	1	1	900	517						-62.3	2.9	18	18	18	18	Yes	Yes	Yes	Yes			
	Lot 15	77	80	1	1	1	900	650						-64.3	2.8	16	16	16	16	Yes	Yes	Yes	Yes			
	Lot 16	77	80	1	1	1	900	670						-64.5	2.9	15	15	15	15	Yes	Yes	Yes	Yes			
Total																29	29	29		Yes	Yes	Yes				

Receivers		Access Road																
Description	Corrected Lw (Leq) dB(A)	LwMax dB(A)	Duration per event (s)	Distance (m)	Inc Barrier (height (m))	Barrier screening dB	Building Screening dB	Building TL dB	Dist atten. @ 6dB/dd	3m/s Wind Correction dB	LAeq adj, 15min ext. dB(A)	LAeq adj, T ext. dB(A) Eve	LAeq adj, T ext. dB(A) Night	LAmax dB(A) Night	LAeq 15 min Compliance			Sleep Disturbance
															Day	Eve	Night	
1. 885-899, 901, 917, 919-929 & 931 Mamre Rd (W) 2. 930-966 Mamre Rd (S) 3. 844-862 Mamre Rd (N)																		
Criteria															51	46	41	56
Truck 6T passby	89	93	30	122					-49.7	2.6	39	38	33	43	Yes	Yes	Yes	Yes
Truck passby	91	94	30	122					-49.7	2.6	41	40	35	44	Yes	Yes	Yes	Yes
Car passby	77	81	30	122					-49.7	2.8	33	32	27	31	Yes	Yes	Yes	Yes
Total											44	42	38		Yes	Yes	Yes	
Criteria															46	46	41	53
2 Truck 6T passby	92	96	30	20	3.6	-20			-34	0	35	34	29	42	Yes	Yes	Yes	Yes
Truck passby	90	93	30	20	3.6	-20			-34	0	33	32	27	39	Yes	Yes	Yes	Yes
Car passby	77	81	30	20	3.6	-20			-34	0	26	25	20	27	Yes	Yes	Yes	Yes
Total											38	36	32		Yes	Yes	Yes	
Criteria															46	46	41	53
3 Truck 6T passby	92	96	30	681					-64.7	2.8	27	26	21	31	Yes	Yes	Yes	Yes
Truck passby	90	93	30	681					-64.7	2.8	25	24	19	28	Yes	Yes	Yes	Yes
Car passby	77	81	30	681					-64.7	2.9	18	17	12	16	Yes	Yes	Yes	Yes
Total											30	29	24		Yes	Yes	Yes	

14.4 Western Sydney Airport Map

Airport Safeguarding tool

