acousticdynamics

Operational Noise Emission Assessment

Proposed Coffee Processing Facility
1/1 Minna Cl, Belrose, NSW

Client:
Little Italy Coffee Roasting

Association of Australasian Acoustical Consultants

3 April 2025

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GLOSSARY

NOISE

Noise is produced through rapid variations in air pressure at audible frequencies (20 Hz – 20 kHz). Most noise sources vary with time. The measurement of a variable noise source requires the ability to describe the sound over a particular duration of time. A series of industry standard statistical descriptors have been developed to describe variable noise, as outlined below.

NOISE DESCRIPTORS

L_{eq} – The sound pressure level averaged over the measurement period. It can be considered as the equivalent continuous steady-state sound pressure level, which would have the same total acoustic energy as the real fluctuating noise over the same time period.

$L_{Aeq(15min)}$ – The A-weighted average equivalent sound level over a 15-minute period.

L_{A10} – The A-weighted noise level that has been exceeded for 10% of the measurement duration.

L_{A90} – The A-weighted noise level that has been exceeded for 90% of the measurement duration. This descriptor is used to describe the background noise level.

RBL – Rating Background Level. The overall, single-figure background level representing each assessment period (day/evening/night) over the whole monitoring period (as opposed to over each 24-hour period used for assessment background level). This is the level used for assessment purposes.

dB – Decibels. The fundamental unit of sound, a Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell. Probably the most common usage of the Decibel in reference to sound loudness is dB sound pressure level (SPL), referenced to the nominal threshold of human hearing. For sound in air and other gases, dB (SPL) is relative to 20 micropascals (μPa) = 2×10^{-5} Pa, the quietest sound a human can hear.

R_w – Weighted Sound Reduction Index. A measure of sound insulation performance of a building element. The higher the number, the better the insulation performance.

A-WEIGHTING

"A-weighting" refers to a prescribed amplitude versus frequency curve used to "weight" noise measurements to represent the frequency response of the human ear. Simply, the human ear is less sensitive to noise at some frequencies and more sensitive to noise at other frequencies. A-weighting is a method to present a measurement or calculation result with a number representing how humans subjectively hear different frequencies at different levels.

NOISE CHARACTER, NOISE LEVEL AND ANNOYANCE

The perception of a given sound to be deemed annoying or acceptable is greatly influenced by the character of the sound and how it contrasts with the character of the background noise. A noise source may be measured to have only a marginal difference to the background noise level but may be perceived as annoying due to the character of the noise. Acoustic Dynamics' analysis of noise considers both the noise level and sound character in the assessment of annoyance and impact on amenity.

1 INTRODUCTION

1.1 EXECUTIVE SUMMARY

Acoustic Dynamics is engaged by **Four Towns Planning** on behalf of **Little Italy Coffee Roasting** to conduct an acoustic assessment of operational noise emission associated with the proposed development located at Unit 1 / 1 Minna Close, Belrose, NSW.

This document provides an assessment of noise emission resulting from various noise sources associated with the operation of the proposed development at the potentially most affected sensitive receiver locations.

This assessment is prepared in accordance with the various acoustic requirements of:

(a) Northern Beaches Council;
(b) NSW Environment Protection Authority;
(c) Australian Standards.

1.2 PROJECT DESCRIPTION

The project site is located at 1 Minna Close, Belrose, situated within an Enterprise (SP4) land zone in the Northern Beaches Council area of NSW. The site is specifically proposed at Warehouse 1 within the development. The development has road frontage direct to Minna Close.

The proposal is seeking approval to operate a coffee processing facility. Various noise sources and operations associated with the proposal are predicted to include:

- Internal operations;
- Mechanical plant and equipment;
- Vehicle movements; and
- Staff movements.

Acoustic Dynamics understands the maximum operation hours are to be:

- Monday to Friday: 6.00am to 10.00pm; and
- Weekends: 7.00am to 5.00pm.

Receivers potentially impacted by noise emission resulting from operations associated with the proposal are predicted to include:

- Commercial receivers located within the same development (**Internal**);
- Commercial receivers located at 4 Narabang Way (**Southwest**);
- Commercial receivers located at 5 Minna Close (**West**);
- Commercial receivers located at 3 Minna Close (**North**);
- Commercial receivers located at 6 Narabang Way (**Southeast**); and
- Residential receivers approximately 1 km away along Wyoora Road, Terrey Hills (**Northeast**).

The project site, adjacent receivers and surrounding area are shown in the Location Map and Aerial Image presented within **Appendix A**.

1.3 SCOPE OF WORKS

Acoustic Dynamics has been engaged to provide an acoustic assessment suitable for submission to the relevant authorities.

The scope of the assessment is to include the following:

- Review local planning and development control instruments, state guidelines, federal legislation, standards and guidelines applicable to the proposal;
- Rely on existing noise data at the subject site to establish relevant noise emission criteria;
- Perform relevant calculations and noise modelling associated with the proposal to determine noise emission at nearby receiver locations; and
- Provide recommendations for design measures to be incorporated to achieve compliance with the relevant criteria and minimise potential noise impacts at nearby receiver locations.

2 ASSESSMENT CRITERIA AND STANDARDS

Acoustic Dynamics has conducted a review of the local council, state government and federal legislation that is applicable to noise emission assessment from the subject site. The relevant sections of the legislation are presented below. The most stringent criteria which have been used in this assessment of the subject development are summarised below.

2.1 NORTHERN BEACHES COUNCIL CRITERIA

2.1.1 LOCAL ENVIRONMENT PLAN

A review of Warringah *Local Environment Plan* (LEP) 2011 was conducted, yet did not yield specific acoustic information or criteria relating to this development.

2.1.2 DEVELOPMENT CONTROL PLAN

A review of Warringah *Development Control Plan (DCP) 2011* was conducted. References to acoustic requirements and relevant noise criteria are reproduced below:

> ***"D3 Noise***
>
> ***Applies to Land***
>
> *This control applies to land to which Warringah Local Environmental Plan 2011 applies.*
>
> ***Objectives***
>
> - *To encourage innovative design solutions to improve the urban environment.*

- *To ensure that noise emission does not unreasonably diminish the amenity of the area or result in noise intrusion which would be unreasonable for occupants, users or visitors.*

Requirements

1. *Noise from combined operation of all mechanical plant and equipment must not generate noise levels that exceed the ambient background noise by more than 5dB(A) when measured in accordance with the NSW Industrial Noise Policy at the receiving boundary of residential and other noise sensitive land uses.*
   See also NSW Industrial Noise Policy Appendices
2. *Development near existing noise generating activities, such as industry and roads, is to be designed to mitigate the effect of that noise.*
3. *Waste collection and delivery vehicles are not to operate in the vicinity of residential uses between 10pm and 6am.*
4. *Where possible, locate noise sensitive rooms such as bedrooms and private open space away from noise sources. For example, locate kitchens or service areas closer to busy road frontages and bedrooms away from road frontages.*
5. *Where possible, locate noise sources away from the bedroom areas of adjoining dwellings/properties to minimise impact."*

2.2 NSW ENVIRONMENT PROTECTION AUTHORITY

2.2.1 NSW EPA'S NOISE POLICY FOR INDUSTRY (NPFI) 2017

The NSW EPA, in its *Noise Policy for Industry (NPfI) 2017* document, outlines and establishes noise criteria for industrial or other noise sources in various zoning areas.

Acoustic Dynamics advise that the following criteria have been applied for the assessment of noise emission associated with the use and operation of the proposed development.

Project Intrusiveness Noise Level

The intrusiveness noise level is determined as follows:

$L_{Aeq,\ 15min}$ = rating background noise level + 5 dB

where:

$L_{Aeq,\ 15min}$	represents the equivalent continuous (energy average) A-weighted sound pressure level of the source over 15 minutes.

and

Rating background noise level	represents the background level to be used for assessment purposes, as determined by the method outlined in Fact Sheets A and B.

Project Amenity Noise Level

The recommended amenity noise levels represent the objective for **total** industrial noise at a receiver location, whereas the **project amenity noise level** represents the objective for a noise from a **single** industrial development at a receiver location.

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 as follows:

Project amenity noise level for industrial developments = recommended amenity noise level (Table 2.2) minus 5 dB(A)

Following the general procedures outlined in the EPA's NPfI, a summary of the established noise environment, and relevant environmental noise criteria is presented in **Table 2.3.1**. Note is made that the criteria has been established conservatively based upon the 'typical existing background noise levels' applicable to 'suburban residential' from 'Table 2.3' of the NPfI. Although the ambient noise environment would be likely to be significantly louder, compliance with these conservatively established criteria will ensure compliance at all times.

Following the general procedures outlined in the EPA's NPfI, a summary of the established noise environment, and relevant environmental noise criteria is presented in **Table 2.1.**

Table 2.1 Measured Noise Levels and Project Noise Objectives – Residential & Industrial Residential Receivers

Location	Assessment Period	Rating Background Noise Level (RBL) L_{A90} [dB]	Measured L_{Aeq} [dB]	Project Intrusiveness Noise Level L_{Aeq} [dB]	Project Amenity Noise Level L_{Aeq} [dB][1]	Project Noise Trigger Level L_{Aeq} [dB]
Nearest residential receiver(s)	Day (7am[1] to 6pm)	45[3]	-	50[3]	53	**50**
	Evening (6pm to 10pm)	40[3]	-	45[3]	43	**43**
	Night (10pm to 7am[1])	35[3]	-	40[3]	38	**38**

Note: 1) Acoustic Dynamics advises that the proposed facility will be operate 24 hours a day.
2) 8am on Sundays and public holidays.
3) Rating Background Noise Levels based and Intrusive Noise Levels used (Table 2.3 of the NPfI, Suburban residential).
4) Amenity adjustment based on "Suburban" receiver type (Table 2.3 of the NPfI). The noise emission objective has been modified in accordance with the recommendations detailed within the NPfI Section 2.2, for time period standardising of the intrusiveness and amenity noise levels ($L_{Aeq,15min}$ will be taken to be equal to the **$L_{Aeq, period}$ + 3 decibels (dB).**

NB: Project noise trigger level is the lowest value of project intrusiveness or project amenity noise level after conversion to the L_{Aeq} equivalent value.

For premises to which it applies, the project criteria for the assessment of external noise emission from industrial noise sources at the boundaries of other zoned areas are presented below.

Table 4.2 Project External Noise Level Objectives – Other Receivers

Type of Receiver	Noise Amenity Area	Assessment Period	Project Noise Trigger Level $L_{Aeq,15min}$ [dB][1]
Commercial premises	All	When in use	63

Note: 1) Amenity adjustments based on "*Suburban"* receiver type (NPfI Table 2.3). The noise emission objective has been modified in accordance with the recommendations detailed within the NPfI Section 2.2, for time standardisation of the intrusiveness and amenity noise levels ($L_{Aeq,15min}$ will be taken to be equal to the **$L_{Aeq,\ period}$ + 3 dB**).

Acoustic Dynamics advises that achieving compliance with the NPfI's noise emission objectives applicable at the boundaries of the nearest sensitive receivers will adequately protect the acoustic amenity of all nearby receivers.

2.2.2 NSW EPA'S ROAD NOISE POLICY (RNP) 2011

The NSW EPA presents guidelines for assessment of road traffic noise in its *Road Noise Policy (RNP) 2011*. The document provides road traffic noise criteria for proposed roads as well as other developments with the potential to have an impact in relation to traffic noise generation.

The noise criteria applicable to the subject site is presented below in **Table 2.3**.

Table 2.3 Road Traffic Noise Assessment Criteria for Residential Land Uses

Road category	Type of project / land use	Assessment Criteria [dB]	
		Day (7am – 10pm)	Night (10pm – 7am)
Local roads	6. Existing residences affected by **additional traffic** on existing local roads generated by land use developments	$L_{Aeq,\ (1\ hour)}$ 55 (external)	$L_{Aeq,\ (1\ hour)}$ 50 (external)

Accepted application of the Section 2.4 of the RNP is that where road traffic noise levels already exceed the assessment criteria, an increase of less than 2 dB represents a minor impact that is barely perceptible to the average person.

2.3 NSW PROTECTION OF THE ENVIRONMENT OPERATIONS LEGISLATION

2.3.1 PROTECTION OF THE ENVIRONMENT OPERATIONS (POEO) ACT 1997

Noise emission from any items of mechanical plant must comply with the requirements of the *Protection of the Environment Operations (POEO) Act 1997*. The POEO Act 1997 requires that the subject mechanical equipment must not generate *"offensive noise".*

"Offensive noise" is defined as follows:

> *"**"offensive noise"** means noise:*
>
> *(a) that, by reason of its level, nature, character or quality, or the time at which it is made, or any other circumstances:*
> *(i) is harmful to (or is likely to be harmful to) a person who is outside the premises from which it is emitted, or*
> *(ii) interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted, or*
> *(b) that is of a level, nature, character or quality prescribed by the regulations or that is made at a time, or in other circumstances, prescribed by the regulations."*

2.4 RELEVANT AUSTRALIAN STANDARDS

2.4.1 AS 2107 – "ACOUSTICS – RECOMMENDED DESIGN SOUND LEVELS ...FOR BUILDINGS"

Australian Standard 2107-2016 recommends satisfactory and maximum design sound levels for various types of occupancy within buildings. AS 2107 recommends the following satisfactory and maximum design sound levels, detailed in **Table 2.4**, for the relevant types of occupancies and areas which are likely to be located adjacent to the trampolining centre.

Table 2.4 Recommended Design Sound Levels for Different Areas of Occupancy in Buildings (Extract from Australian Standard 2107:2016 Table 1)

Type of Occupancy / Activity	Design Sound Level ($L_{Aeq,t}$) range
3 INDUSTRIAL BUILDINGS	
Process control rooms	< 60
5 OFFICE BUILDINGS	
General office areas	40 to 45
Meeting room (small)	40 to 45

Acoustic Dynamics advises that any levels of airborne noise or regenerated noise transmitted into the tenancies adjacent to the proposed trampolining centre should not exceed the relevant maximum design sound levels presented in **Table 2.4** above. By ensuring the noise levels from the site received within the adjacent tenancies do not exceed the above recommended maximum internal design level, it is likely to ensure occupants of the adjacent tenancies are not adversely affected by the use and operation of the site.

3 ASSESSMENT METHODOLOGY

Acoustic modelling was undertaken using noise modelling software *(CadnaA Version 2020)* to predict operational noise levels generated by the development. CadnaA calculates environmental noise propagation according to the applicable international and ISO standards, including the ISO 9613 algorithm.

Within our calculations and acoustic modelling, noise emission contributions from the development have been considered taking the following factors into account:

- Airborne noise losses due to distance and ground topography;
- Losses due to direction and diffraction;
- Increases due to reflections; and
- Acoustic shielding.

3.1 NOISE SOURCES AND OPERATIONS

Acoustic Dynamics has established and assessed the following noise sources and operations associated with the development.

The noise data presented in **Table 3.1** has been established based on information provided by the proponent, short-term measurements and inspections conducted on-site, or referenced from our database of nearfield measurements at similar developments.

Table 3.1 Associated Noise Sources and Operations

Source	Quantity	Sound Power Level L_w [dBA]
Vehicle Movements		
Car & delivery vans, driving at a speed of 5km/h	4 / hr	85
Mechanical Equipment[1]		
Filter exhaust	2	90
Compaction exhaust	1	90
Cold stack exhaust fan[2]	2	100
Hot stack exhaust fan[2]	2	103
Toilet exhaust	1	60
Internal Operations		
Internal Noise Level[2]	-	SPL = 85

Note: 1) As mechanical specifications have not been determined at this stage, Acoustic Dynamics has conservatively assumed that this equipment will service the site.
2) Noise data based on information provided by Brambati Spa (Italy).

3.2 RECEIVERS

The cumulative noise impact has been assessed to the potentially most affected point at the adjacent sensitive receiver properties and presented in **Table 3.2** below.

Table 3.2 Nearest Sensitive Receiver Locations

Source	Location	Direction
Residential Receivers		
R_1	1 Myoora Road, Terrey Hills	Northeast
Commercial Receivers		
B_1	1 Minna Close, Belrose	Internal
B_2	4 Narabang Way, Belrose	Southwest
B_3	5 Minna Close, Belrose	West
B_4	3 Minna Close, Belrose	North
B_5	6 Narabang Way, Belrose	Southeast

Acoustic Dynamics advises that by achieving compliance with the nearest sensitive receiver locations, compliance will also be achieved at all other sensitive receiver locations further away.

3.3 TENANCY CONSTRUCTION

Acoustic Dynamics has made the following assumptions regarding the construction of the tenancy:

- Roof: Galvanised sheet metal (minimum 15 kg/m^3) with insulated layer;
- Walls: Concrete;
- Well-installed (with no gap at top), solid steel or aluminium roller doors, assumed closed for operations, unless required to be opened temporarily for deliveries and other relevant activities; and
- Windows: None within the industrial processing areas.

4 OPERATIONAL NOISE EMISSION ASSESSMENT

The calculated maximum noise emission levels at the nearest receiver locations against the relevant criteria are presented below. It is advised that by achieving compliance with the nearest sensitive receiver locations, compliance will also be achieved at all other receiver locations.

The assessment location for **external noise emission** is defined as the most affected point on or within any sensitive receiver property boundary. Examples of this location may be:

- 1.5m above ground level;
- On a balcony at 1.5m above floor level; and
- Outside a window on the ground or higher floors, at a height of 300mm below the head of the window.

The assessment location for **internal noise emission** is defined as the most affected point within the nearest room of any sensitive receiver property, assuming windows are closed.

4.1 NOISE EMISSION – EXTERNAL RECEIVERS

The calculated maximum **external** noise emission levels at the nearest receiver locations are presented against the relevant noise emission criteria below. Acoustic Dynamics advises the calculated external noise emission levels are conservatively based on **maximum capacity** operations at the development. Acoustic Dynamics advises that such a scenario is unlikely to occur and noise levels are likely to be below those calculated for the majority of the time.

Table 4.1 Calculated External Noise Emission Levels & Relevant Noise Criteria

Receiver	Assessment Period	Noise Source[2]	Maximum $L_{Aeq(1hr/15min)}$ Noise Emission Level [dB][3]	Noise Emission L_{Aeq} Criterion [dB]	Complies ?
R_1	Night[1] (10 pm to 7 am)	Mechanical Plant	25	**38**	**Yes**
		Internal Operations	-10		
		Vehicle Movements	-11		
		Cumulative Total	**25**		
B_1	When in use	Mechanical Plant	47	**63**	**Yes**
		Internal Operations	45		
		Vehicle Movements	37		
		Cumulative Total	**49**		
B_2	When in use	Mechanical Plant	54	**63**	**Yes**
		Internal Operations	34		
		Vehicle Movements	32		
		Cumulative Total	**54**		
B_3	When in use	Mechanical Plant	57	**63**	**Yes**
		Internal Operations	34		
		Vehicle Movements	31		
		Cumulative Total	**57**		
B_4	When in use	Mechanical Plant	59	**63**	**Yes**
		Internal Operations	33		
		Vehicle Movements	21		
		Cumulative Total	**59**		

Receiver	Assessment Period	Noise Source[2]	Maximum $L_{Aeq(1hr/15min)}$ Noise Emission Level [dB][3]	Noise Emission L_{Aeq} Criterion [dB]	Complies ?
B_5	When in use	Mechanical Plant	45	**63**	**Yes**
		Internal Operations	17		
		Vehicle Movements	30		
		Cumulative Total	**45**		

Note: 1) Achieving compliance with the more stringent Night Criteria will ensure compliance during all periods.
2) Scenario operations and noise sources are detailed in Section 3.
3) Acoustic Dynamics assumes noise sources will operate continuously over the assessment period.

4.2 NOISE EMISSION – INTERNAL RECEIVERS

The calculated maximum **internal** noise emission levels at the nearest receiver locations are presented against the relevant noise emission criteria below.

Table 5.4 Calculated Internal Noise Emission Levels to Adjacent Areas of Occupancy & Relevant Criteria

Receiver Location	Assessment Period[1]	Noise Source	Maximum Cumulative $L_{Aeq(15min)}$ Noise Level [dB]	Noise Emission L_{Aeq} Criterion [dB]	Complies?
B_1	When in use	Combined Development Operations	30	**40**	**Yes**

Note: 1) Compliance with this most sensitive assessment period criterion ensures compliance during all other less stringent assessment periods.

Acoustic Dynamics advises the calculated **internal** noise emission levels are conservatively based on **maximum capacity** operations at the development. Acoustic Dynamics advises that such a scenario is unlikely to occur and noise levels are likely to be below those calculated for the majority of the time.

4.3 ROAD TRAFFIC NOISE

Acoustic Dynamics understands that patrons and staff who drive will access the development via surrounding local roads. Vehicles utilising local roads are assessed in consideration of the NSW EPA's RNP criteria outlined in **Section 2**.

The calculated maximum noise emission levels at the nearest residential receivers, due to the vehicles utilising surrounding local roads, are presented below. Acoustic Dynamics advises that

by achieving compliance with the nearest sensitive receiver locations, compliance will also be achieved at all other sensitive receiver locations further away.

Table 4.2 Calculated Road Traffic Noise Emission Levels & Relevant Noise Criteria

Sensitive Receiver	Predicted Maximum $L_{eq,1hr}$ Sound Pressure Level [dB][1]	Relevant $L_{Aeq,1hr}$ Criterion [dB][2,3]	Complies?
Nearest Residential Receivers	< 45	**55**	**Yes**

Note: 1) Predicted L_{Aeq} noise level is the maximum noise level measured within a 1-hour period.
2) Measured noise level within a 1-hour period during the night-time assessment period (10:00pm until 7:00am on weekdays, or 8:00am on weekends and public holidays).
3) Compliance with this most sensitive assessment period criterion ensures compliance during all other less stringent assessment periods.

4.4 SLEEP DISTURBANCE

Acoustic Dynamics has determined the potential maximum $L_{A1(60\ Sec)}$ **external** noise emission level from the development resulting from the operation of rooftop exhaust fans, when measured at the nearest residential receivers during the night-time assessment period.

Table 4.3 Calculated Maximum Instantaneous External Noise Levels & Relevant Noise Criteria

Sensitive Receiver	Predicted Maximum $L_{A1(60\ Sec)}$ Sound Pressure Level [dB][1]	$L_{A1(60\ Sec)}$ Sleep Disturbance Criterion [dB][2]	Complies?
Nearest Residential Receivers	25	**52**	**Yes**

Note: 1) Predicted $L_{A1(60\ Sec)}$ noise level is the maximum noise level measured within a 60-second period.
2) Maximum instantaneous noise level measured during the night-time assessment period (10:00pm until 7:00am on weekdays, or 8:00am on weekends and public holidays).

Acoustic Dynamics advises that the calculated maximum instantaneous external noise events are **predicted to comply** with the applicable sleep disturbance criterion at the nearest sensitive receivers and at all other receivers located further away.

Acoustic Dynamics advises that instantaneous noise events that exceed the external sleep disturbance criterion at the nearest residential receivers are unlikely to cause awakening reactions.

5 DISCUSSION

The calculations indicate the following:

1. Noise emission resulting from the proposal is **predicted to comply** with the relevant acoustic criteria of Northern Beaches Council, the NSW EPA and government legislation during the proposed hours of operation when assessed at the nearest sensitive receivers;

2. Noise emission associated with additional traffic on surrounding local roads is **predicted to comply** with the NSW EPA when assessed at the nearest sensitive receivers;

3. Maximum instantaneous external noise events are **predicted to comply** with the NSW EPA's guidelines on sleep disturbance when assessed at the nearest sensitive receivers;

4. There is **low risk** of acoustic disturbance to the nearest sensitive residential, commercial and industrial receivers during the proposed hours of operation;

5. To ensure the assessment is conducted in a conservative manner, noise emission has been assessed as a **worst-case** scenario (i.e. all noise generating activities and noise sources occurring simultaneously and at maximum capacity). Generally, noise emission associated with the proposal is **predicted to be lower** than the calculations presented; and

6. The noise calculations and operational assumptions should not be considered prescriptive. They are modelling assumptions that have been used to demonstrate typical noise sources and operations associated with the facility **can be designed to achieve compliance** with the relevant criteria.

6 RECOMMENDATIONS AND DESIGN ADVICE

The following recommendations are provided to ensure noise associated with the proposal is adequately managed and minimised.

6.1 BEST MANAGEMENT PRACTICE AND NOISE MANAGEMENT PLAN

Acoustic Dynamics recommends the adoption of a management plan incorporating best management practice procedures to protect the acoustic amenity of the surrounding area. Such a management plan should outline policies and procedures to ensure noise emission from the development are kept to a minimum, including:

1. Should trucks or other heavy vehicles be required to be on-site for longer than five minutes, engines should be switched off for the duration;

2. Ensure doors and roller doors during operations to contain noise within the development; and

3. Mechanical equipment should be regularly maintained and serviced to maintain low mechanical noise emission levels.

6.2 BEST AVAILABLE TECHNOLOGY CONTROL MEASURES

Noise emission can be effectively minimised by ensuring noise-generating mechanical plant, equipment and machinery incorporate the most advanced, best available, and economically affordable technology. Such noise control measures include:

1. Consider alternatives to tonal reversing alarms (where work health and safety is appropriately considered;
2. Ensure all noisy engines, fans and pumps are fitted with efficient muffler or silencer design;
3. Regularly maintain and service mechanical equipment to maintain low mechanical noise emission levels; and
4. Where necessary, consider using efficient enclosures for mechanical noise sources.

7 CONCLUSION

Acoustic Dynamics has conducted an acoustic assessment of operational noise emission associated with the proposed coffee processing facility located at Unit 1 / Minna Close, Belrose, NSW.

A review of the applicable local council, state government, federal legislation and international standards was conducted. Noise levels were assessed in accordance with the requirements of:

(a) Northern Beaches Council;
(b) NSW Environment Protection Authority;
(c) Australian Standards.

The assessment predicted noise impacts at nearby sensitive receiver locations. Noise modelling was conducted using assumed **worst-case** operational scenarios in **Section 4**. Recommendations are provided in **Section 6** detailing best management practices and design strategies minimise the impacts on the surrounding acoustic environment.

Acoustic Opinion

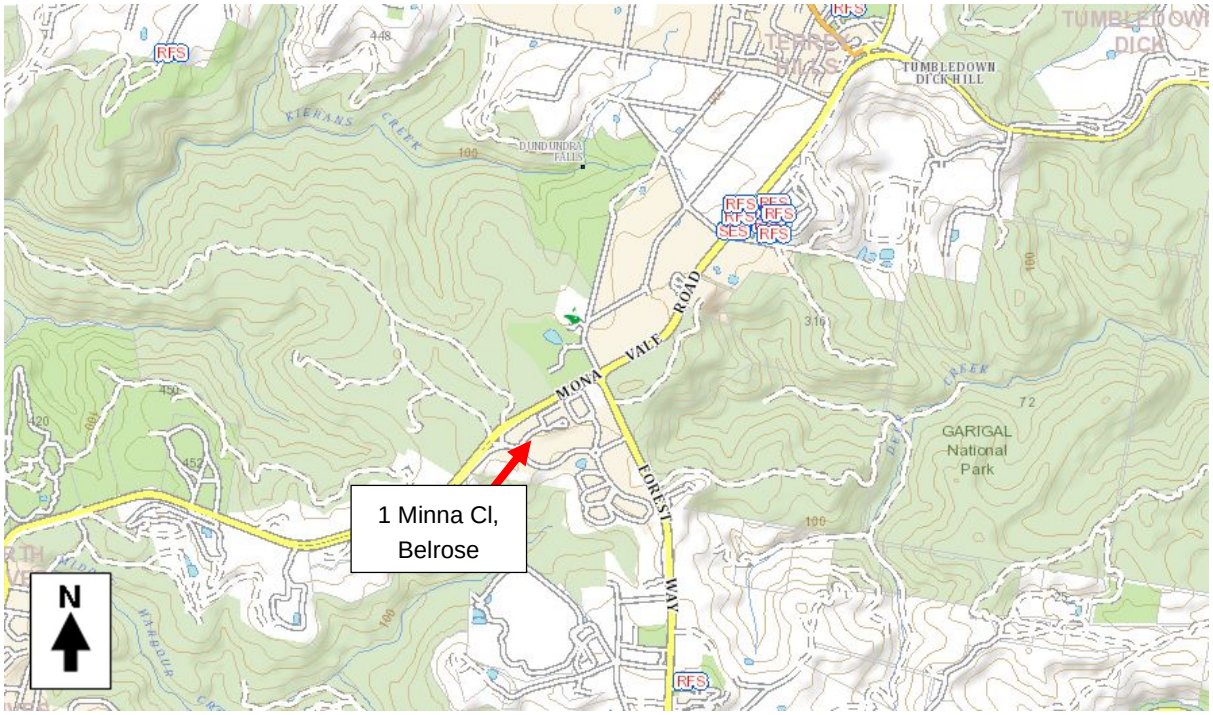
Further to our site survey, noise monitoring and measurements, our review of the relevant acoustic criteria and requirements, and our calculations, Acoustic Dynamics advises that the proposal can be designed to comply with the relevant acoustic criteria of Northern Beaches Council, the NSW POEO Act 1997 and the NSW EPA.

It is our opinion that the acoustic risks associated with the proposal can be adequately controlled and the amenity of neighbouring businesses and residents can be satisfactorily protected.

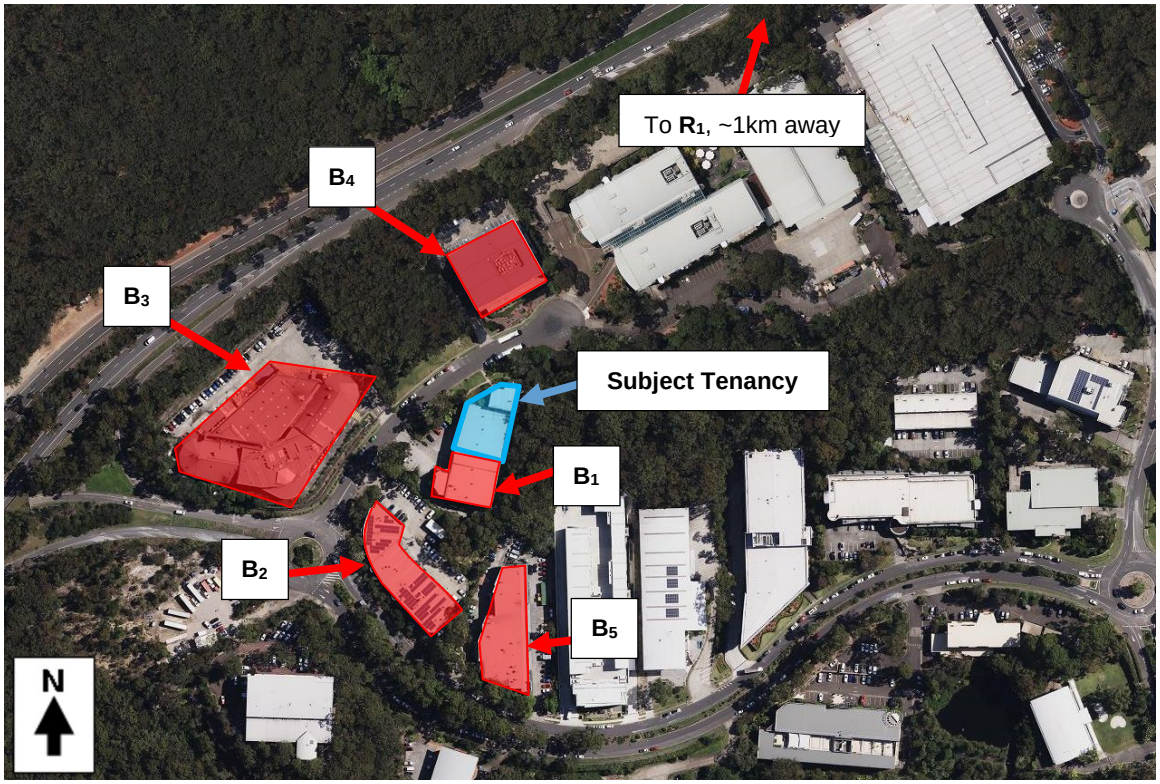
We trust that the above information meets with your present requirements and expectations. Please do not hesitate to contact us on 02 9908 1270 should you require more information.

APPENDIX A –LOCATION MAP, AERIAL IMAGE & ARCHITECTURAL PLANS

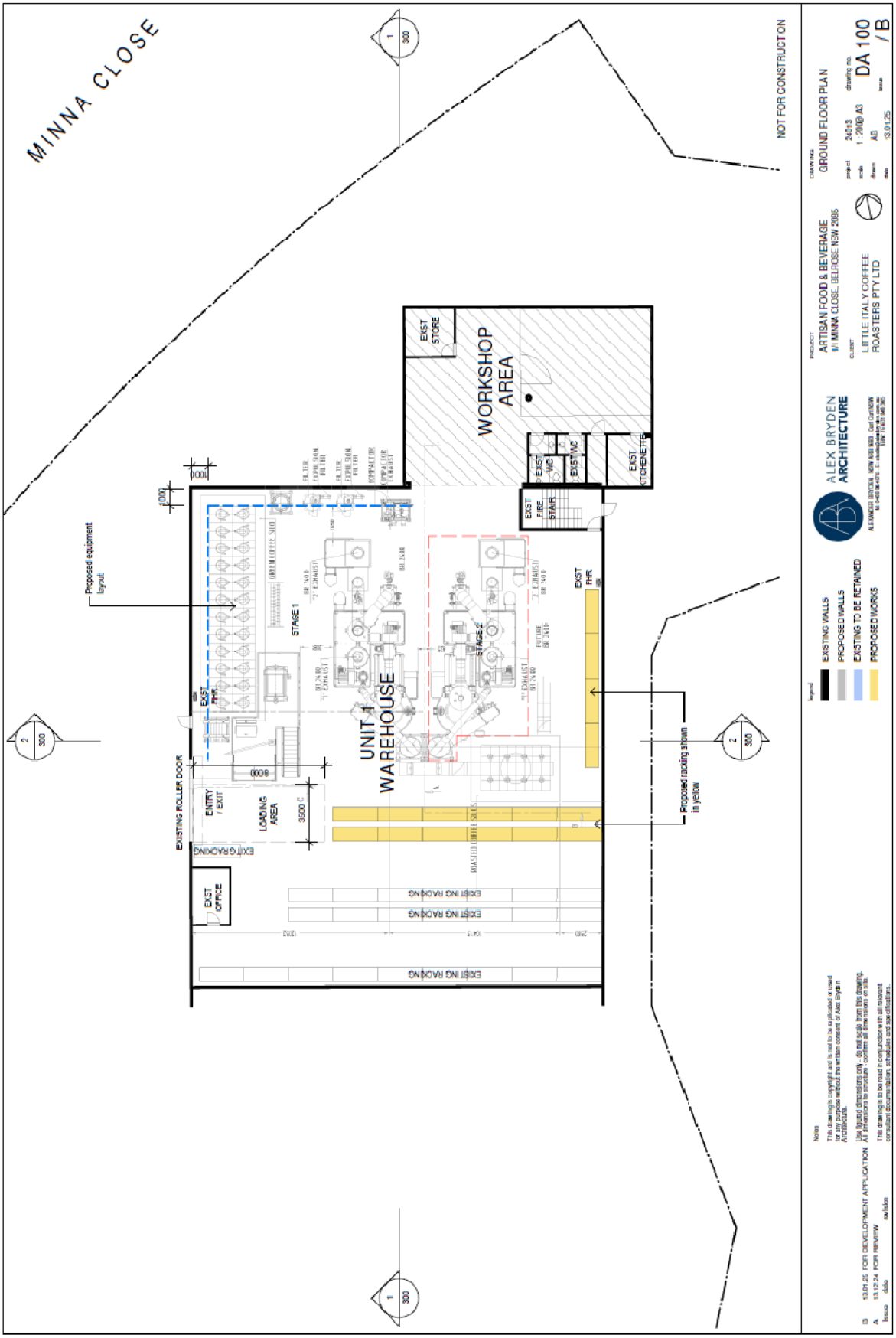
A.1 SITE LOCATION MAP



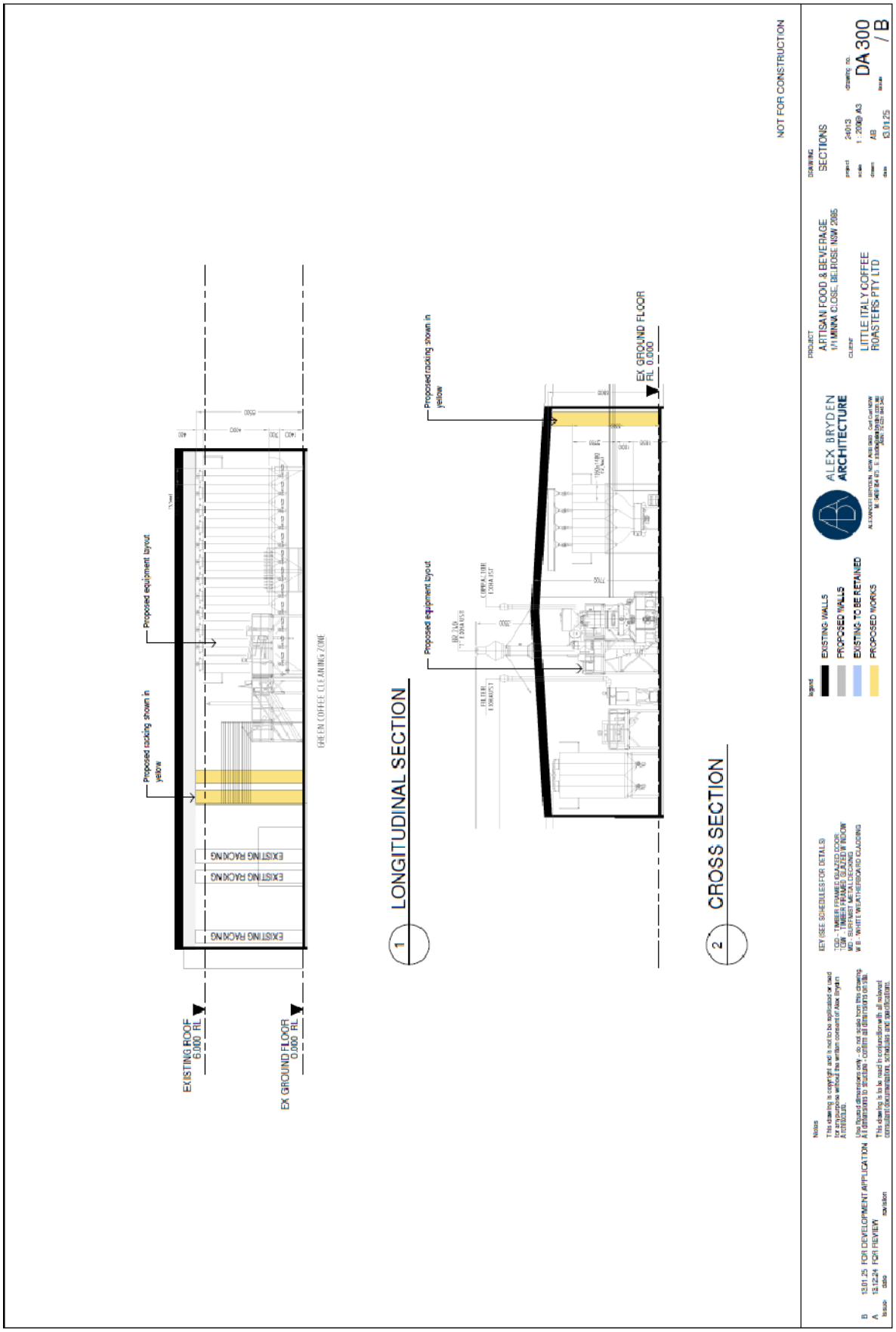
A.2 AERIAL IMAGE (COURTESY OF SIXMAPS.COM)



A.3 SITE PLAN


MINNA CLOSE
NOT FOR CONSTRUCTION
WORKSHOP AREA
UNIT 4 WAREHOUSE
STAGE 1
STAGE 2
EXIST STORE
EXIST WC
EXIST WC
EXIST KITCHENETTE
EXIST FIRE STAIR
EXIST FHR
EXIST FHR
Proposed equipment layout
Proposed racking shown in yellow
EXISTING ROLLER DOOR
ENTRY / EXIT
LOADING AREA
EXIT
EXIST OFFICE
EXISTING RACKING
EXISTING WALLS
PROPOSED WALLS
EXISTING TO BE RETAINED
PROPOSED WORKS
ALEX BRYDEN ARCHITECTURE
ARTISAN FOOD & BEVERAGE
LITTLE ITALY COFFEE ROASTERS PTY LTD
GROUND FLOOR PLAN
DA 100
/ B

A.4 SECTIONS


NOT FOR CONSTRUCTION
1 LONGITUDINAL SECTION
2 CROSS SECTION
Proposed racking shown in yellow
Proposed equipment layout
EX GROUND FLOOR RL 0.000
EXISTING ROOF 6.000 RL
EXISTING RACKING
EXISTING RACKING
EXISTING RACKING
CAFE/ ITALIAN COFFEE CLEARANCE ZONE
EXISTING WALLS
PROPOSED WALLS
EXISTING TO BE RETAINED
PROPOSED WORKS
ALEX BRYDEN ARCHITECTURE
ARTISAN FOOD & BEVERAGE
1/1 MINNA CLOSE, BELROSE NSW 2085
LITTLE ITALY COFFEE ROASTERS PTY LTD
SECTIONS
24013
1:200@A3
AB
13.01.25
DA 300
/ B
13.01.25 FOR DEVELOPMENT APPLICATION
13.12.24 FOR REVIEW