

koikas acoustics PTY LTD

CONSULTANTS IN NOISE & VIBRATION

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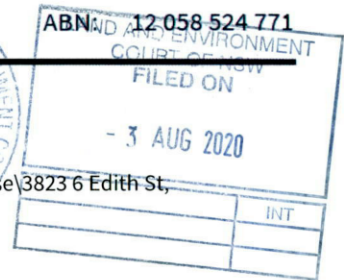
DELIVERING SOUND ADVICE

Date: Tuesday, 24 March 2020

Our Reference: G:\Shared drives\KA Acoustics 2020\REPORT\Boarding House\3823 6 Edith St, Kingswood\3823L20200324mfc6EdithStKingswoodv3.docx

Project No.: 3823

Prepared For: Liquid Gold 888 Pty Ltd
Attention: Cindy Nadar / Anthony Nakhoul
Email: accounts@advancegroupaustralian.com.au / anakhoul@hotmail.com



RE: ACOUSTIC ISSUES RAISED BY COUNCIL OFFICER FOR PROPOSED BOARDING HOUSE DEDEVELOPMENT AT 6 EDITH STREET, KINGSWOOD NSW

Koikas Acoustics Pty Ltd was requested by Liquid Gold 888 Pty Ltd to comment on acoustic related issues raised verbally by the officer of Penrith City Council.

This letter should be read in conjunction with the acoustical report prepared by Koikas Acoustics. Details are provided below:

Report Title: *Acoustical report – Section 34 Conciliation
Boarding house development at 6 Edith Street, Kingswood NSW*

Report Ref: *3823R20200226mfc6EdithStKingswood_S34v5.docx*

Date: *Wednesday, 26 February 2020*

Version: *V6*

Hereafter the report is referred as the “acoustical report”.

This and the following ⁷ pages is
the annexure marked " J " referred to in the
Affidavit of Anthony Boskovitz
sworn / affirmed
at Edgecliff this 31st day of July 2020
before me

Solicitor / Katherine Boskovitz
TIFFANY STOLIAR

koikas acoustics

Date: Tuesday, 24 March 2020

File Reference: 3823L20200324mfc6EdithStKingswoodv3.docx

Prepared For: Liquid Gold 888 Pty Ltd

Addendum Letter: Acoustic issues raised from council officer for proposed boarding house development at 6 Edith Street, Kingswood NSW

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The acoustic related issues verbally raised by the officer of Penrith City Council are as follow:

1. *The acoustical report refers to out-dated plans.*
2. *The acoustical report needs to justify the number of 14 people occupying the outdoor area and the sound power level of 64 dB(A) for one person. A more reasonable level to consider is 75~80 dB(A).*
3. *There are a number of omissions in the acoustical report including:*
 - a. *The exact location of the AC units and the justification of the assessment outcome.*
 - b. *The noise impact assessment including the predicted noise level from the proposed garage roller door.*
 - c. *The extent of the lift noise.*
 - d. *The noise associated with mechanical ventilation in the basement garage.*

It is noted that the acoustically related issued were conveyed verbally to Koikas Acoustics by the Applicant and therefore the above wording may not be verbatim as these comments.

Response to Item No.1

Following the review of the latest drawings (listed in Table 1 below), Koikas Acoustics confirms that the acoustical report remains valid and current. No further amendment to the acoustical report is required.

Table 1. Design drawings used in the assessment				
Drawing Title	Drawing No.	Ref.	Issue	Date
ROOF/SITE ANALYSIS PLAN	C 0	2020-110	c	MAR 20
BUILDING FORM ANALYSIS	C 2	2020-110	c	MAR 20
BASEMENT FLOOR PLAN	C 3	2020-110	c	MAR 20
GROUND FLOOR PLAN	C 4	2020-110	c	MAR 20
FIRST FLOOR PLAN	C 5	2020-110	c	MAR 20
ELEVATIONS 1	C 6	2020-110	c	MAR 20
ELEVATIONS 2	C 7	2020-110	c	MAR 20
SECTION A	C 8	2020-110	c	MAR 20
SECTION B & C	C 9	2020-110	c	MAR 20
Notes	<ol style="list-style-type: none"> 1. Detailed above are the plans and drawings available at the time of assessment. Where design changes are made without the prior knowledge of Koikas Acoustics, our assessment results and conclusions published within the acoustical report may be incorrect. 			



Response to Item No.2

Based on the updated drawings listed in Table 1 above, the maximum occupancy is now reduced from 19 to 17. It is presumed that 50% of the total will occupy the rear outdoor open space, i.e. 9 people. Further, it is considered that 40% of these occupants may have guests, i.e. an additional 4 persons. Assuming that these guests occupy the outdoor areas, then there would be a maximum of 13 people that would occupy the outdoor area. Typically, 50% of the total number of those persons may talk at any one time, i.e. 7 people. A person talking at normal vocal effort would produce a sound power level of L_{Aweq} 64 dB. A person sitting or standing outdoors less than 1 metre away from another person would not be talking at raised or loud voice. The equivalent sound power level of 7 people talking continuously is L_{Aweq} 72~73 dB. These sound power levels were used in the CadnaA noise model on numerous occasions and found to be representative. It is also noted, people do not talk constantly for 15 minutes (assessment period) and therefore the calculated $L_{Aeq,15\text{ minutes}}$ noise levels at receiver locations is expected to be lower than that derived by our calculations.

Response to Item No.3 a

The exact locations of the AC units have not been provided at the time of preparing the acoustical report. Koikas Acoustics was recently advised that all the outdoor AC condenser units will be located in the basement level, and as such, the noise emanating from this plant will be satisfactorily contained by the massive masonry structural walls. Breakout noise via the garage door to the closest noise-affected residential receiver will be more than 8 meters away (on the basis that the AC unit is not located along the driveway area of the basement) and is well shielded.

The acoustical report recommended Daikin FTXM496QVMA which produces very low noise emissions with sound power level of L_{Aweq} 60 dB. Therefore, the 'airborne' noise level from the outdoor AC units is expected to be negligible and with the use of vibration isolated mounts (can be used as floor or wall mounts) as stated in Section 7.2 of the acoustical report, structural borne noise levels will be eliminated. Refer to **Appendix A** of this letter for details of the vibration isolation mounts. Details are regarding mechanical plant are normally considered at CC stage.

Response to Item No.3 b

Based on the previous noise measurements of a similar type automatic roller door, the noise levels were found to be approximately $L_{Aeq, 30seconds}$ 58 dB at 1 meter away from the centre of the roller door. The calculated noise impact from the roller door to the nearest residential boundary is therefore:

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Table 2. Noise intrusion calculation summary – L_{Aeq} dB

Descriptions	Noise Level
L _{Aeq,30s} sound pressure level of roller door opening @ 1 m	58
Duration correction 30 seconds over 15 minute period [dB]	-15
Distance attenuation (Assuming the source is a plane source [dB])	-3
Calculated resultant outdoor noise level – L _{Aeq,15minutes}	40
Noise criterion level	40

Noise level measurements taken of the roller door was installed 10 years ago and had never been serviced. With regular greasing, the noise from roller doors could be quieter by up to 10 dB. The noise level of a well maintained roller door would therefore produce a noise L_{Aeq, 15 minutes} 30 dB. It is noted, that a single vehicular pass by, 7 metres away traveling at 50 km/hr would produce typically L_{Aeq, 30 seconds} 60 - 65 dB, which is equivalent to L_{Aeq, 15 minutes} 45 – 50 dB. On the basis of the above, a single roller door event (L_{Aeq, 15 minutes} 30 dB) would be negligible in comparison to that of a single vehicle pass-by (L_{Aeq, 15 minutes} 45 – 50 dB).

Response to Item No.3 c

The implementation of our design recommendations stated in Table 7 of the acoustical report (v5) would be acoustically adequate for the partition system separating the lift shaft and boarding rooms (applicable for Room 001 and 009). The lift noise penetrating through the main entry doors can be further minimised by:

- Installation of a 45 mm thick solid-core timber entry door with permitter and drop seals to RM 001, R002, R003, R008, R009, R011 and R012.
- Lift is serviced and the mechanism of the driving belt is lubricated on a regular basis to avoid unnecessary wear, tear and grinding.
- The lift motor is to be vibration isolated by rubber mounts. Design details are to be confirmed and sought from the product supplier such as Embelton or similar when further specifications of the motor are provided at CC (Construction Certificate) stage.

Response to Item No.3 d

The design of mechanical ventilation plant and equipment for the basement car park level is yet to be completed. A detailed mechanical plant noise impact assessment would normally be provided once the final mechanical design and specification have been completed by ventilation and mechanical experts for CC Stage. Where necessary, noise control measures such as ductwork lining and silencers can be considered if required to achieve the nominated mechanical plant noise criteria.



We trust that all the acoustic related issues raised by Council officer have been adequately addressed in this letter for the proposed boarding house development at 6 Edith Street, Kingsford NSW.

Yours Sincerely,

Koikas Acoustics Pty Ltd



Nick Koikas

Principal Consultant

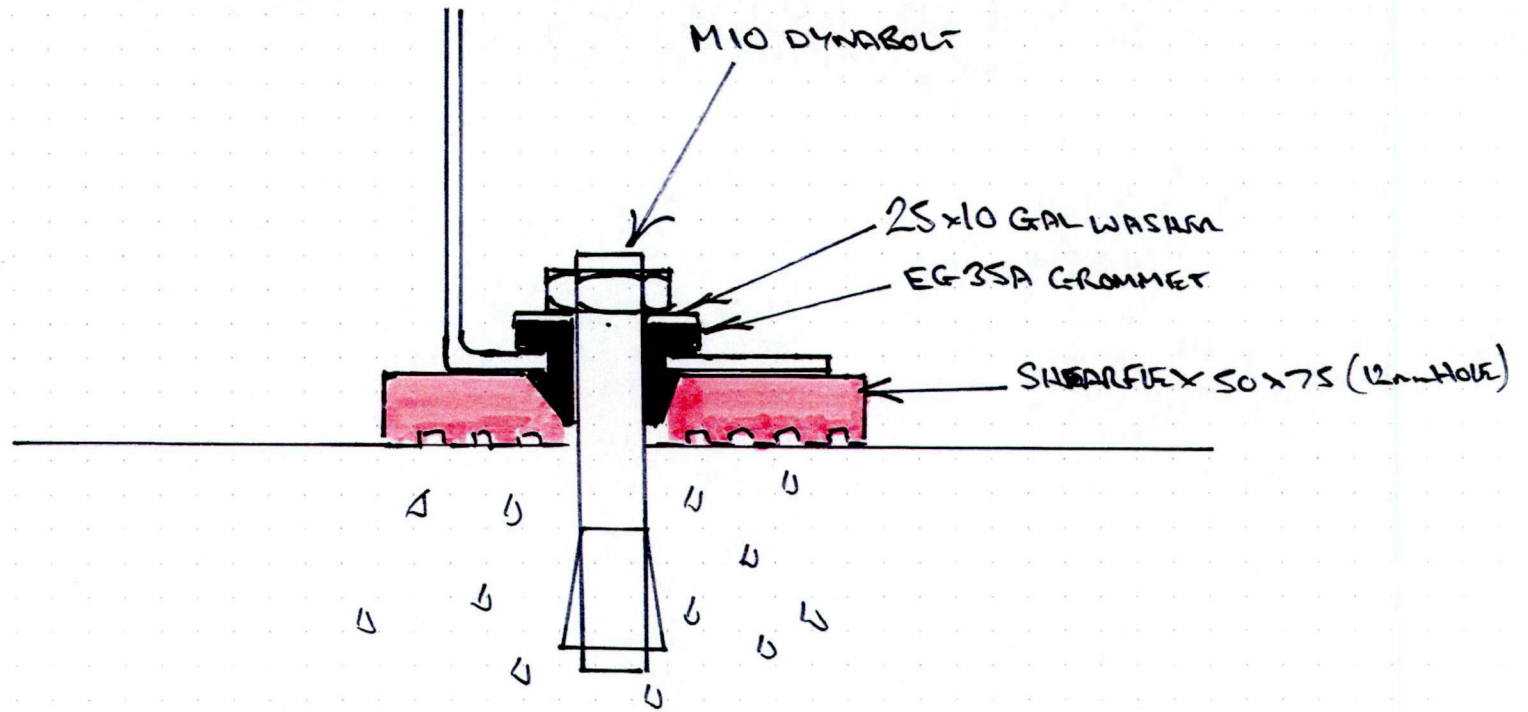


APPENDIX A

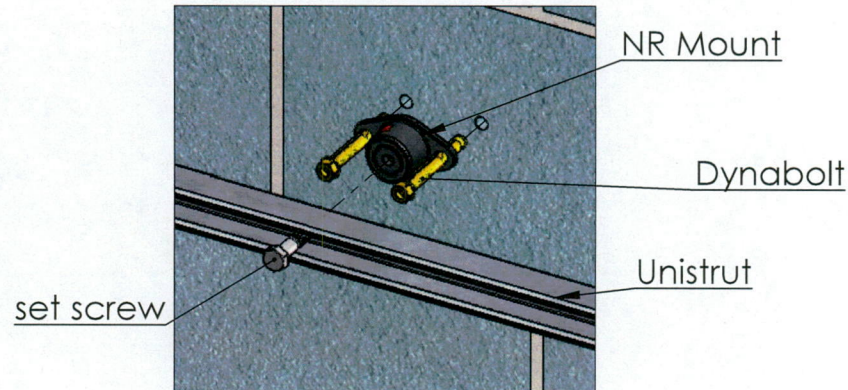
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APPENDIX A

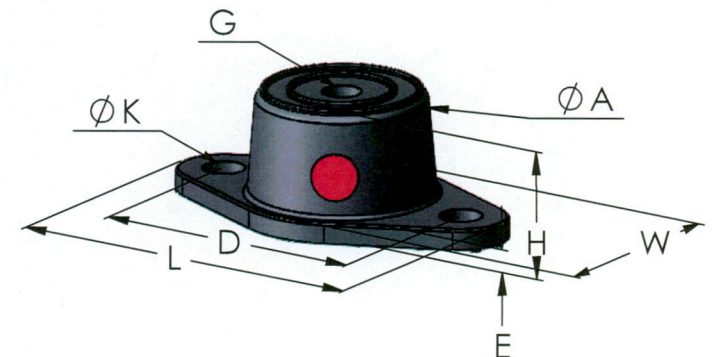
EMBELTON



SI-60 Isolated Unistrut



Type	Colour	Max Axial Load (kg)	Max Shear Load (kg)	Dynamic Factor	H (mm)	E (mm)	L (mm)	W (mm)	D (mm)	A (mm)	G (mm)	K (mm)
NR1	Blue	17	5	1.0	28	5	80	45	60	36	M10	8.5
	White	25	7	1.0								
	Red	40	12	1.2								
	Green	55	16	1.3								
	Grey	80	24	1.4								
NR2	White	70	21	1.1	32	6	98	60	76	45	M10	8.5
	Red	100	30	1.2								
	Green	160	48	1.4								
	Grey	250	75	1.5								
NR3	White	145	43	1.2	44	7	140	85	104	68	M12	14
	Red	200	60	1.3								
	Green	300	90	1.4								
	Grey	500	150	1.6								
NR4	Blue	380	114	1.2	46	9	166	110	128	100	M16	14
	White	580	174	1.4								
	Red	850	255	1.5								
	Green	1300	390	1.6								



EMBELTON

Data sheet: SI-60
Issue: 1
April 2012

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