

PLANS AND DOCUMENTS
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DEVELOPMENT APPROVAL



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Proposed Mixed Use Development
47 Brookes Street
Bowen Hills

ACOUSTIC REPORT



Client:

Hudson Bowen Hills Pty Ltd

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Document Information

Contact Details

Acoustic Works
Unit 2/8 Castlemaine Street
Coorparoo QLD 4151
(07) 3393 2222
ABN: 56 157 965 056

PO Box 1271
Coorparoo DC
QLD 4151

Greg Pearce
Email: gpearce@acousticworks.com.au

Mark Enersen
Email: menersen@acousticworks.com.au

Report Register

Date	Revision	Author	Reviewer	Manager
30/11/20	R01C	Matthew Bechara	Greg Pearce	GP
09/12/20	R01D	Matthew Bechara	Greg Pearce	GP
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1. Introduction

This report is in response to a request by Hudson Bowen Hills Pty Ltd for an environmental noise assessment of the proposed mixed use development located at 47 Brookes Street, Bowen Hills. To facilitate the assessment, unattended noise monitoring was conducted for the proposal to determine the criteria and assess impacts to sensitive receivers in proximity to the development. Based on the outcomes of the assessment, recommendations for acoustic treatments are specified.

2. Site Description

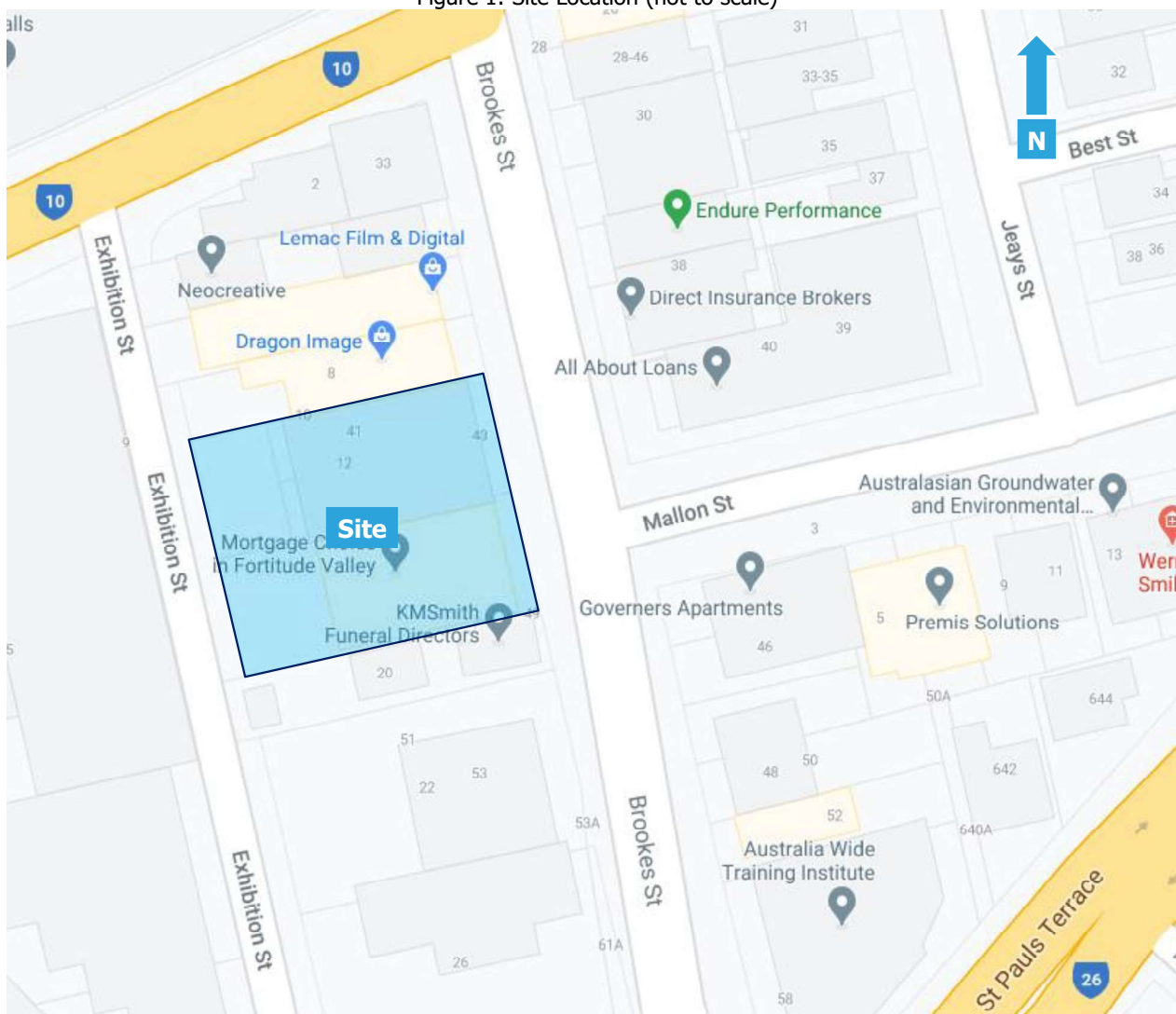
2.1 Site Location

The site is described by the following:

41-47 Brookes Street, Bowen Hills
Lots 0, 1 and 2 on GTP1074
Lot 1 on RP167860

Refer to Figure 1 for site location.

Figure 1: Site Location (not to scale)



A comprehensive site survey was conducted on 11th November 2020 and identified the following:

- a) The site is located in an Emerging Community (EC) zone as defined in the Brisbane City Council City Plan 2014.
- b) Commercial premises currently occupy the site, which will be demolished to make way for the new development.
- c) Commercial premises are located adjacent the northern site boundary.
- d) Commercial premises and a 12 storey apartment block are located on the eastern side of Brookes Street.
- e) A residential dwelling and a funeral home are located adjacent the southern site boundary.
- f) An undercover exhibition area is located on the western side of Exhibition Street.

2.2 Proposal

The proposal is to develop a mixed use building consisting of the following:

- 170 car spaces over the basement, lower ground level and four podium level carparks.
- Ground floor – Café, hotel lobby, hotel dining and commercial premises.
- Podium Level 1 to 4 – carparking, commercial and community use areas.
- Level 5 – Commercial premises and a childcare centre with outdoor areas.
- Level 6 to 18 Commercial office space.
- Level 19 hotel rooms and outdoor recreation area.
- Level 20 to 24 hotel rooms.
- Site access is via Exhibition Street.

2.3 Zoning

Review of the Brisbane City Council City Plan 2014 indicates that the site is zoned in an Emerging Community (EC).

Based on this information the criteria nominated in Section 6 applies.

2.4 Acoustic Environment

The surrounding area is primarily affected by noise from the surrounding road network with noise from nearby commercial premises potentially impacting the surrounding area.

3. Equipment

The following equipment was used to record the road traffic and ambient noise levels:

- Rion NL42 Environmental Noise Monitor
- BSWA Technology Co. Ltd Sound Calibrator

The Rion NL42 environmental noise monitors hold current NATA Laboratory Certification and were field calibrated before and after the monitoring period, with no significant drift from the reference signal recorded.

4. Receivers and Noise Monitoring

4.1 Receiver Locations

The nearest sensitive receiver locations were identified as follows;

1. A residential dwelling and a funeral home are located adjacent the southern site boundary at 49 Brookes Street.
2. Commercial premises are located adjacent the northern site boundary at 33-39 Brookes Street.
3. Brookes Street separates the development from commercial premises north east of the site at 38-40 Brookes Street.
4. Brookes Street separates the development from a residential apartment building east of the site at 44 Brookes Street.

Refer to Figure 2 for these locations.

Figure 2: Receivers and noise monitoring location



4.2 Unattended Noise Monitoring

A Rion NL 42 environmental noise monitor was placed on the first floor balcony of a business at 47 Brookes Street to measure ambient noise levels. This location was chosen as it is considered representative of the nearest sensitive receivers. The monitor was located in a free field location with the microphone approximately 1.4 metres above ground surface level. The noise monitor was set to record noise levels between the 11th and 18th of November 2020.

The Rion NL 42 environmental noise monitor was set to record noise levels in "A" Weighting, Fast response using 15 minute statistical intervals. Ambient noise monitoring was conducted generally in accordance with Australian Standard AS 1055:2018 *Acoustics – Description and measurement of environmental noise*.

Refer to Figure 2 for the unattended noise monitoring location.

5. Existing Ambient 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 results.

5.1 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 1 below.

Table 1: Meteorological conditions – Brisbane

Day	Date	Rainfall (mm)	Wind			
			9am		3pm	
			Speed (km/h)	Direction	Speed (km/h)	Direction
Wednesday	11/11/2020	0	NE	4	ENE	11
Thursday	12/11/2020	0	NNE	6	NE	11
Friday	13/11/2020	0	NW	2	NE	11
Saturday	14/11/2020	0	SSW	4	NE	11
Sunday	15/11/2020	0	NW	4	ENE	13
Monday	16/11/2020	0	ENE	7	NNE	11
Tuesday	17/11/2020	0	NE	4	ENE	9
Wednesday	18/11/2020	0.8	SE	15	E	15

5.2 Ambient background noise level

The ambient noise levels measured at the monitoring location are presented in Table 2:

Table 2: Measured ambient noise levels

Day	Date	LAeq (9h)	Rating Background Levels L90 dB(A)		
			Day	Evening	Night
Wednesday	11/11/20	x	57	49	42
Thursday	12/11/20	63	56	50	39
Friday	13/11/20	63	57	51	41
Saturday	14/11/20	65	53	51	42
Sunday	15/11/20	63	49	46	43
Monday	16/11/20	61	56	48	40
Tuesday	17/11/20	62	56	49	41
Wednesday	18/11/20	x	58	x	41
Overall value		63	55	49	41

Graphical presentation of the measured noise levels is presented in the Appendices.

6. Noise Criteria

6.1 BCC - Environmental Noise Criteria

To ensure a reasonable acoustic amenity is maintained, Council requires environmental noise be assessed in accordance with Noise Impact Assessment PSP (2014). To accurately assess environmental noise, the noise must first be classified as to the type and its duration. Section 6.1.1 breaks down the assessment requirements in relation to the project and considers the criteria in relation to the type of noise being assessed.

6.1.1 Onsite Activities

To ensure a reasonable amenity is maintained, the following criteria shall be applied for the assessment of onsite activities to surrounding sensitive receivers. The noise criteria as applied by Brisbane City Council in accordance the Brisbane City Plan 2014 are as follows;

Table 3: Noise (Planning) Criteria

Criteria Location	Intrusive Noise Criteria	Acoustic Amenity Criteria		
	Day, evening and night $L_{Aeq,adj,T}$ are not greater than the RBL plus the value in this column for the relevant criteria location, where T equals: <ul style="list-style-type: none"> • Day - 11hr • Evening - 4hr • Night - 9hr 	Day, evening and night $L_{Aeq,adj,T}$ are not greater than the values in the column below for the relevant criteria location, where T equals: <ul style="list-style-type: none"> • Day - 11hr • Evening - 4hr • Night - 9hr 		
		Day	Evening	Night
<ul style="list-style-type: none"> • Emerging community zone boundary 	5 dBA	55 dB(A)	50 dB(A)	45 dB(A)

Table 4: Night-time noise Criteria

Criteria Location	Where the existing $L_{Aeq,9hr}$ night at the criteria location is:	Average of the highest 15 single L_{Amax} events over a given night (10pm-7am) period is not greater than the following values at the relevant criteria location:	The absolute highest single L_{Amax} event over a given night (10pm-7am) period is not greater than the following values at the relevant criteria location:
<ul style="list-style-type: none"> • Emerging community zone boundary 	<45 dBA	50 dBA	55 dBA
	45 to 60 dBA	$L_{Aeq,9hr \text{ night}} + 5 \text{ dBA}$	$L_{Aeq,9hr \text{ night}} + 10 \text{ dBA}$
	>60 dBA	65 dBA	70 dBA

The intrusive noise criteria applicable to this development are as follows:

Table 5: Applicable Intrusive Noise Criteria

Time Period	Intrusive Noise Criteria dB(A) $L_{Aeq,adj,T}$
Day 7am – 6pm	60
Evening 6pm – 10pm	54
Night 10pm – 7am	46

The night-time noise criteria applicable to this development are presented in Table 6.

Table 6: Applicable Night-time noise Criteria

Time Period	Average LAmax (dBA)	Absolute LAmax (dBA)
Night (10pm-7am)	65	70

6.1.2 Offsite Activities - Multiple Dwelling Code

The site is located in proximity to multiple commercial premises, it is therefore recommended the Multiple Dwelling Code is applied.

PO41 Development in a zone in the centre zones category or the Mixed use zone must:

- a) Be located, designed and constructed to protect bedrooms and other habitable rooms from exposure to noise arising from non-residential activities outside the building;*
- b) Be designed and constructed to achieve a minimum reduction in sound pressure level between the exterior of the building and the bedrooms or indoor primary areas of 30dB(A).*

AO41 Development in a zone in the centre zones category or the Mixed use zone has the minimum acoustic performance of:

- a) Rw 35 for glazing (windows and doors) where total area of glazing is greater than 1.8m²;*
- b) Rw 32 for glazing (windows and doors) where total area of glazing is less than or equal to 1.8m².*

7. Environmental Assessment

7.1 Onsite Activities

Noise associated with the development was assessed based on previous assessments of similar activities. The calculations assume that the nominated activities are located at the closest representative point within the development site to each receiver location. Any relevant shielding or building transmission loss is taken into account for these activities.

7.2 Intrusive Noise and Acoustic Amenity

The average noise source levels and predicted impacts at the receiver locations are shown in Table 7. L_{Aeq} results are not shown where the calculated total is less than 0dBA.

Table 7: Predicted noise impacts

Receiver	Receivers										Description										Intrusive Compliance L _{Aeq}			Amenity Compliance L _{Aeq}			
																					Day	Eve	Night	Day	Eve	Night	
	Source @ 1m dB(A)	Correction dB(A)*	Corrected dB(A)	Number of events day	Number of events eve	Number of events night	Duration per event	Distance (m)	No Barrier (height (m))	Barrier screening dB	Building TL or shield dB	Building screening dB	Dist atten. @ 60dB/dd	L _{Aeq adj. T ext. dB(A) Day}	L _{Aeq adj. T int. dB(A) Day}	L _{Aeq adj. T ext. dB(A) Eve}	L _{Aeq adj. T int. dB(A) Eve}	L _{Aeq adj. T ext. dB(A) Night}	L _{Aeq adj. T int. dB(A) Night}								
1	Criteria																				65	54	46	55	50	45	
	Car passby	69		69	560	80	40	15	8				-5	-19	38	33	34	29	28	23	Yes	Yes	Yes	Yes	Yes	Yes	
	Car door closure	75	2	77	560	80	40	2	8				-5	-19	38	33	33	28	27	22	Yes	Yes	Yes	Yes	Yes	Yes	
	Car start	74	2	76	280	40	20	2	8				-5	-19	34	29	29	24	23	18	Yes	Yes	Yes	Yes	Yes	Yes	
	Goods delivery	78	2	80	20	10	5	240	19				-10	-26	35	30	36	31	30	25	Yes	Yes	Yes	Yes	Yes	Yes	
	Hotel lobby background music	79		79	11	4	9	3600	15				-16	-24	39	34	39	34	39	34	Yes	Yes	Yes	Yes	Yes	Yes	
	Hotel dining	80		80	11	4	9	3600	15				-16	-24	40	35	40	35	40	35	Yes	Yes	Yes	Yes	Yes	Yes	
	Hotel kitchen activities	81		81	11	4	9	3600	20				-16	-27	38	33	38	33	38	33	Yes	Yes	Yes	Yes	Yes	Yes	
	Cafe kitchen activities	81		81	11	4	9	3600	26				-16	-29	36	31	36	31	36	31	Yes	Yes	Yes	Yes	Yes	Yes	
	Cafe dining	80		80	11	4	9	3600	26				-16	-29	35	30	35	30	35	30	Yes	Yes	Yes	Yes	Yes	Yes	
	Level 5 outdoor play area	86		86	11	1		3600	19				-21	-26	39	34	33	28			Yes	Yes	n/a	Yes	Yes	Yes	
	Level 5 outdoor commercial area	75		75	11	4	9	3600	19				-21	-26	28	23	28	23	28	23	Yes	Yes	Yes	Yes	Yes	Yes	
	Commercial office space	75		75	11	4	9	3600	21				-16	-27	32	27	32	27	32	27	Yes	Yes	Yes	Yes	Yes	Yes	
	Rec. Area	83		83	11	4	9	3600	72				-21	-38	24	19	24	19	24	19	Yes	Yes	Yes	Yes	Yes	Yes	
	Total																					Yes	Yes	Yes	Yes	Yes	Yes
2	Criteria																				65	54	46	55	50	45	
	Car passby	69		69	560	80	40	15	8				-5	-19	38	33	34	29	28	23	Yes	Yes	Yes	Yes	Yes	Yes	
	Car door closure	75	2	77	560	80	40	2	8				-5	-19	38	33	33	28	27	22	Yes	Yes	Yes	Yes	Yes	Yes	
	Car start	74	2	76	280	40	20	2	8				-5	-19	34	29	29	24	23	18	Yes	Yes	Yes	Yes	Yes	Yes	
	Goods delivery	78	2	80	20	10	5	240	17				-10	-25	36	31	38	33	31	26	Yes	Yes	Yes	Yes	Yes	Yes	
	Hotel lobby background music	79		79	11	4	9	3600	28				-16	-22	-29	12	7	12	7	12	7	Yes	Yes	Yes	Yes	Yes	Yes
	Hotel dining	80		80	11	4	9	3600	28				-16	-22	-29	13	8	13	8	13	8	Yes	Yes	Yes	Yes	Yes	Yes
	Hotel kitchen activities	81		81	11	4	9	3600	28				-16	-22	-29	14	9	14	9	14	9	Yes	Yes	Yes	Yes	Yes	Yes
	Cafe kitchen activities	81		81	11	4	9	3600	20				-16	-22	-26	17	12	17	12	17	12	Yes	Yes	Yes	Yes	Yes	Yes
	Cafe dining	80		80	11	4	9	3600	20				-16	-22	-26	16	11	16	11	16	11	Yes	Yes	Yes	Yes	Yes	Yes
	Level 5 outdoor play area	86		86	11	1		3600	19				-21	-26	39	34	33	28			Yes	Yes	n/a	Yes	Yes	Yes	
	Level 5 outdoor commercial area	75		75	11	4	9	3600	19				-21	-26	28	23	28	23	28	23	Yes	Yes	Yes	Yes	Yes	Yes	
	Commercial office space	75		75	11	4	9	3600	21				-16	-26	33	28	33	28	33	28	Yes	Yes	Yes	Yes	Yes	Yes	
	Rec. Area	83		83	11	4	9	3600	74				-21	-37	25	20	25	20	25	20	Yes	Yes	Yes	Yes	Yes	Yes	
	Total																					Yes	Yes	Yes	Yes	Yes	Yes
3	Criteria																				65	54	46	55	50	45	
	Car passby	69		69	560	80	40	15	44				-33	29	24	25	20	19	14	Yes	Yes	Yes	Yes	Yes	Yes		
	Car door closure	75	2	77	560	80	40	2	44				-33	29	24	24	19	18	13	Yes	Yes	Yes	Yes	Yes	Yes		
	Car start	74	2	76	280	40	20	2	44				-33	25	20	20	15	14	9	Yes	Yes	Yes	Yes	Yes	Yes		
	Goods delivery	78	2	80	20	10	5	240	50				-10	-34	27	22	28	23	22	17	Yes	Yes	Yes	Yes	Yes	Yes	
	Hotel lobby background music	79		79	11	4	9	3600	42				-16	-32	31	26	31	26	31	26	Yes	Yes	Yes	Yes	Yes	Yes	
	Hotel dining	80		80	11	4	9	3600	52				-16	-34	30	25	30	25	30	25	Yes	Yes	Yes	Yes	Yes	Yes	
	Hotel kitchen activities	81		81	11	4	9	3600	52				-16	-34	31	26	31	26	31	26	Yes	Yes	Yes	Yes	Yes	Yes	
	Cafe kitchen activities	81		81	11	4	9	3600	40				-16	-32	33	28	33	28	33	28	Yes	Yes	Yes	Yes	Yes	Yes	
	Cafe dining	80		80	11	4	9	3600	40				-16	-32	32	27	32	27	32	27	Yes	Yes	Yes	Yes	Yes	Yes	
	Level 5 outdoor play area	86		86	11	1		3600	63				-1	-36	49	44	43	38			Yes	Yes	n/a	Yes	Yes	Yes	
	Level 5 outdoor commercial area	75		75	11	4	9	3600	37				-4	-31	40	35	40	35	40	35	Yes	Yes	Yes	Yes	Yes	Yes	
	Commercial office space	75		75	11	4	9	3600	43				-16	-33	26	21	26	21	26	21	Yes	Yes	Yes	Yes	Yes	Yes	
	Rec. Area	83		83	11	4	9	3600	82				-21	-38	24	19	24	19	24	19	Yes	Yes	Yes	Yes	Yes	Yes	
	Total																					Yes	Yes	Yes	Yes	Yes	Yes
4	Criteria																				65	54	46	55	50	45	
	Car passby	69		69	560	80	40	15	38				-32	30	25	26	21	20	15	Yes	Yes	Yes	Yes	Yes	Yes		
	Car door closure	75	2	77	560	80	40	2	38				-32	30	25	26	21	19	14	Yes	Yes	Yes	Yes	Yes	Yes		
	Car start	74	2	76	280	40	20	2	38				-32	26	21	22	17	15	10	Yes	Yes	Yes	Yes	Yes	Yes		
	Goods delivery	78	2	80	20	10	5	240	50				-10	-34	27	22	28	23	22	17	Yes	Yes	Yes	Yes	Yes	Yes	
	Hotel lobby background music	79		79	11	4	9	3600	45				-16	-33	30	25	30	25	30	25	Yes	Yes	Yes	Yes	Yes	Yes	
	Hotel dining	80		80	11	4	9	3600	55				-16	-35	29	24	29	24	29	24	Yes	Yes	Yes	Yes	Yes	Yes	
	Hotel kitchen activities	81		81	11	4	9	3600	55				-16	-35	30	25	30	25	30	25	Yes	Yes	Yes	Yes	Yes	Yes	
	Cafe kitchen activities	81		81	11	4	9	3600	45				-16	-33	32	27	32	27	32	27	Yes	Yes	Yes	Yes	Yes	Yes	
	Cafe dining	80		80	11	4	9	3600	45				-16	-33	31	26	31	26	31	26	Yes	Yes	Yes	Yes	Yes	Yes	
	Level 5 outdoor play area	86		86	11	1		3600	60				-36	50	45	44	39			Yes	Yes	n/a	Yes	Yes	Yes		
	Level 5 outdoor commercial area	75		75	11	4	9	3600	34				-31	44	39	44	39	44	39	Yes	Yes	Yes	Yes	Yes	Yes		
	Commercial office space	75		75	11	4	9	3600	28				-16	-29	30	25	30	25	30	25	Yes	Yes	Yes	Yes	Yes	Yes	
	Rec. Area	83		83	11	4	9	3600	42				-22	-32	29	24	29	24	29	24	Yes	Yes	Yes	Yes	Yes	Yes	
	Total																					Yes	Yes	Yes	Yes	Yes	Yes

*Correction due to tonality and impulsiveness as per AS1055:2018.

Compliance is predicted for all time periods on condition the recommendations in Section 8 are implemented.

7.3 Night-time Noise Criteria

The maximum noise source levels and predicted impacts at the receiver locations are shown in 8. The minimum possible distance was assessed in each case, and so the absolute criteria is applied.

Table 8: Predicted Lmax Noise Impacts, night time period

Receiver	Receivers										Average highest 15 events Lmax dB(A)	Absolute highest single event LMax dB(A)	
	Description												
	Source @1m dB(A)	Correction dB(A)*	Corrected dB(A)	Distance (m)	Yes	Barrier (height (m)	Barrier screening dB	Building TL or shield dB	Building screening dB	Dist atten. @-6dB/dd	Lmax adj. T ext. dB(A)		
1	Criteria											65	70
	Car passby	74		74	8				-5	-18	51	Yes	Yes
	Car door closure	78	2	80	8				-5	-18	57	Yes	Yes
	Car start	78	2	80	8				-5	-18	57	Yes	Yes
	Goods delivery	85	2	87	19				-10	-26	51	Yes	Yes
	Hotel lobby background music	84		84	15			-16		-24	44	Yes	Yes
	Hotel dining	85		85	15			-16		-24	45	Yes	Yes
	Hotel kitchen activities	86		86	20			-16		-26	44	Yes	Yes
	Cafe kitchen activities	86		86	26			-16		-28	42	Yes	Yes
	Café dining	85		85	26			-16		-28	41	Yes	Yes
	Level 5 outdoor commercial area	80		80	19				-21	-26	33	Yes	Yes
	Commercial office space	80		80	21			-16		-26	38	Yes	Yes
	Rec. Area	86		86	72				-21	-37	28	Yes	Yes
	2	Criteria											65
Car passby		74		74	8				-5	-18	51	Yes	Yes
Car door closure		78	2	80	8				-5	-18	57	Yes	Yes
Car start		78	2	80	8				-5	-18	57	Yes	Yes
Goods delivery		85	2	87	17				-10	-25	52	Yes	Yes
Hotel lobby background music		84		84	28			-16	-22	-29	17	Yes	Yes
Hotel dining		85		85	28			-16	-22	-29	18	Yes	Yes
Hotel kitchen activities		86		86	28			-16	-22	-29	19	Yes	Yes
Cafe kitchen activities		86		86	20			-16	-22	-26	22	Yes	Yes
Café dining		85		85	20			-16	-22	-26	21	Yes	Yes
Level 5 outdoor commercial area		80		80	19				-21	-26	33	Yes	Yes
Commercial office space		80		80	21			-16		-26	38	Yes	Yes
Rec. Area		86		86	74				-21	-37	28	Yes	Yes
3		Criteria											65
	Car passby	74		74	44					-33	41	Yes	Yes
	Car door closure	78	2	80	44					-33	47	Yes	Yes
	Car start	78	2	80	44					-33	47	Yes	Yes
	Goods delivery	85	2	87	50				-10	-34	43	Yes	Yes
	Hotel lobby background music	84		84	42			-16		-32	36	Yes	Yes
	Hotel dining	85		85	52			-16		-34	35	Yes	Yes
	Hotel kitchen activities	86		86	52			-16		-34	36	Yes	Yes
	Cafe kitchen activities	86		86	40			-16		-32	38	Yes	Yes
	Café dining	85		85	40			-16		-32	37	Yes	Yes
	Level 5 outdoor commercial area	80		80	37				-4	-31	45	Yes	Yes
	Commercial office space	80		80	43			-16		-33	31	Yes	Yes
	Rec. Area	86		86	82				-21	-38	27	Yes	Yes
	4	Criteria											65
Car passby		74		74	38					-32	42	Yes	Yes
Car door closure		78	2	80	38					-32	48	Yes	Yes
Car start		78	2	80	38					-32	48	Yes	Yes
Goods delivery		85	2	87	50				-10	-34	43	Yes	Yes
Hotel lobby background music		84		84	45			-16		-33	35	Yes	Yes
Hotel dining		85		85	55			-16		-35	34	Yes	Yes
Hotel kitchen activities		86		86	55			-16		-35	35	Yes	Yes
Cafe kitchen activities		86		86	45			-16		-33	37	Yes	Yes
Café dining		85		85	45			-16		-33	36	Yes	Yes
Level 5 outdoor commercial area		80		80	34					-31	49	Yes	Yes
Commercial office space		80		80	28			-16		-29	35	Yes	Yes
Rec. Area		86		86	42				-22	-32	32	Yes	Yes

*Correction due to tonality and impulsiveness as per AS1055:2018.

Compliance with the night time noise criteria is predicted on condition the recommendations in Section 8 are implemented.

7.4 Offsite Activities

Based on the recommended criteria detailed in Section 6.1.2, the development shall be designed and constructed to achieve a minimum reduction in sound pressure level (from offsite noise sources) between the exterior of the building and the hotel rooms of 30dB(A). To achieve the required noise reduction the following glazing treatments are recommended:

- Rw 35 (10.38mm laminated glass with acoustic seals) for glazing (windows and doors) where total area of glazing is greater than 1.8m²;
- Rw 32 (6.38mm laminated glass with acoustic seals) for glazing (windows and doors) where total area of glazing is less than or equal to 1.8m².

8. Recommendations

8.1 Onsite Activities

Based on the predicted noise levels and subjective assessment of the site and surrounds for all time periods, noise impacts at the residential receiver locations are predicted to comply on the condition the following acoustic treatments are implemented:

- We recommend that waste collection be conducted in accordance with existing residential collections in the area to reduce the potential for disturbance.
- Car park and ramp finished surfaces should consist of materials which provide low tyre squeal characteristics. Any traversable drainage grates must be securely fastened.
- The hotel dining room and café's entry door and windows shall remain closed during the night period.
- The outdoor play area on level 5 shall be limited to the day period only (7am-6pm).

8.1.1 Onsite Mechanical Plant

No information regarding mechanical services was available at the time of the assessment. We recommend that any new mechanical plant is designed to comply with the criteria stated in Section 6. We recommend an assessment by qualified acoustic consultant be conducted prior to installation to determine any requirements for acoustic treatments to mechanical plant.

8.2 Offsite Activities

On the condition the glazing recommendations in Section 6.1.2 are implemented to hotel rooms, compliance is predicted with AO41 of the Multiple Dwelling Code.

9. Conclusion

An acoustic assessment was conducted for the proposed mixed use development at 47 Brookes Street, Bowen Hills. On condition the recommendations in Section 8 are implemented, compliance is predicted with SDAP and council criteria for all time periods.

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

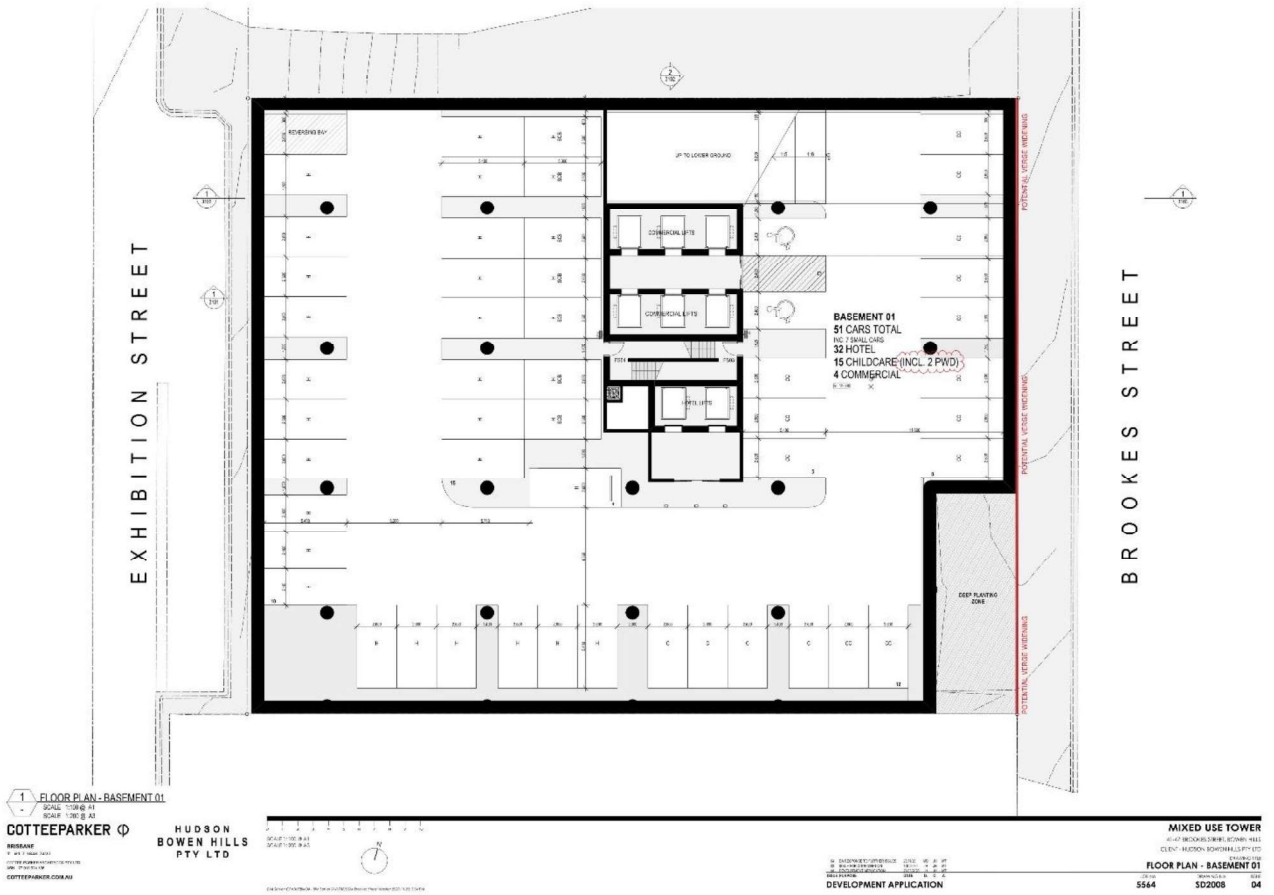
Report Prepared By

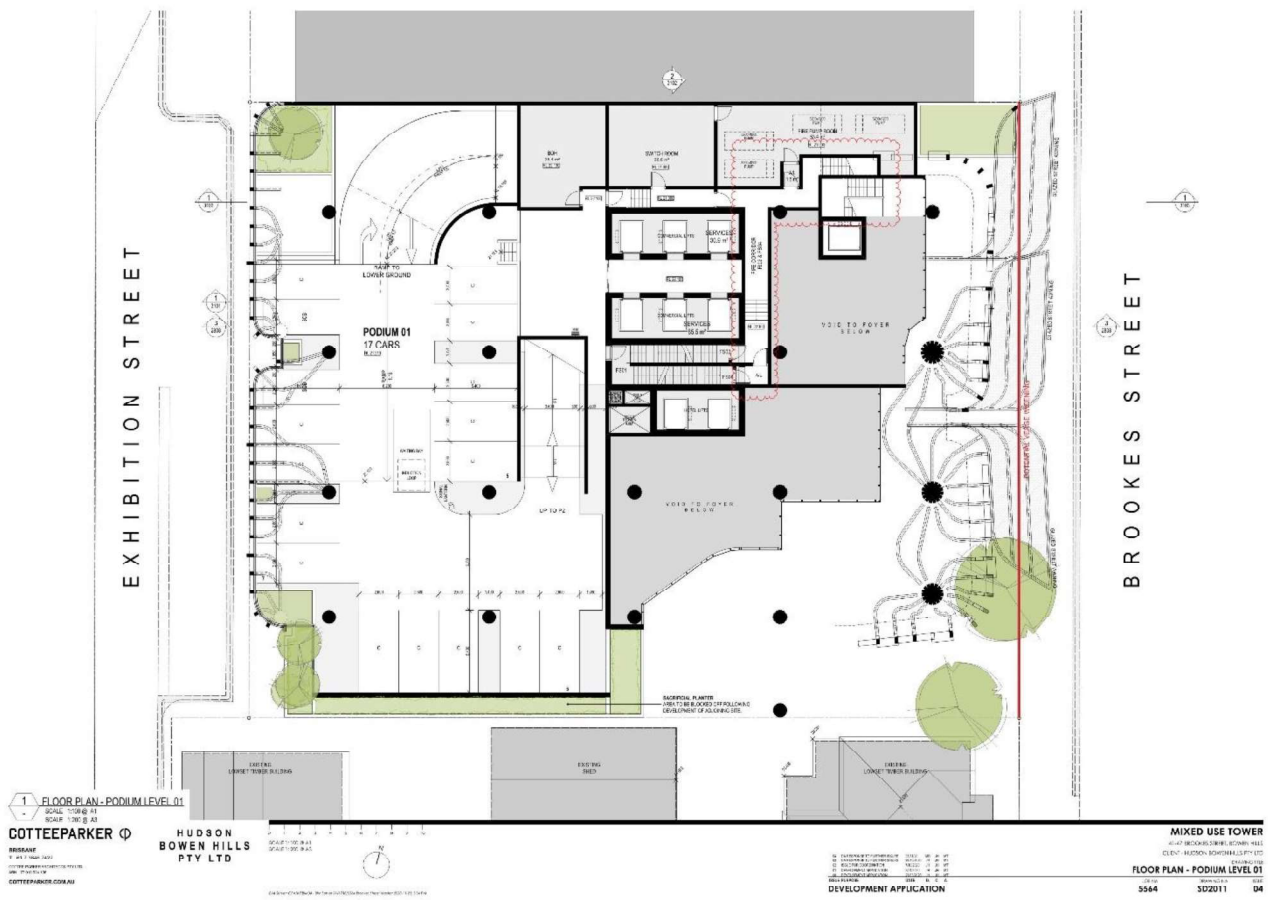
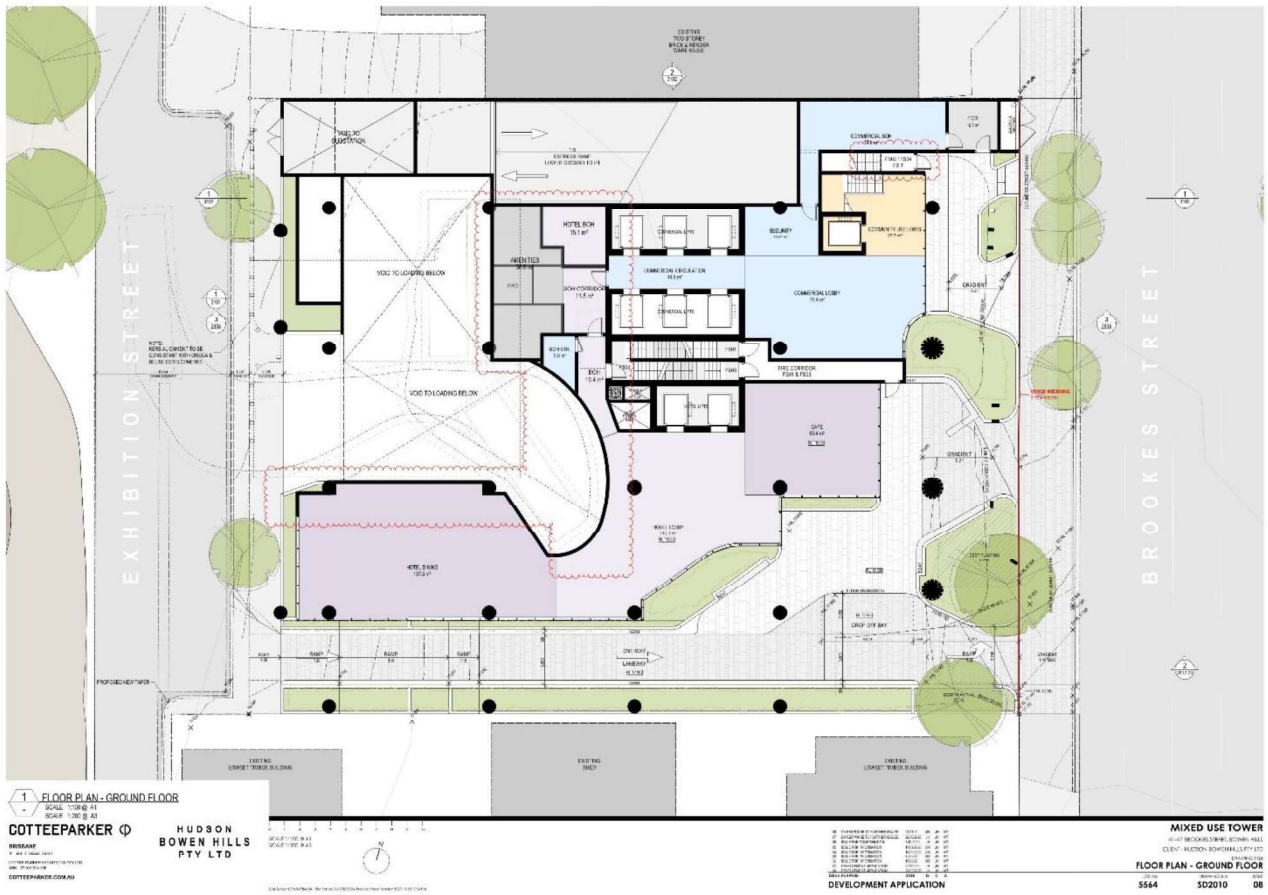


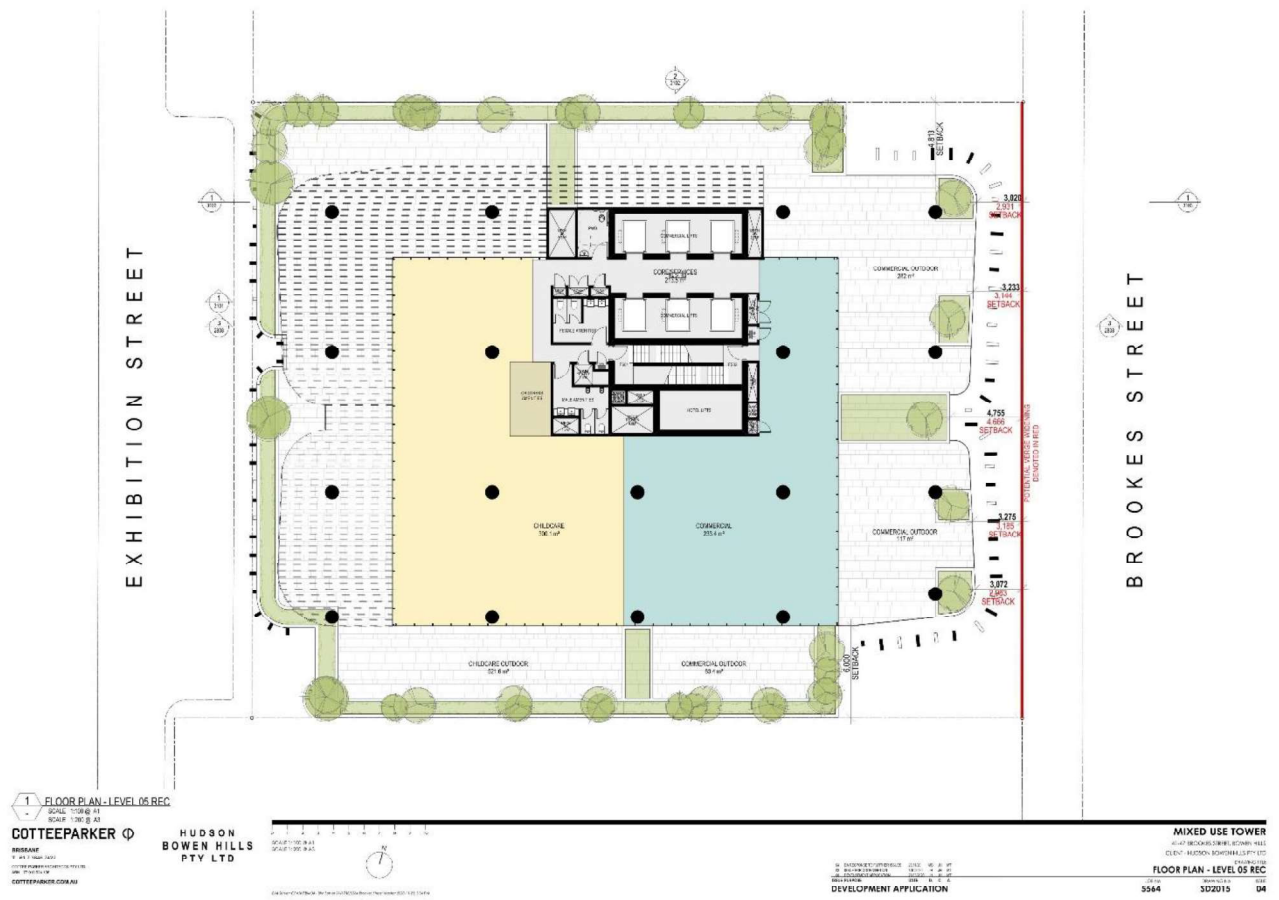
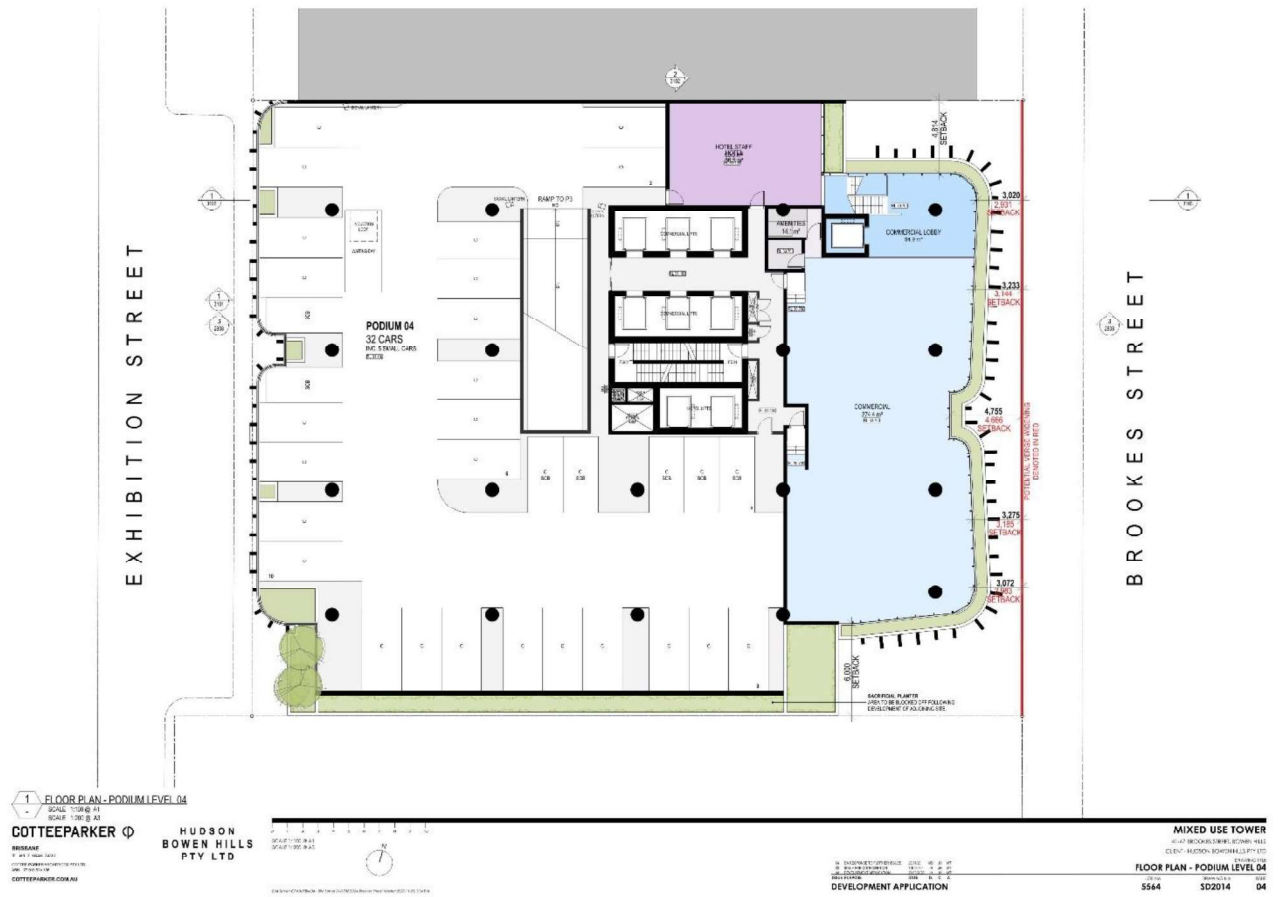
Matthew Bechara MArchSci MAAS
Senior Acoustic Consultant
acousticworks)))

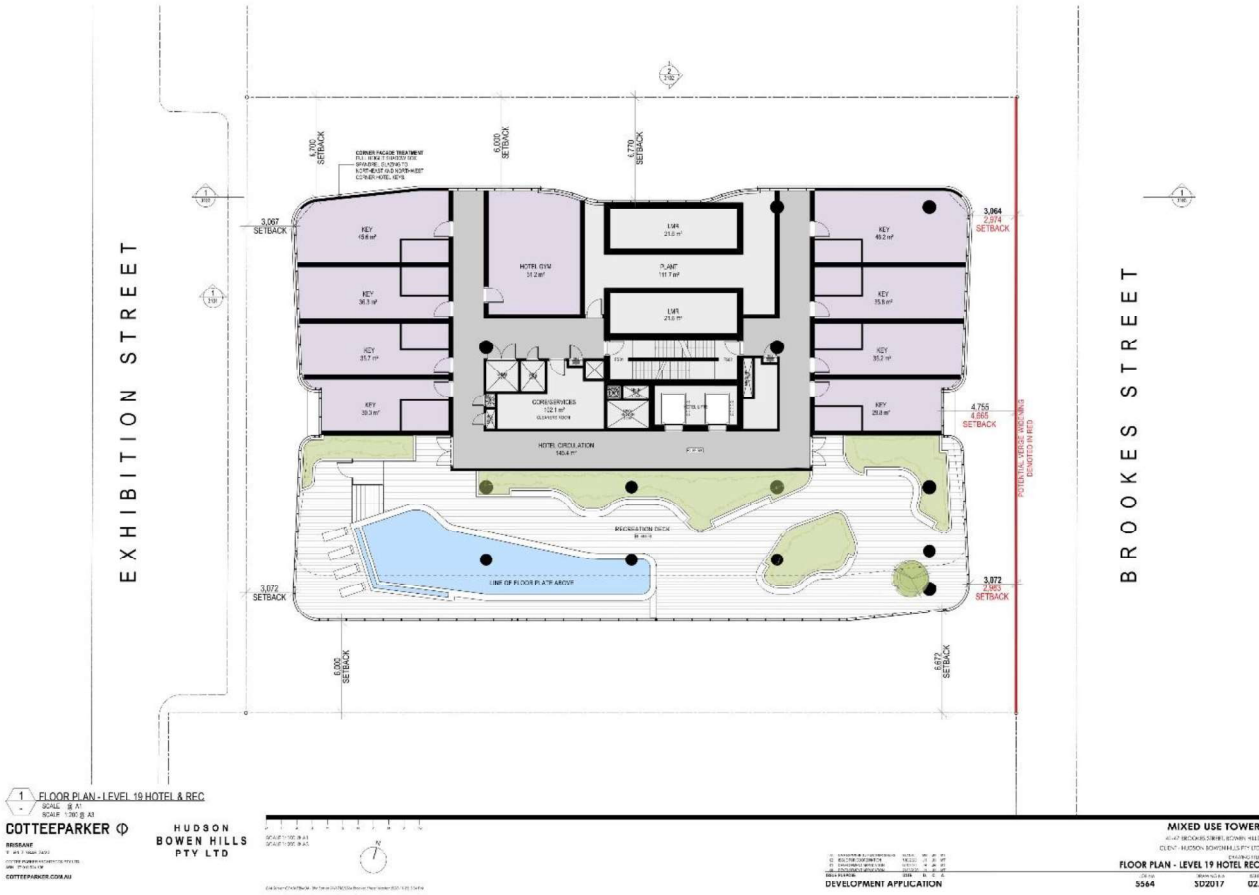
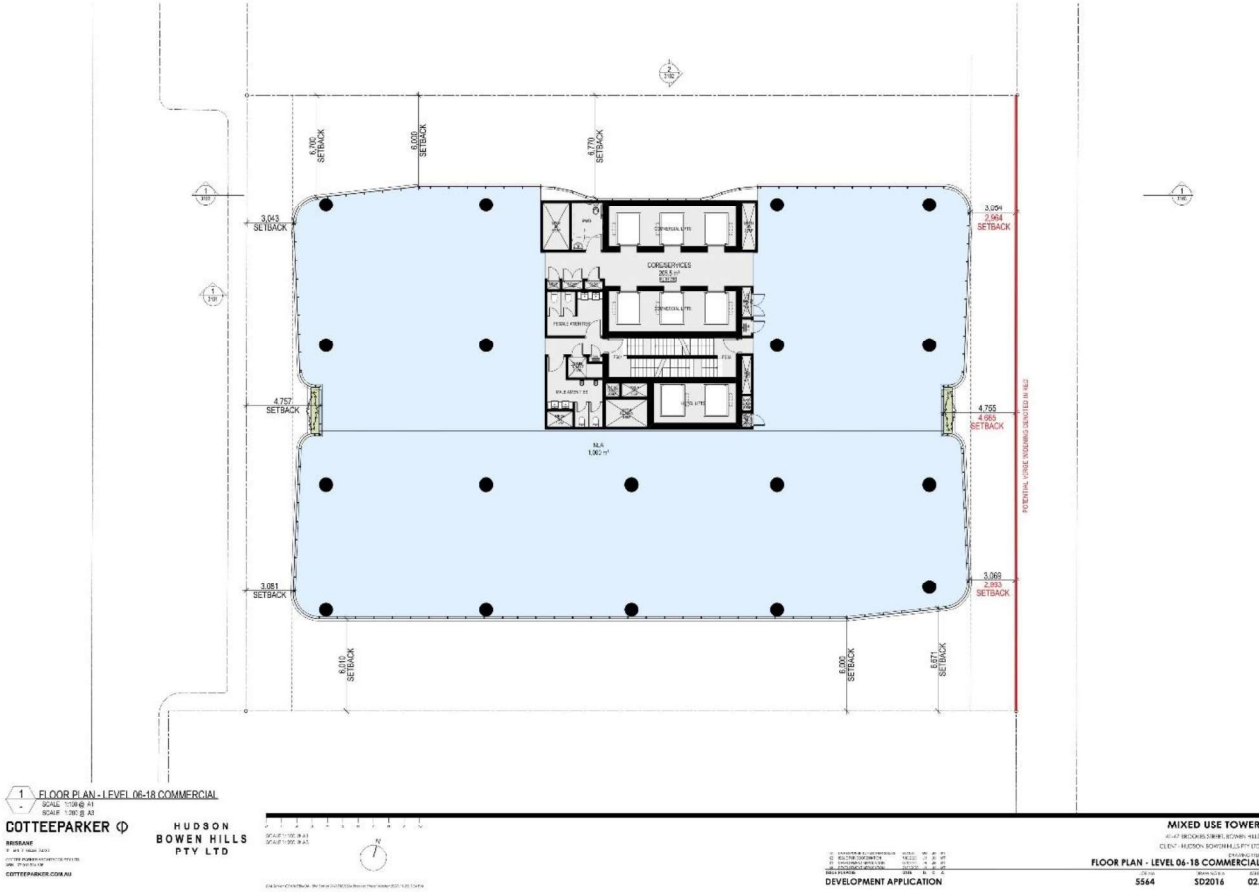
10. Appendices

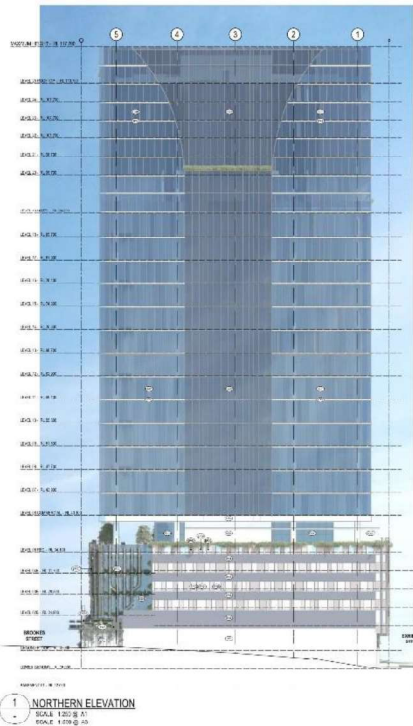
10.1 Development Plans











1 NORTHERN ELEVATION
SCALE: 1:200 @ A1
SCALE: 1:500 @ A0



2 SOUTHERN ELEVATION
SCALE: 1:200 @ A1
SCALE: 1:500 @ A0

- EXTERNAL FINISHES SCHEDULE:**
- EP01: PAINT FINISH: PORCELAIN WHITE
 - EP02: PAINT FINISH: OFF-WHITE
 - EP03: PAINT FINISH: GREY MATT
 - EP04: PAINT FINISH: SILVER GREY
 - EP05: PAINT FINISH: DARK GREY
 - EP06: PAINT FINISH: SHALE GREY
 - EPC01: POWDERCOAT: TIMBER COLOUR
 - EPC02: POWDERCOAT: SILVER
 - EG01: TOWER GLASS: VISION GREY
 - EG02: TOWER GLASS: ECLIPSE GREY
 - EG03: RETAIL GLASS: CLEAR
 - ET01: EXTERNAL TILE: STONE
 - ET02: EXTERNAL TILE: FLOOR TILES

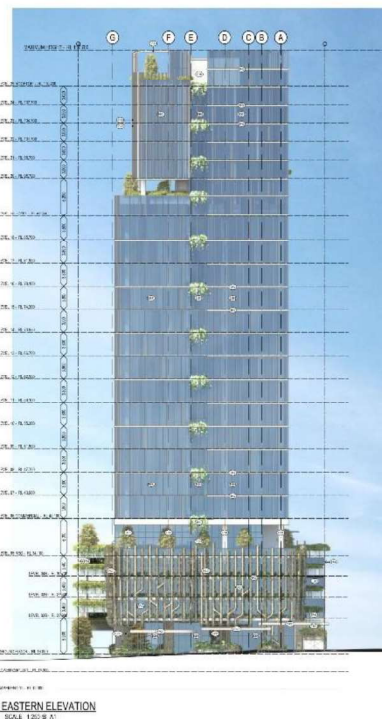
COTTEEPARKER
15 AVE 7, BRISBANE QLD 4000
07 3250 4000
WWW.COTTEEPARKER.COM.AU

HUDSON BOWEN HILLS PTY LTD

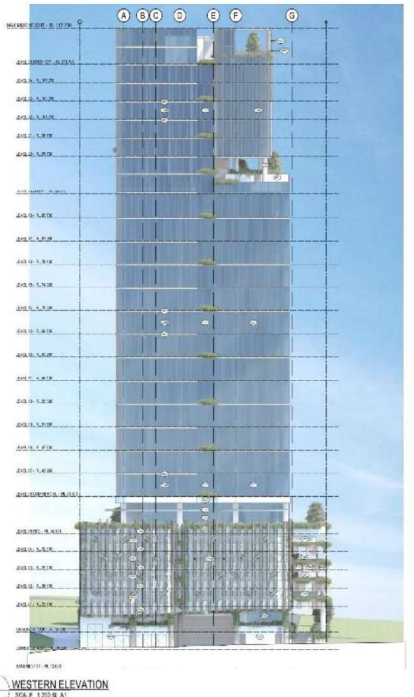
SCALE: 1:200 @ A1
SCALE: 1:500 @ A0

DEVELOPMENT APPLICATION

MIXED USE TOWER
47 BROOKES STREET, BOWEN HILLS
CLIENT: HUDSON BOWEN HILLS PTY LTD
ELEVATIONS
5544 303001 03



1 EASTERN ELEVATION
SCALE: 1:200 @ A1
SCALE: 1:500 @ A0



2 WESTERN ELEVATION
SCALE: 1:200 @ A1
SCALE: 1:500 @ A0

- EXTERNAL FINISHES SCHEDULE:**
- EP01: PAINT FINISH: PORCELAIN WHITE
 - EP02: PAINT FINISH: OFF-WHITE
 - EP03: PAINT FINISH: GREY MATT
 - EP04: PAINT FINISH: SILVER GREY
 - EP05: PAINT FINISH: DARK GREY
 - EP06: PAINT FINISH: SHALE GREY
 - EPC01: POWDERCOAT: TIMBER COLOUR
 - EPC02: POWDERCOAT: SILVER
 - EG01: TOWER GLASS: VISION GREY
 - EG02: TOWER GLASS: ECLIPSE GREY
 - EG03: RETAIL GLASS: CLEAR
 - ET01: EXTERNAL TILE: STONE
 - ET02: EXTERNAL TILE: FLOOR TILES

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15 AVE 7, BRISBANE QLD 4000
07 3250 4000
WWW.COTTEEPARKER.COM.AU

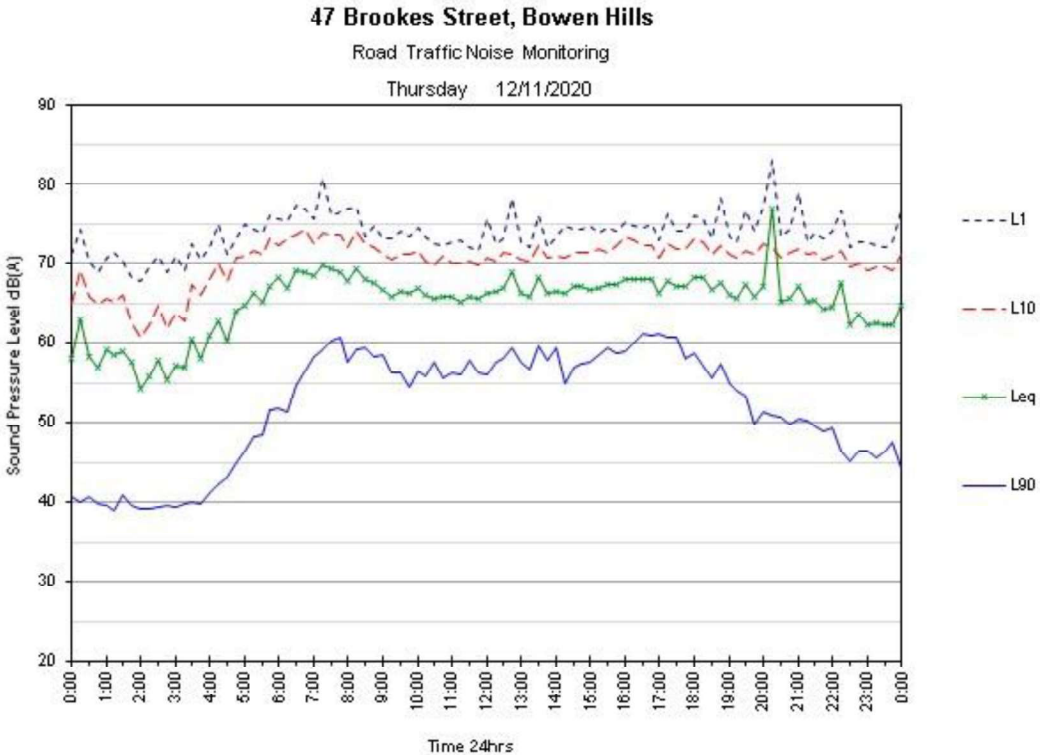
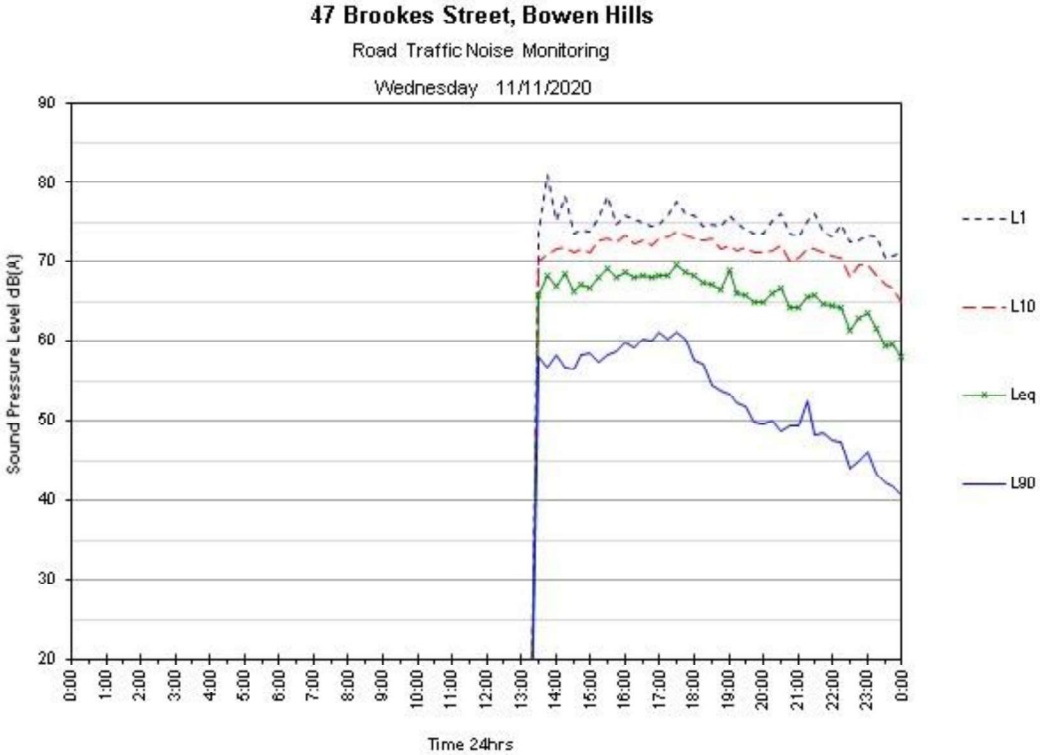
HUDSON BOWEN HILLS PTY LTD

SCALE: 1:200 @ A1
SCALE: 1:500 @ A0

DEVELOPMENT APPLICATION

MIXED USE TOWER
47 BROOKES STREET, BOWEN HILLS
CLIENT: HUDSON BOWEN HILLS PTY LTD
ELEVATIONS
5544 303002 03

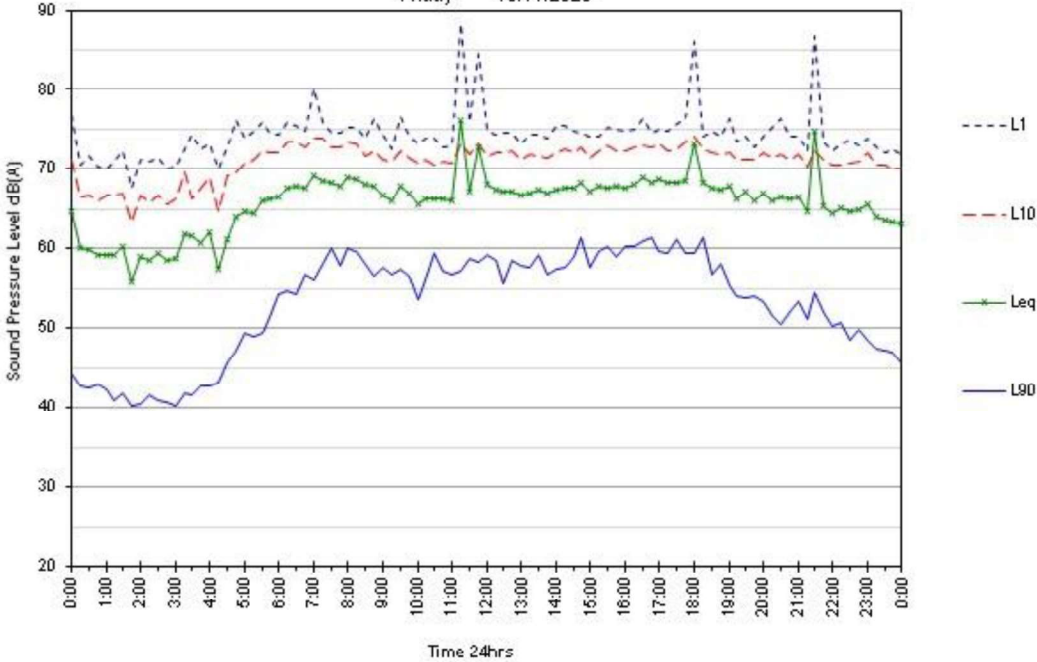
10.2 Noise Monitoring Charts



47 Brookes Street, Bowen Hills

Road Traffic Noise Monitoring

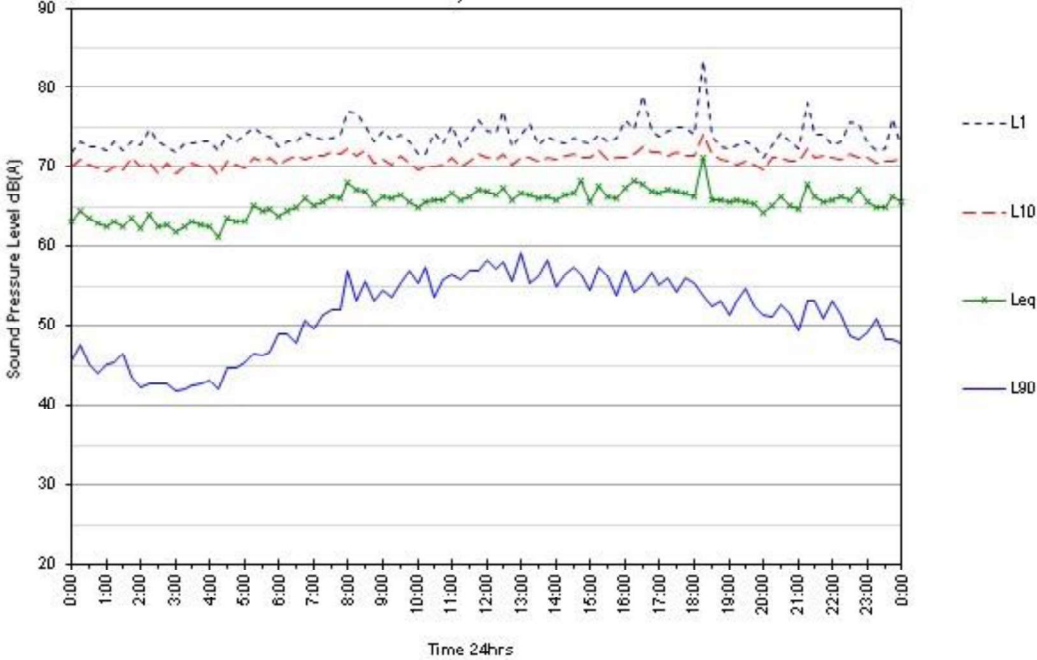
Friday 13/11/2020



47 Brookes Street, Bowen Hills

Road Traffic Noise Monitoring

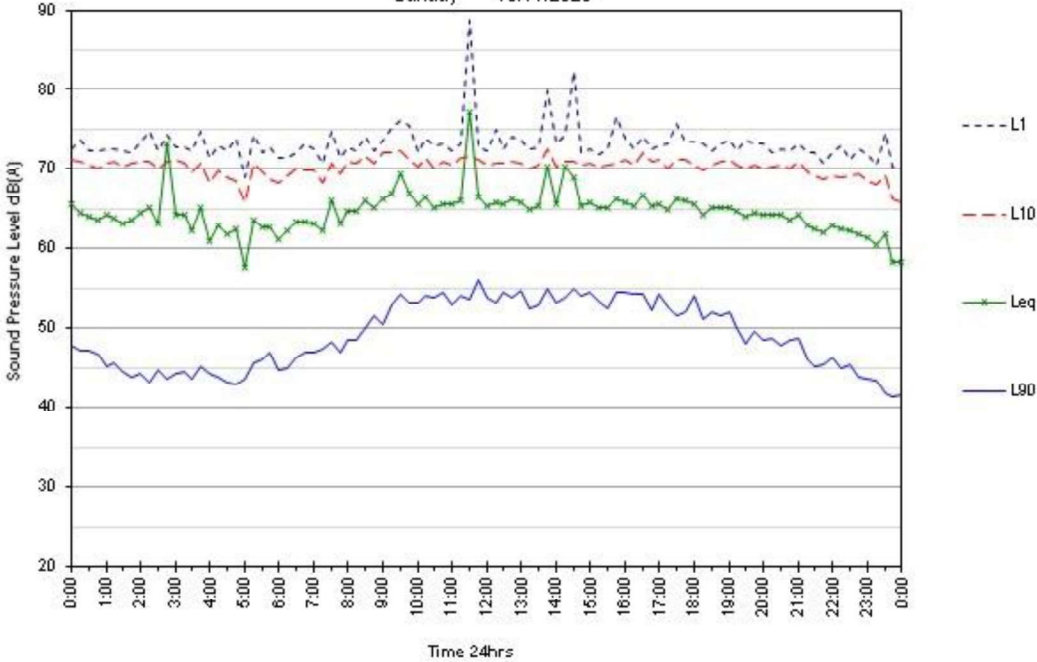
Saturday 14/11/2020



47 Brookes Street, Bowen Hills

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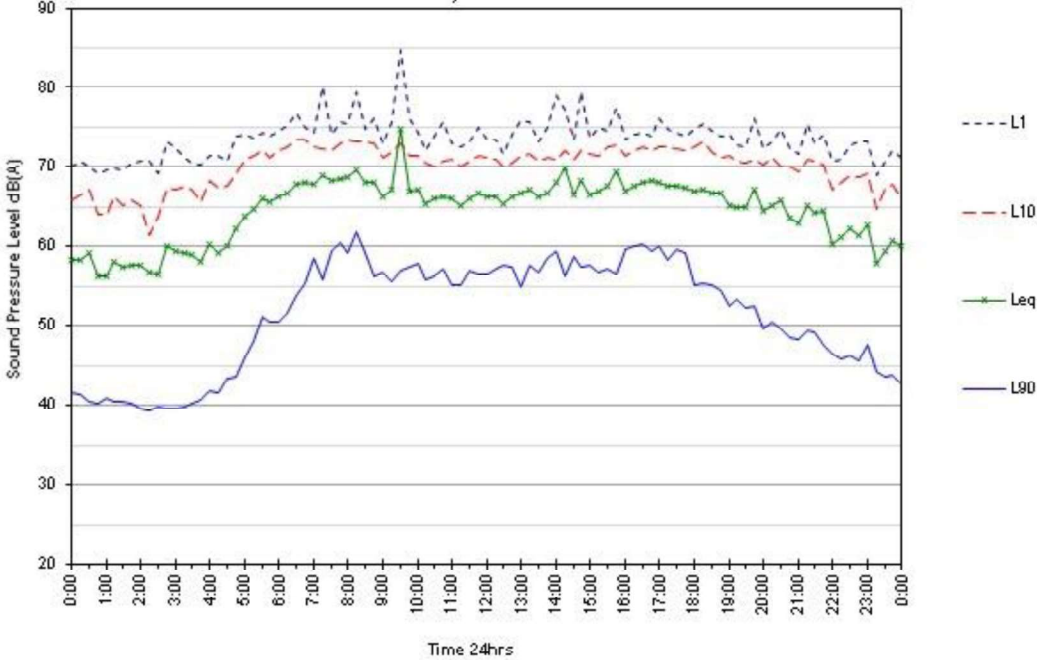
Sunday 15/11/2020



47 Brookes Street, Bowen Hills

Road Traffic Noise Monitoring

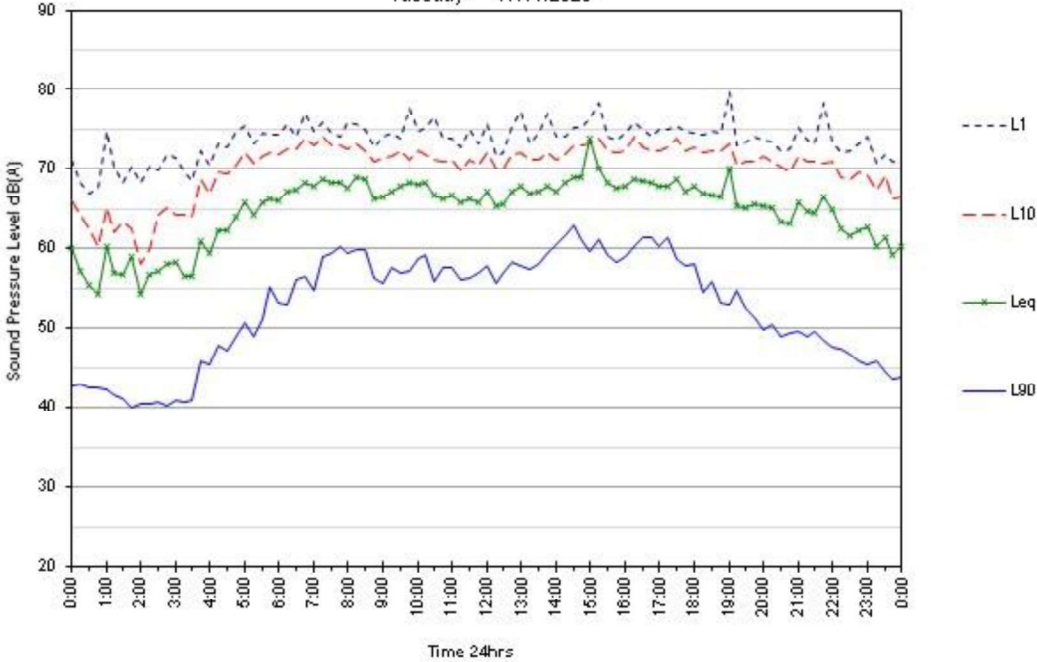
Monday 16/11/2020



47 Brookes Street, Bowen Hills

Road Traffic Noise Monitoring

Tuesday 17/11/2020



47 Brookes Street, Bowen Hills

Road Traffic Noise Monitoring

Wednesday 18/11/2020

