CRGACOUSTICS

Office 4, 2454 Gold Coast Highway
Mermaid Beach Qld 4218
Postal PO Box 441 Mermaid Beach Qld 4218
Telephone 07 5527 7333
Email jay@crg.net.au
CRG Acoustics Pty Ltd
ACN 151 847 255 ABN 11 708 556 182

Modifications to Use
Salt Surf Life Saving Club
Bells Boulevarde, Kingscliff
(Lot 3 LP1234959 & Lot 4 LP1234959)

ENVIRONMENTAL NOISE IMPACT REPORT

Prepared for

Salt Surf Life Saving Club

16 September 2020
crgref: 19181 report

1.0 INTRODUCTION

This report is in response to a request from Salt Surf Life Saving Club for an environmental noise impact assessment for the purposes of modifying the existing use of the surf club to allow for private or community uses between 10am and 10pm, 7 days per week.

Existing conditions restricting the surf club are outlined in Tweed Shire Council's Notice of Determination of a Development Application, Notice No. DA13/0119 (Amended Consent dated 18th May 2018) as presented below:

> 5A. Public access to the development (except the ground floor kiosk and public amenities) is not permitted. The north deck and public surf surveillance deck as shows on the plans are not to provide public access into any of the first floor facilities. The deck in both these areas is to be constructed so as to physically prevent public access (except for members) into this part of the facility (by permanent screen or similar). To this extent all facilities within the first floor of the club (including function rooms, bar areas and food and drink service) are to be restricted to the general public and shall not be used for private commercial venture by way of sublet or public hire. The use of the first floor of the club is approved by Council for members and club activity use only. No public hire or casual leasing of the approved first floor functions rooms is to occur at any time.
>
> 60. The $L_{Aeq,\ 15\ min}$ noise level emitted from the premises shall not exceed the background noise level (LAeq) in any Octave Band centre frequency (31.5 Hz - 8KHz inclusive) by more than 5dB(A) between 7am and 12 midnight, at the boundary of any affected residence. Notwithstanding the above, noise from the premises shall not be audible within any habitable room in any residential premises between the hours of 12 midnight and 7am weekdays and 12 midnight and 8am weekends.
>
> 68. All activities associated with the use of the facilities, internal to the clubhouse, shall not be conducted prior to 6am nor after 10pm on any day. Variation after 10pm until 12pm is permissible on Friday and Saturday evenings for up to 6 occasions in any 12 month period.
>
> 69. Use of the development (excluding kiosk and public amenities) is restricted to members only.

This report forms part of an application to Tweed Shire Council to permit the following utilisation of the Salt SLSC building:

A. Venue for hire to Non-Members, 7 days a week, between the hours of 10am and 10pm for private or community use. Use of the building may be for activities including seminars, workshops, wedding, birthdays, community group meetings, government agency meetings and the alike.

B. Access to be also permitted to Non-Member Groups in line with Surf Life Saving Activities, including but not limited to:
   - Members of the Public seeking medical treatment and assistance.
   - Dignitaries performing ceremonial duties.
   - Emergency Services Officers performing required duties.
   - Members of other Surf Lifesaving faculties attending Education and Training Planning.
   - Briefing Meetings: SLS Events, such as Carnival, Award, Presentation, Sponsorship and Fund Raising Events.
   - Junior Nippers Programs.

In undertaking the assessment, attended and unattended noise measurements were undertaken, and through noise modelling, onsite activity noise emissions were produced. Based upon the predicted noise levels, recommendations regarding acoustic treatments have been provided.

2.0 DESCRIPTION OF THE DEVELOPMENT

The parcel of land is described as Lot 3 LP1234959 and Lot 4 LP1234959. The site is bounded by Bells Boulevarde and Salt Central Park to the west, South Kingscliff Beach to the east, and holiday accommodation apartments and commercial / restaurant operations to the north and south across Bells Boulevarde. For the subject site and surrounding environment, refer to Figure 1 in Appendix A.

The surf club building is a two-storey building which generally has surf club related facilities at Ground Floor Level (i.e. storage, toilets, change rooms, kiosk, first aid) with First Floor Level comprising large outdoor verandahs (northern and eastern) and indoor areas for surf club meetings / gatherings. For building plans refer to Appendix B. For building photographs refer to Appendix C.

As detailed in Section 1, the intention is to modify the existing use of the surf club to allow for private or community uses between 10am and 10pm, 7 days per week. It is stressed that that the surf lifesaving facility remains the dominant use and the proposed uses are ancillary to the core SLSC function. In this respect, bookings by community or private groups are only permitted when Salt SLSC is not utilising the building for recognised surf lifesaving activities, as these activities take precedence and continue to be the primary function of the building.

Onsite activity noise emissions (i.e. vehicle activity, patron activity, waste collection and mechanical plant such as air-conditioning condenser units) have the potential to impact upon noise sensitive receivers and has been assessed in accordance with the NSW *"Noise Policy for Industry"* to ensure an acceptable level of acoustical amenity can be achieved.

The nearest offsite noise sensitive receivers to the SLSC building are as follows:

R1: Holiday accommodation apartments to the north across Bells Boulevarde (Peppers Bale Salt Resort and Kingscliff Penthouse Suites).
R2: Holiday accommodation apartments to the south across Bells Boulevarde (Mantra on Salt Beach Kingscliff).

We note that the holiday accommodation apartments to the south are located in mixed use buildings that have commercial tenancies including cafés and restaurants with alfresco dining areas.

Operationally, the surf club propose to require all bookings for weddings to utilise bus services to transport guests to / from the surf club. Patrons of events / functions would also be able to stay at the adjacent holiday accommodation (i.e. Mantra and Peppers). Patron numbers for larger events such as weddings are expected to be in the order of 200 people.

Amplified music and live entertainment from the surf club building has been assessed in accordance with the criterion set in Conditions 60 and 68 of Tweed Shire Council's Notice of Determination of a Development Application, Notice No. DA13/0119 (Amended Consent dated 18th May 2018).

3.0 AMBIENT NOISE SURVEY

3.1 Instrumentation

The following equipment was used to record ambient noise levels at the subject site locale.

- Larson and Davis CAL200 Calibrator.
- Rion NL 21 Environmental Noise Logger.
- Larson and Davis LD831 Sound Level Meter.

All instrumentation used in this assessment hold current calibration certificate from a certified NATA calibration laboratory.

3.2 Unattended Background Noise Measurement Methodology and Results

A Rion NL 21 logger was located at the northeast of the subject site. The microphone was in a free-field location and approximately 1.2m above ground. Refer to Figure 2 in Appendix A for the logger location, and Photograph 6 in Appendix B.

The logger was set to record noise statistics in 15 minute blocks continually between Thursday 3/09/2020 and Thursday 10/09/2020.

All measurements were conducted generally in accordance with Australian Standard AS 1055 *"Acoustics-Description and measurement of environmental noise"*.

The operation of the sound level logging equipment was field calibrated before and after the measurement session with no significant drift from the reference signal recorded.

Daily weather observations were obtained from the Bureau of Meteorology's website at the Coolangatta weather station. Weather conditions during the noise monitoring period were generally fine except for short rain periods on Sunday and Monday, with a temperature range between 12 and 25ºC and a relative humidity range between 55 and 95%.

Table 1 presents the measured ambient noise levels at the logger location. Graphical presentation of the measured levels is presented in the Appendix D.

Background Noise	**Measured Level L_{90} dB(A)**			
	Daytime (7am-6pm)	**Evening (6pm-10pm)**	**Shoulder Period (10pm-Midnight)**	**Night (10pm-6am)**
Thursday 03/09/20	-	51	48	-
Friday 04/09/20	48	50	49	46
Saturday 05/09/20	49	50	48	46
Sunday 06/09/20	49	52	52	46
Monday 07/09/20	50	50	51	49
Tuesday 08/09/20	47	51	49	47
Wednesday 09/09/20	47	49	48	47
RBLs	**48**	**50**	**49**	**46**

Table 1: Measured noise levels at the logger location.

3.3 Attended Noise Measurement Methodology (for Amplified Entertainment)

Attended octave band amplified music levels from the surf club building, and ambient background noise level, were undertaken on Tuesday 2nd September 2020 between 9pm and Midnight.

Measurements were conducted using a Larson and Davis LD831 Sound Level Meter set in *"A"* Weighting, *"Fast"* Response over the octave band centre frequencies between 31.5 Hz to 8,000 Hz, with the microphone approximately 1.5m above ground.

All noise measurements were conducted generally in accordance with Australian Standard AS 1055 *"Acoustics-Description and measurement of environmental noise"*.

Half hour weather observations were obtained from the Bureau of Meteorology's website at the Coolangatta weather station. Weather conditions during the measurement survey were fine with a temperature range between 16 and 19°C, a relative humidity range between 75 and 85%, and wind speeds below 5m/s (generally calm from onsite observations during the measurement survey).

The results of the attended measurements are presented in Sections 4.2 and 5.2.

4.0 NOISE ASSESSMENT CRITERION

4.1 Onsite Activity Noise Criterion

Noise associated with the commercial premises is regulated by the NSW *"Noise Policy for Industry"*. The assessment procedure has the following components to determine the project noise trigger levels:

- **Intrusiveness Noise Level ($L_{Aeq,\ 15\ min}$):** the limit criteria for this assessment is as follows:

  $L_{Aeq,\ 15\ min} \leq$ rating background level[1] + 5 dB;

- **Amenity Noise Level ($L_{Aeq,\ period}$):** this is achieved by ensuring that the proposed development complies with the noise limit criteria set in Table 2.2 of the Policy. If we assume that the area is within a Suburban Area (as defined in Table 2.3 of the Policy), the following limits apply:

Table 2.2: Amenity noise levels.

Receiver	Noise amenity area	Time of day	L_{Aeq}, dB(A)
(see Table 2.3 to determine which residential receiver category applies)			**Recommended amenity noise level**
Residential	Rural	Day	50
		Evening	45
		Night	40
	Suburban	Day	55
		Evening	45
		Night	40
	Urban	Day	60
		Evening	50
		Night	45
Hotels, motels, caretakers' quarters, holiday accommodation, permanent resident caravan parks	See column 4	See column 4	5 dB(A) above the recommended amenity noise level for a residence for the relevant noise amenity area and time of day

Table 2: Amenity Criterion Prescribed in the NSW *"Noise Policy for Industry"*.

By considering the measured background levels of the Intrusive Nosie Criterion and the Amenity Noise Criterion, we recommend the following Project Trigger Levels (in bold type) to the existing surrounding holiday accommodation uses:

Time Period	Residential Project Noise Trigger Levels $L_{eq,\ 15min}$ dB(A)	
	Intrusiveness Noise Level	Project Amenity Noise Level
Daytime (7am to 6pm)	**53 (RBL 48 + 5)**	58 (55 + 5* – 5** + 3***)
Evening (6pm to 10pm)	55 (RBL 50 + 5)	**48 (45 + 5* – 5** + 3***)**
Night-time (10pm to 7am)	51 (RBL 46 + 5)	**43 (40 + 5* – 5** + 3***)**

* The project amenity noise level for developments is equal to the recommended noise level (refer to Table 2.2 above) minus (-) 5 dB(A).

** For holiday accommodation the recommended Amenity Nose Criterion is 5 dB(A) above the recommended Amenity Nose Criterion level of a residence for the relevant noise amenity area (refer above to Suburban) and time of day.

*** The policy assumes that the $L_{Aeq,\ 15min}$ will be taken to be equal to the $L_{Aeq,\ period}$ + 3 decibels (dB).

Table 3: Determined Project Noise Trigger Levels.

[1] The rating background level is the overall single figure background level representing each assessment period (day/evening/night over the whole monitoring period.

4.2 Amplified Music and Live Entertainment Noise Criterion

Tweed Shire Council's Notice of Notice of Determination of a Development Application, Notice No. DA13/0119 (Amended Consent dated 18th May 2018) sets the following noise limits for amplified music and live entertainment impacting noise sensitive premises.

> 60. The $L_{Aeq,\ 15\ min}$ noise level emitted from the premises shall not exceed the background noise level (LAeq) in any Octave Band centre frequency (31.5 Hz - 8KHz inclusive) by more than 5dB(A) between 7am and 12 midnight, at the boundary of any affected residence. Notwithstanding the above, noise from the premises shall not be audible within any habitable room in any residential premises between the hours of 12 midnight and 7am weekdays and 12 midnight and 8am weekends.

It is noted that the above criteria is congruent with that of the Liquor and Gaming NSW under the *Liquor Act 1982*, the *Registered Clubs Act 1976* and associated Regulations

Based upon the *"Octave Band + 5 dB"* criterion, the following noise limits apply at the nearest noise sensitive receivers:

Noise Criterion	**SPL dB(A) Hz Octave Band Centre Frequencies**									
	31.5	**63**	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**	**AP**
10pm (L_{90} + 5 dB) North R1	18	33	41	44	50	50	45	43	44	**55**
10pm (L_{90} + 5 dB) South R2	18	32	41	44	49	50	46	44	44	**55**
Midnight (L_{90} + 5 dB) North R1	17	32	40	42	47	47	43	43	44	**53**
Midnight (L_{90} + 5 dB) South R2	17	31	40	42	46	46	43	43	44	**52**

Table 4: Amplified music noise criterion based upon measured background noise levels.

5.0 PREDICTED NOISE IMPACTS

5.1 Predicted Onsite Activity Noise Emissions

All noise source levels used in the assessment have been collected from similar previous investigations. All noise levels have been corrected for impulsiveness or tonality as per Australian Standard AS 1055 *"Acoustics-Description and measurement of environmental noise*".

The following activities and associated noise source levels are typical of the proposed onsite uses and have been assessed within this report:

Activity / Noise Source	**Event Noise Level, SPL $L_{eq\ event}$ dB(A)**
Car door closures in carpark	80 at 1m (1.5secs)
Car pass by	72 at 1m (7 secs)
Small bus pass by	75 at 1m (10 secs)
Group of people talking outside (arrive / leave)	65 at 1m (7.5mins)
30 patrons outside at northern verandah	75 at 1m (15mins)
70 patrons outside at eastern verandah	81 at 1m (15mins)
100 patrons inside building	83 at 1m (15mins)
Deliveries	82 at 1m (15minutes)
Waste collection	97** at 1m (3minutes)
Air-conditioning plant (plant cited at southwest end of Ground Floor with an SWL of 67 dB(A)). A/C plant was also cited along the northern end of the roof	62 at 1m (15minutes)

* Denotes + 5 dB(A) correction due to tonality as per AS1055 – 1997; ** Denotes + 5 dB(A) correction due to impulsiveness as per AS1055 – 1997

Table 5: Typical noise source levels associated with the proposed onsite operations.

Short-term measured L_{Aeq} levels have been converted to $L_{Aeq\ 15min}$ levels by estimating a worst case number of events / duration for which each activity occurs during any 15 minute period.

For patron noise, we have applied the L_{eq} source levels calculated from the formulas within the technical paper *"Prediction of Noise from Small to Medium Sized Crowds"* (Hayne et al, 2011) for a full 15 minute period.

For continuous noise sources (i.e. mechanical plant), a 15 minute duration has been adopted.

Based upon the location of the proposed onsite activities in relation to surrounding offsite noise sensitive properties (i.e. at the nearest building façades), we predict the following noise impact levels as presented in Table 6.

The predicted levels assume that the recommended treatments detailed in Section 6 are incorporated into the development.

Combined impacts do not include waste collection or delivery activities as they are generally infrequent (i.e. once or twice per week) and short duration events.

For point source calculations refer to Appendix D.

Noise Sources	Nearest Façade Predicted Noise Impacts
	SPL $L_{eq\ (15min)}$ dB(A)
R1: Holiday accommodation apartments to the north across Bells Boulevarde	
Car door closures	36
Car pass by	43
Small bus pass by	40
Group of people talking outside (arrive / leave)	28
30 patrons outside at northern verandah	41
70 patrons outside at eastern verandah	44
100 patrons inside building	42
Deliveries	48
Waste collection	56
Air-conditioning plant	26
Combined Impacts	**49**
R2: Holiday accommodation apartments to the south across Bells Boulevarde	
Car door closures	37
Car pass by	36
Small bus pass by	34
Group of people talking outside (arrive / leave)	31
30 patrons outside at northern verandah	30
70 patrons outside at eastern verandah	46
100 patrons inside building	45
Deliveries	50
Waste collection	58
Air-conditioning plant	32
Combined Impacts	**49**
NOISE CRITERION	
7am to 6pm Daytime Criterion	**53**
6pm to 10pm Evening Criterion	**48**
10pm to 7am Night-time Criterion	**43**

Table 6: Predicted onsite activity noise impacts at the surrounding noise sensitive receivers.

5.2 Onsite Amplified Entertainment: Impacting Surrounding Noise Sensitive Receivers

Amplified music and live entertainment at the club building has the potential to impact upon surrounding offsite noise sensitive receivers.

Three scenarios were measured with the installed sound system for amplified music and live entertainment as detailed in Sections 5.2.1, 5.2.2 and 5.2.3.

It is noted that for all scenarios the installed music system was set to maximum levels. The measured internal noise level of 84 dB(A) from indoor speakers when the two large eastern glass bi-fold doors were open to the eastern verandah (scenario 5.2.1) produced levels of 85 - 86 dB(A) when the eastern glass bi-fold doors were closed (Scenarios 5.2.2 and 5.2.3), which is assumed to be due to the additive reverberant surface of the glass bi-fold doors being closed.

We were advised that the northern verandah would not be used for amplified music and live entertainment.

Under all scenarios, both the Ground Floor Level western main entry door (Photograph 3) and the First Floor Level internal entry door (at the top of the stairs - Photograph 4) were kept open to represent patrons entering / leaving the building. The small windows along the northern and southern façades of the First Floor Level main floor area (Photographs 1 and 5) were kept closed to minimise noise breakout to the northern and southern receivers. The southern smaller deck eastern facing windows and door were also kept closed to minimise noise breakout.

5.2.1 Music Inside, and Music Outside at the Eastern Verandah

Music at both indoor areas of First Floor Level and music outside at the First Floor Level eastern verandah. The verandah bi-fold louvres were all open as were the two eastern facing glass bi-fold doors leading out to the verandah.

R1: Holiday accommodation apartments to the north across Bells Boulevarde

Amplified entertainment	SPL Hz Octave Band Centre Frequencies dB(A)									
	31.5	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**AP**
Measured source level (measured at 3m from source)	19	54	73	63	66	69	78	75	67	**81**
Measured impact level at offsite receivers	14	30	43	38	45	44	42	39	39	**50**
Background + 5 dB noise criterion for 10pm	18	33	41	44	50	50	45	43	44	**55**
Exceedance of the noise criterion	-4	-3	**2**	-6	-5	-6	-3	-4	-6	**N/A**
Allowable noise source level until 10pm (measured at 3m)	**17**	**52**	**71**	**61**	**64**	**67**	**76**	**73**	**65**	**79**

R2: Holiday accommodation apartments to the south across Bells Boulevarde

Amplified entertainment	SPL Hz Octave Band Centre Frequencies dB(A)									
	31.5	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**AP**
Measured source level (measured at 3m from source)	19	54	73	63	66	69	78	75	67	**81**
Measured impact level at offsite receivers	14	32	41	40	45	45	42	39	38	**51**
Background + 5 dB noise criterion for 10pm	18	32	41	44	49	50	46	44	44	**55**
Exceedance of the noise criterion	-3	0	0	-4	-4	-5	-4	-5	-7	**N/A**
Allowable noise source level until 10pm (measured at 3m)	**19**	**54**	**73**	**63**	**66**	**69**	**78**	**75**	**67**	**81**

Table 7: Predicted amplified music and live entertainment at the surrounding receivers.

Based upon the measurements results presented in Table 7, a level of 79 dB(A) measured at 3m from the outdoor eastern verandah speakers (and 82 dB(A) from the indoor speakers) is predicted to comply with the adopted noise criterion when doors and windows are kept closed.

5.2.2 Music Inside with Glass Bi-fold Doors Open, No Music Outside at the Eastern Verandah

Music at indoor areas of First Floor Level only. Outdoor speakers at the eastern verandah were turned off. The verandah bi-fold louvres were all open as were the two large eastern facing glass bi-fold doors leading out to the verandah.

R1: Holiday accommodation apartments to the north across Bells Boulevarde										
Amplified entertainment indoors only	**SPL Hz Octave Band Centre Frequencies dB(A)**									
	31.5	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**AP**
Measured source level (measured at 3m from source)	25	58	74	68	71	73	81	81	72	**85**
Measured impact level at offsite receivers	14	31	39	39	46	45	40	39	39	**50**
Background + 5 dB noise criterion for 10pm	18	33	41	44	50	50	45	43	44	**55**
Exceedance of the noise criterion	-4	-1	-2	-6	-4	-5	-4	-5	-6	**N/A**
Allowable noise source level until 10pm (measured at 3m)	**25**	**58**	**74**	**68**	**71**	**73**	**81**	**81**	**72**	**85**

R2: Holiday accommodation apartments to the south across Bells Boulevarde										
Amplified entertainment at East Verandah (with indoor speakers)	**SPL Hz Octave Band Centre Frequencies dB(A)**									
	31.5	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**AP**
Measured source level (measured at 3m from source)	25	58	74	68	71	73	81	81	72	**85**
Measured impact level at offsite receivers	13	33	41	39	44	45	41	38	38	**50**
Background + 5 dB noise criterion for 10pm	18	32	41	44	49	50	46	44	44	**55**
Exceedance of the noise criterion	-4	**1**	**1**	-5	-5	-5	-5	-5	-7	**N/A**
Allowable noise source level until 10pm (measured at 3m)	**24**	**57**	**73**	**67**	**70**	**72**	**80**	**80**	**71**	**84**

Table 8: Predicted amplified music and live entertainment at the surrounding receivers.

Based upon the measurements results presented in Table 8, a level of 84 dB(A) measured at 3m from the indoor speakers is predicted to comply with the adopted noise criterion when the two large eastern facing glass bi-fold doors leading out to the verandah are open.

5.2.3 Music Inside with Glass Bi-fold Doors Closed, No Music Outside at the Eastern Verandah

Music at indoor areas of First Floor Level only. Outdoor speakers at the eastern verandah were turned off. The verandah bi-fold louvres were all open. The two large eastern facing glass bi-fold doors were kept closed.

This scenario has been assessed for amplified music and live entertainment after 10pm (i.e. until Midnight on Friday and Saturday evenings for six events per year).

R1: Holiday accommodation apartments to the north across Bells Boulevarde										
Amplified entertainment indoors only	**SPL Hz Octave Band Centre Frequencies dB(A)**									
	31.5	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**AP**
Measured source level (measured at 3m from source)	25	58	75	69	73	74	82	82	72	**86**
Measured impact level at offsite receivers	17	31	39	38	45	44	39	38	39	**50**
Background + 5 dB noise criterion for Midnight	17	32	40	42	47	47	43	43	44	**53**
Exceedance of the noise criterion	0	-1	-1	-4	-2	-4	-4	-5	-6	**N/A**
Allowable noise source level until Midnight (measured at 3m)	**25**	**58**	**75**	**69**	**73**	**74**	**82**	**82**	**72**	**86**

R2: Holiday accommodation apartments to the south across Bells Boulevarde										
Amplified entertainment at East Verandah (with indoor speakers)	**SPL Hz Octave Band Centre Frequencies dB(A)**									
	31.5	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**AP**
Measured source level (measured at 3m from source)	25	58	75	69	73	74	82	82	72	**86**
Measured impact level at offsite receivers	15	33	40	40	44	44	40	38	38	**50**
Background + 5 dB noise criterion for Midnight	17	31	40	42	46	46	43	43	44	**52**
Exceedance of the noise criterion	-2	**2**	0	-2	-2	-2	-3	-6	-7	**N/A**
Allowable noise source level until Midnight (measured at 3m)	**23**	**56**	**73**	**67**	**71**	**72**	**80**	**80**	**70**	**84**

Table 9: Predicted amplified music and live entertainment at the surrounding receivers.

Based upon the measurements results presented in Table 9, a level of 84 dB(A) measured at 3m from the indoor speakers is predicted to comply with the adopted noise criterion when doors and windows are closed (except for the downstairs western main entry door and the First Floor internal entry door at the top of the stairs).

6.0 RECOMMENDED ACOUSTIC TREATMENTS

We recommend that the following acoustic treatments and management principles be incorporated at the surf club to allow for private or community uses:

- Hours of operation for non-members groups / functions (i.e. weddings) be between 10am and 10pm, 7 days per week.

- Amplified music and live entertainment be allowed inside the First Floor Level main indoor space and at the eastern First Floor Level verandah.

- During amplified music and live entertainment, to minimise noise breakout the small windows along the northern and southern façades of the First Floor Level main floor area (Photographs 1 and 5) are to be kept closed. The southern smaller deck eastern facing windows and door are also to kept closed. The door at the southern smaller deck should have an automatic door closure installed and maintained.

- To comply with the adopted background + 5 dB noise criterion (in any Octave Band Centre Frequency 31.5 Hz – 8k Hz inclusive) in accordance with Conditions 60 and 68, a sound limiter device be installed for amplified music and live entertainment to the levels presented below. The levels are measured at 3m from any speaker. All musical equipment should be connected to the sound limiter device.

10am to 10pm: Indoor and Outdoor Speakers / Live Entertainment: Seven 7 per Week

Amplified entertainment at East Verandah (with indoor speakers)	SPL Hz Octave Band Centre Frequencies dB(A)									
	31.5	63	125	250	500	1000	2000	4000	8000	AP
Allowable noise source level until 10pm (measured at 3m) OUTDOOR	17	52	71	61	64	67	76	73	65	79
Allowable noise source level until 10pm (measured at 3m) INDOOR	21	55	70	65	69	70	78	77	67	82

10am to 10pm: Indoor Speakers Only with Open Eastern Bi-fold Glass Doors: 7 Days per Week

Amplified entertainment indoors only	SPL Hz Octave Band Centre Frequencies dB(A)									
	31.5	63	125	250	500	1000	2000	4000	8000	AP
Allowable noise source level until 10pm (measured at 3m) INDOOR	24	57	73	67	70	72	80	80	71	84

Until Midnight: Indoor Speakers Only with Closed Eastern Bi-fold Glass Doors: Friday and Saturday

Amplified entertainment indoors only	SPL Hz Octave Band Centre Frequencies dB(A)									
	31.5	63	125	250	500	1000	2000	4000	8000	AP
Allowable noise source level until 10pm (measured at 3m) INDOOR	23	56	73	67	71	72	80	80	70	84

- Every 12 months the sound limiter device be calibrated to ensure the correct sound levels are being monitored.

- Appropriate signage should be erected at the main entry / exit doors and verandahs asking patrons to be considerate of surrounding neighbours.

- Staff of the club should be diligent in maintaining acceptable activities and noise levels at the outdoor areas of the club building.

- New mechanical equipment (if required) be designed and installed to comply with the noise criterion presented in Section 4.1. If new mechanical plant is required, it should be positioned as far from the nearest offsite dwellings as possible (i.e. the north-eastern corner of the building).

7.0 DISCUSSION and CONCLUSIONS

This report is in response to a request from Salt Surf Life Saving Club for an environmental noise impact assessment for the purposes of modifying the existing use of the surf club to allow for private or community uses between 10am and 10pm, 7 days per week.

As detailed in Section 1, the intention is to modify the existing use of the surf club to allow for private or community uses between 10am and 10pm, 7 days per week. It is stressed that that the surf lifesaving facility remains the dominant use and the proposed uses are ancillary to the core SLSC function. In this respect, bookings by community or private groups are only permitted when Salt SLSC is not utilising the building for recognised surf lifesaving activities, as these activities take precedents and continue to be the primary function of the building.

Onsite activity noise emissions have the potential to impact upon noise sensitive receivers and has been assessed in accordance with the NSW *"Noise Policy for Industry"* to ensure an acceptable level of acoustical amenity can be achieved at the nearest offsite noise sensitive receivers, which are holiday accommodation apartments to the north and to the south across Bells Boulevarde.

Based upon the adopted noise source levels for typical activities associated with the proposed uses, noise impacts at the surrounding noise sensitive receivers are predicted to be within 1 dB of the *"Background +"* criterion. As the average person cannot generally detect a 3 dB variation in sound pressure level, we submit a 1 dB rise is unlikely to be detectable and is considered an acceptable outcome; particularly given that there are a number of similar uses within the area (being restaurants, cafés and the Salt Tavern).

For amplified music / live entertainment we have recommended a set limit of 79 dB(A) measured at 3m from any speaker at the eastern outdoor verandah and 82 dB(A) at 3m for indoor speakers (or 84 dB(A) from the indoor speakers when windows and doors are closed). These limits would also apply to any live acts (i.e. solo / due acts). We were advised that the northern verandah would not be used for amplified music and live entertainment.

To minimise the potential of annoyance we have also recommended that staff be active in controlling patrons at the outdoor areas and appropriate signage be erected at the main entry / exit doors and verandahs asking patrons to be considerate of surrounding neighbours.

Based upon the implementation of the recommended acoustic treatments and management principles detailed in Section 6, predicted noise impacts are generally within acceptable levels of the adopted noise criterion.

Report Reviewed By:

JAY CARTER BSc
Director

Report Compiled by:

Matthew Lopez BEng
Consultant

APPENDIX A

Subject Site, Logger Location and Surrounding Noise Sensitive Receivers

Figure No. 1: Subject Site Location (NSW Six Maps).

Figure 2: Subject Site, Logger Location and Surrounding Noise Sensitive Receivers (Bing Maps).

APPENDIX B

Building Plans

THIS IS THE AMENDED PLAN
REFERRED TO IN MODIFIED
DEVELOPMENT CONSENT
NO. DA13/0119.04 APPROVED
PURSUANT TO SECTION 96 OF THE
EP&A ACT 1979

TWEED SHIRE COUNCIL

GENERAL NOTES

roof material colorbond ultra (for surf conditions)
roof colour - colorbond windspray
all fixings and flashings to be compatible with colorbond roof to ensure no galvanic reaction
fixing to manufacture's specification
roof sheet profile to be custon orb generally except roof 6, 7, 8
roof 6, 7, 8 roof sheet profile to be hiten long span @ 2° minimum
gutters to match Mantra profiles. 250 wide

RL of existing floors to be retained U.N.O
RL 8.0 and 7.70 as noted on plan
Upper slab level to be RL 11.0 as noted on plans, sections and elevations

Notes - Kiosk area, walls etc to be light weight
construction and removable without affecting structural integrity

Concrete slab in front of existing roller doors to be
painted in driveway slip resistant paint. Colours
to match existing finishes

DOORS

all door widths noted on plans.
refer drawings 01 - 02 inclusive.
door heights to be 2340 generally U.N.O

Stairs to have non slip nosing and or surface
handrails to stairs to be 32mmØ,50mm clear from wall
Stair 1.1000mm clear Stair 2.1600mm clear
Height of the top surface of the handrail must not be less than 865mm
measured vertically above the nosing on the stair or floor surface

Ground floor - class 7.
Storage areas, and public wc's
New Kiosk area - class 6 (only 2%)

Constrcution Type A
External walls 190 rc concrete
Floor rc slab
existing structure - reinforced concrete
Roof - 200 reinforced concrete
Kiosk type C construction

drawing 01a

section aa

section bb

section ba

lower floor plan

drawing 01b

section ab

site location Lot 173 on DP 1075495

05-04-18 (C)
stair and kiosk change (C, 1C)

23-01-18 (C)
new door w2S to members area
change to stair 2 width to 1600mm
11-01-18
nib walls removed from northdeck area

C of C
proposed new Salt S.L.S.C
drawing 01 - lower floor plan

freespace design
david gallez architect
ARCHITECTURE - INTERIOR DESIGN
URBAN DESIGN and PLANNING - ENVIRONMENTAL DESIGN

SALT S.L.S.C.

25-08-17
change to kitchen and east roof / deck
28-08-17
change to bar areas
28-08-17
change to structural requirements

revision 0C
scale 1-100 @A1

THIS IS THE AMENDED PLAN REFERRED TO IN MODIFIED DEVELOPMENT CONSENT NO. DA13/0119.04 APPROVED PURSUANT TO SECTION 96 OF THE EP&A ACT 1979

TWEED SHIRE COUNCIL

GENERAL NOTES

roof material colorbond ultra (for surf conditions)
roof colour - colorbond windspray
all fixings and flashings to be compatible with colorbond roof to ensure no galvanic reaction
fixing to manufacture's specification
roof sheet profile to be custon orb generally except roof 6, 7, 8
roof 6, 7, 8 roof sheet profile to be hiten long span @ 2° minimum
gutters to match Mantra profiles. 250 wide

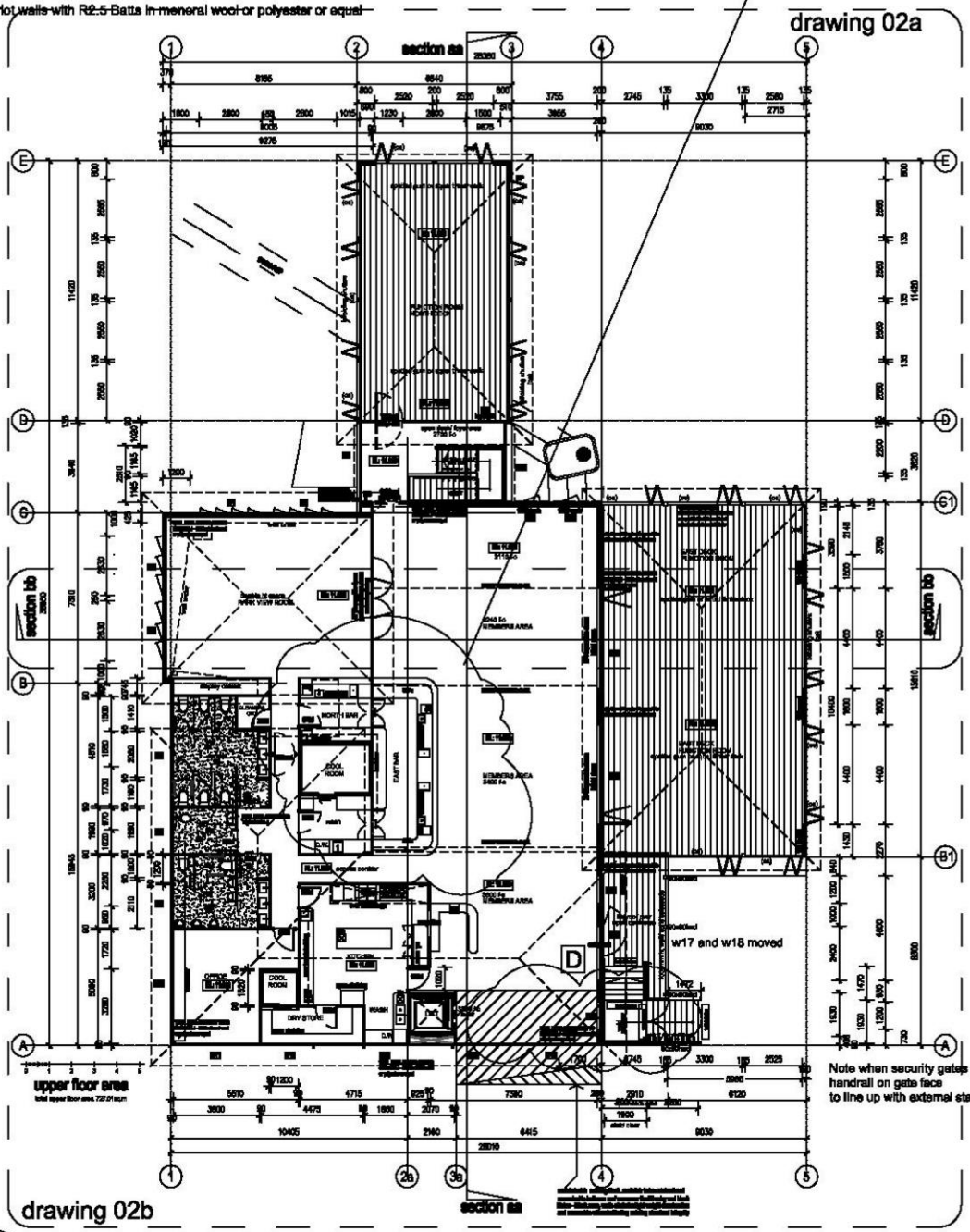
RL of existing floors to be retained U.N.O
RL 8.0 and 7.70 as noted on plan
Upper slab level to be RL 11.0 as noted on plans, sections and elevations

Notes - Kiosk area, walls etc to be light weight
construction and removable without affecting structural integrity

DOORS
all door widths noted on plans.
refer drawings 01 - 02 inclusive.
door heights to be 2340 generally U.N.O

Wall - Insulate exterior walls with R2.5 Batts in mineral wool or polyester or equal

drawing 02a



Note when security gates are in open position, handrail on gate face to line up with external stair handrails

Stairs to have non slip nosing and or surface
handrails to stairs to be 32mmØ,50mm clear from wall.
Stair 1.1000mm clear Stair 2.1600mm clear
Height of the top surface of the handrail must not be less than 865mm measured vertically above the nosing on the stair or floor surface

05-04-18 (D)
stair and kiosk change (C, TC)
23-01-18 (C)
change to stair 2 width to 1800mm
12-01-18
columns added

C of C
proposed new Salt S.L.S.C
drawing 02 - upper floor plan

freespace design
david gallez architect
ARCHITECTURE - INTERIOR DESIGN
URBAN DESIGN and PLANNING - ENVIRONMENTAL DESIGN

SALT S.L.S.C.

28-09-17
change to kitchen and east roof / deck
28-09-17
change to bar areas
28-09-17
change to structural requirements

revision 0D
scale 1-100 @A1

APPENDIX C

Building Photographs

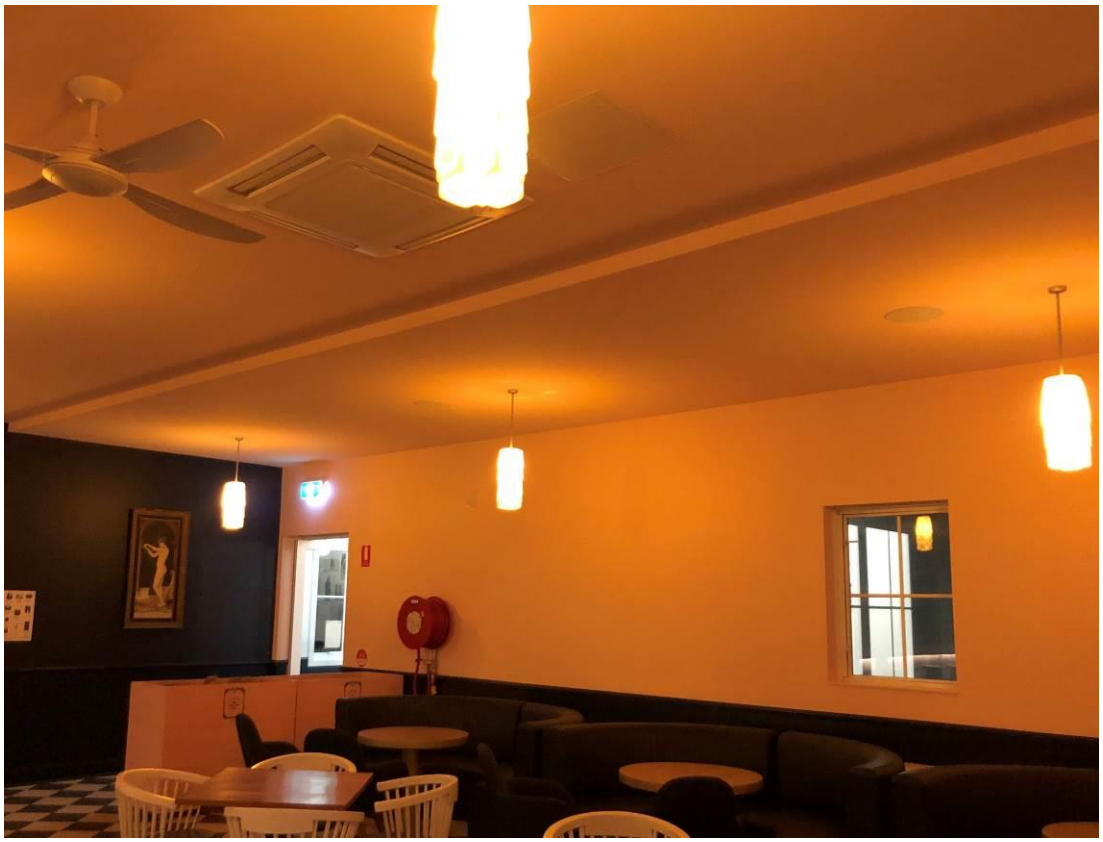
Photograph 1: Inside main room looking south.

Photograph 2: Outside at eastern verandah looking north.

Photograph 3: Inside at stairs looking west towards Ground Floor entry door.

Photograph 4: Inside at top of stairs looking south towards main entry door.

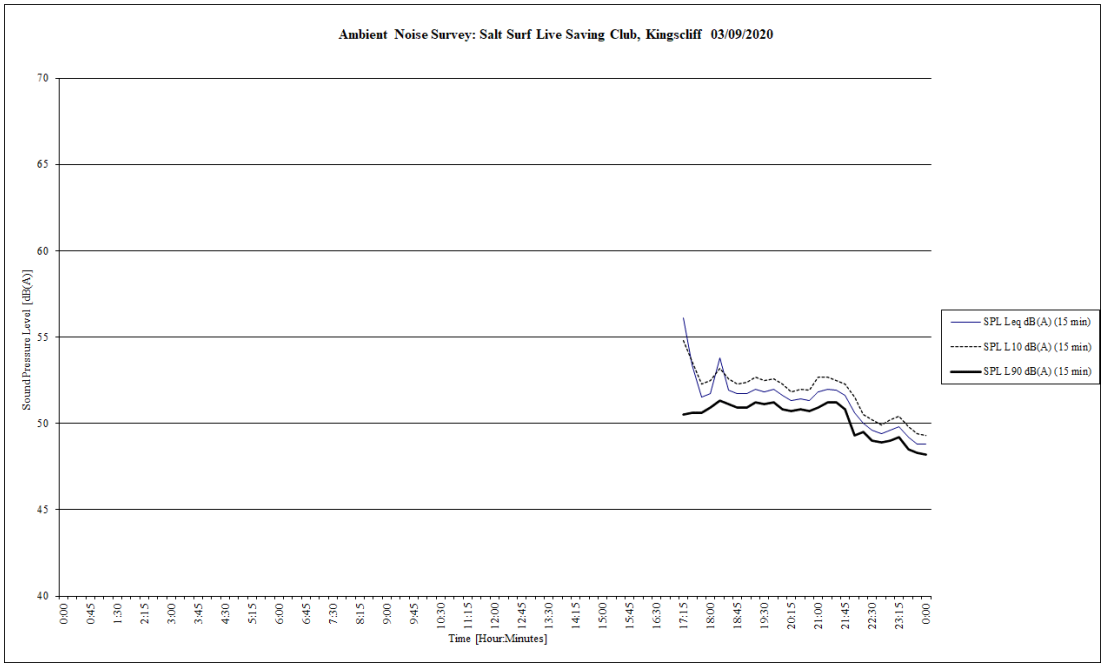
Photograph 5: Inside main room looking northwest towards main entry door.

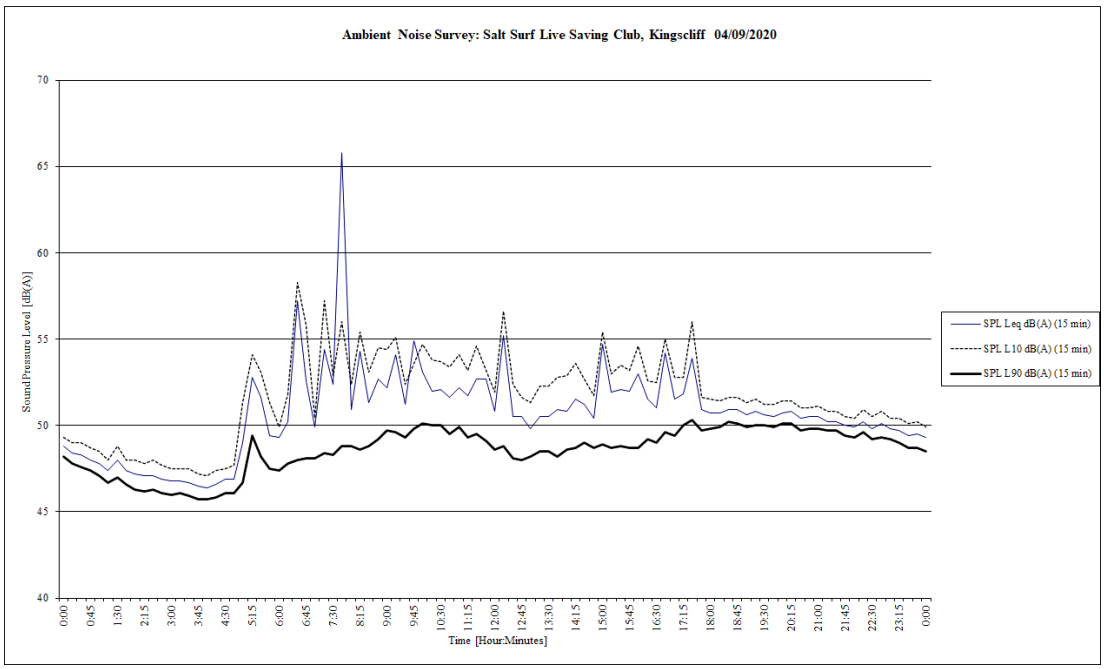


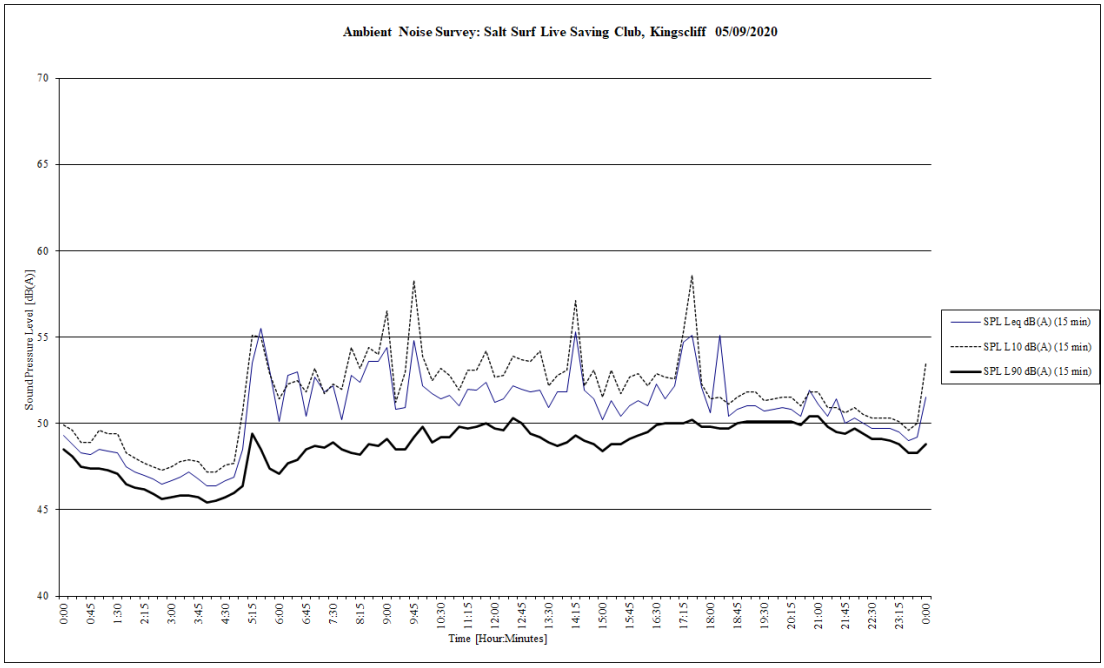
Photograph 6: Outside looking east towards logger position.

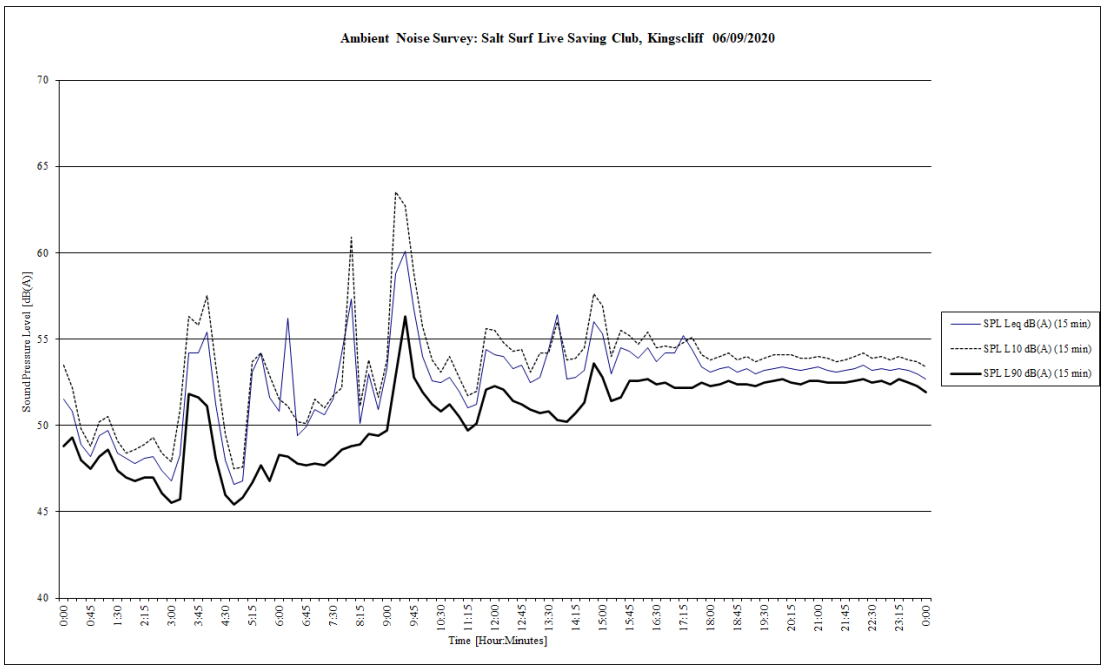
APPENDIX D

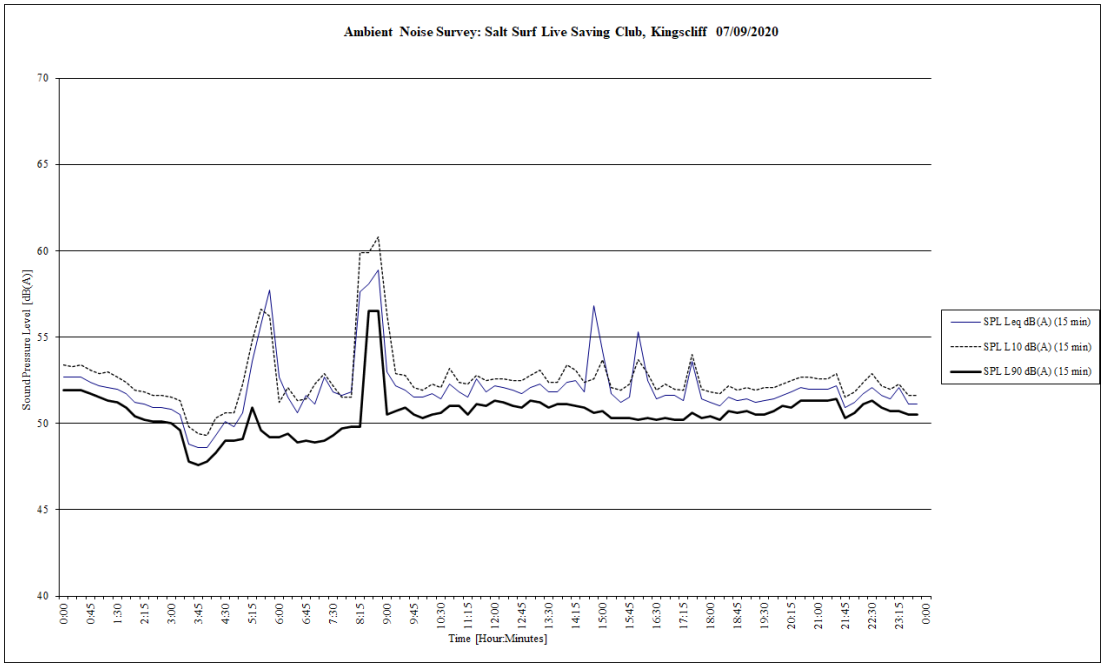
Measurement Results and Model Calculations / Predictions

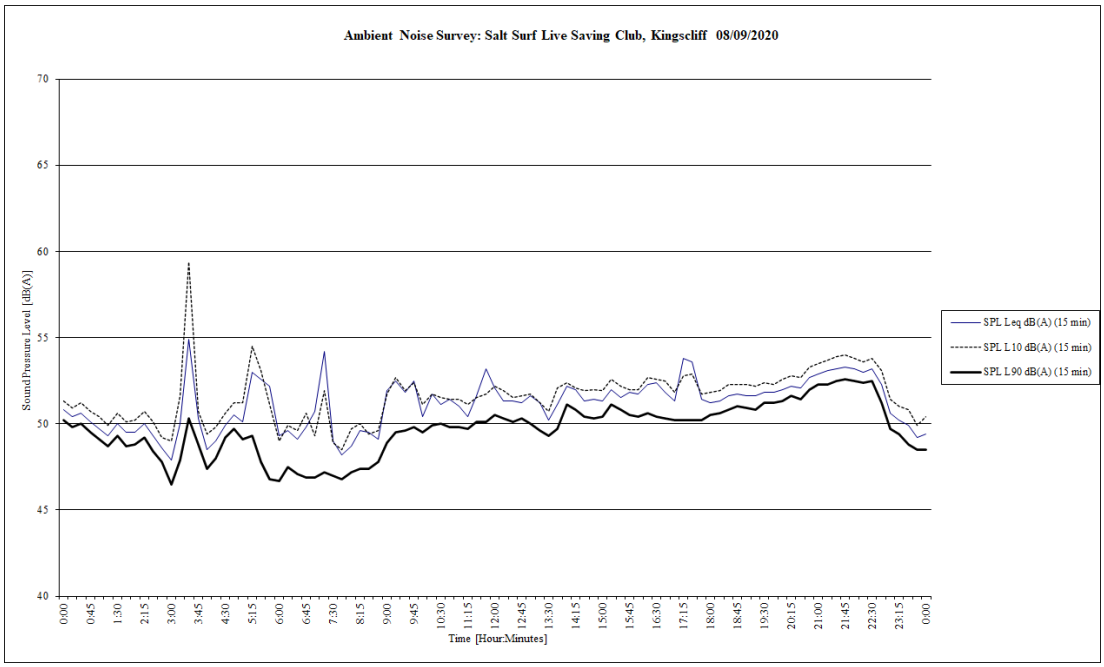

Ambient Noise Survey: Salt Surf Live Saving Club, Kingscliff 03/09/2020
Sound Pressure Level [dB(A)]
70
65
60
55
50
45
40
0:00
0:45
1:30
2:15
3:00
3:45
4:30
5:15
6:00
6:45
7:30
8:15
9:00
9:45
10:30
11:15
12:00
12:45
13:30
14:15
15:00
15:45
16:30
17:15
18:00
18:45
19:30
20:15
21:00
21:45
22:30
23:15
0:00
Time [Hour:Minutes]
SPL Leq dB(A) (15 min)
SPL L10 dB(A) (15 min)
SPL L90 dB(A) (15 min)

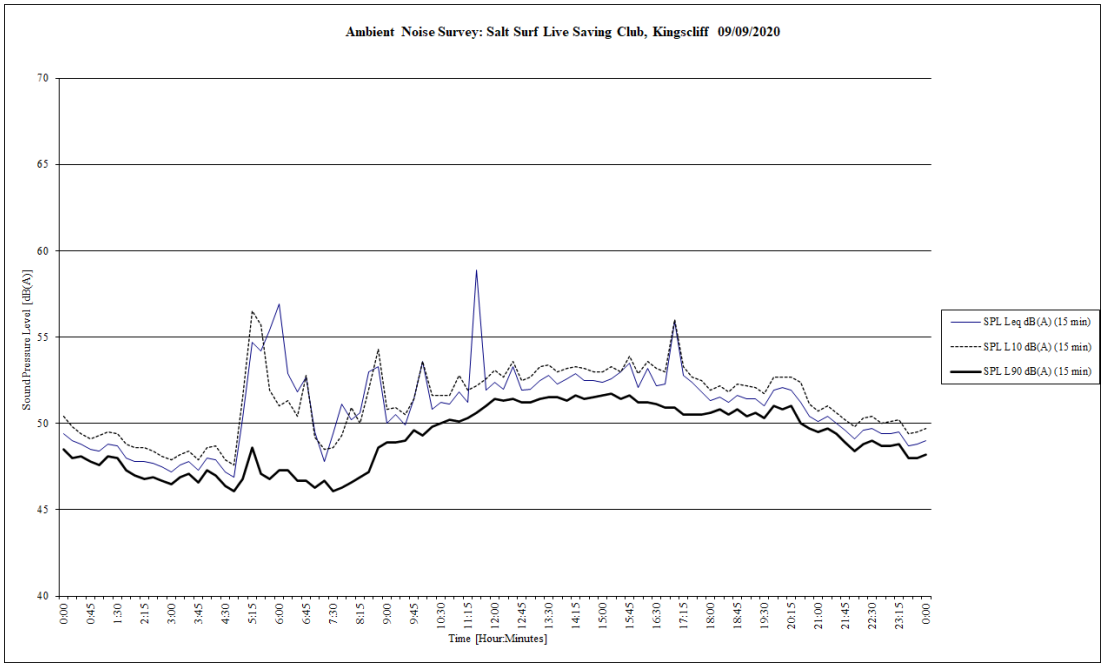

Ambient Noise Survey: Salt Surf Live Saving Club, Kingscliff 04/09/2020
Sound Pressure Level [dB(A)]
70
65
60
55
50
45
40
0:00
0:45
1:30
2:15
3:00
3:45
4:30
5:15
6:00
6:45
7:30
8:15
9:00
9:45
10:30
11:15
12:00
12:45
13:30
14:15
15:00
15:45
16:30
17:15
18:00
18:45
19:30
20:15
21:00
21:45
22:30
23:15
0:00
Time [Hour:Minutes]
SPL Leq dB(A) (15 min)
SPL L10 dB(A) (15 min)
SPL L90 dB(A) (15 min)

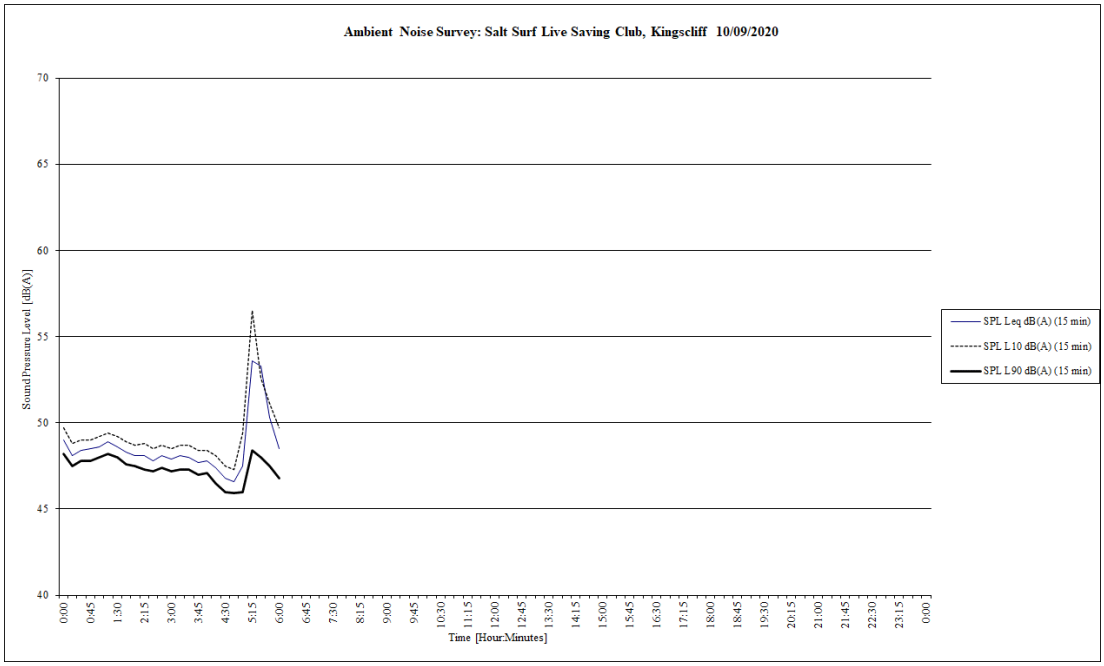

Ambient Noise Survey: Salt Surf Live Saving Club, Kingscliff 05/09/2020
Sound Pressure Level [dB(A)]
70
65
60
55
50
45
40
0:00
0:45
1:30
2:15
3:00
3:45
4:30
5:15
6:00
6:45
7:30
8:15
9:00
9:45
10:30
11:15
12:00
12:45
13:30
14:15
15:00
15:45
16:30
17:15
18:00
18:45
19:30
20:15
21:00
21:45
22:30
23:15
0:00
Time [Hour:Minutes]
SPL Leq dB(A) (15 min)
SPL L10 dB(A) (15 min)
SPL L90 dB(A) (15 min)


Ambient Noise Survey: Salt Surf Live Saving Club, Kingscliff 06/09/2020
Sound Pressure Level [dB(A)]
70
65
60
55
50
45
40
0:00
0:45
1:30
2:15
3:00
3:45
4:30
5:15
6:00
6:45
7:30
8:15
9:00
9:45
10:30
11:15
12:00
12:45
13:30
14:15
15:00
15:45
16:30
17:15
18:00
18:45
19:30
20:15
21:00
21:45
22:30
23:15
0:00
Time [Hour:Minutes]
SPL Leq dB(A) (15 min)
SPL L10 dB(A) (15 min)
SPL L90 dB(A) (15 min)


Ambient Noise Survey: Salt Surf Live Saving Club, Kingscliff 07/09/2020
Sound Pressure Level [dB(A)]
70
65
60
55
50
45
40
0:00
0:45
1:30
2:15
3:00
3:45
4:30
5:15
6:00
6:45
7:30
8:15
9:00
9:45
10:30
11:15
12:00
12:45
13:30
14:15
15:00
15:45
16:30
17:15
18:00
18:45
19:30
20:15
21:00
21:45
22:30
23:15
0:00
Time [Hour:Minutes]
SPL Leq dB(A) (15 min)
SPL L10 dB(A) (15 min)
SPL L90 dB(A) (15 min)


Ambient Noise Survey: Salt Surf Live Saving Club, Kingscliff 08/09/2020
Sound Pressure Level [dB(A)]
70
65
60
55
50
45
40
0:00
0:45
1:30
2:15
3:00
3:45
4:30
5:15
6:00
6:45
7:30
8:15
9:00
9:45
10:30
11:15
12:00
12:45
13:30
14:15
15:00
15:45
16:30
17:15
18:00
18:45
19:30
20:15
21:00
21:45
22:30
23:15
0:00
Time [Hour:Minutes]
SPL Leq dB(A) (15 min)
SPL L10 dB(A) (15 min)
SPL L90 dB(A) (15 min)


Ambient Noise Survey: Salt Surf Live Saving Club, Kingscliff 09/09/2020
Sound Pressure Level [dB(A)]
70
65
60
55
50
45
40
0:00
0:45
1:30
2:15
3:00
3:45
4:30
5:15
6:00
6:45
7:30
8:15
9:00
9:45
10:30
11:15
12:00
12:45
13:30
14:15
15:00
15:45
16:30
17:15
18:00
18:45
19:30
20:15
21:00
21:45
22:30
23:15
0:00
Time [Hour:Minutes]
SPL Leq dB(A) (15 min)
SPL L10 dB(A) (15 min)
SPL L90 dB(A) (15 min)


Ambient Noise Survey: Salt Surf Live Saving Club, Kingscliff 10/09/2020
Sound Pressure Level [dB(A)]
70
65
60
55
50
45
40
0:00
0:45
1:30
2:15
3:00
3:45
4:30
5:15
6:00
6:45
7:30
8:15
9:00
9:45
10:30
11:15
12:00
12:45
13:30
14:15
15:00
15:45
16:30
17:15
18:00
18:45
19:30
20:15
21:00
21:45
22:30
23:15
0:00
Time [Hour:Minutes]
SPL Leq dB(A) (15 min)
SPL L10 dB(A) (15 min)
SPL L90 dB(A) (15 min)

Leq PROPOSED ACTIVITIES IMPACTING:						
R1: Apartments to the north across Bells Boulevarde				**R2: Apartments to the south across Bells Boulevarde**		
Car door closures in carpark	80	dB(A) @ 1m	#	Car door closures in carpark	80	dB(A) @ 1m
Single event duration	1.5	seconds		Single event duration	1.5	seconds
Number of events in 15 minutes	30	events		Number of events in 15 minutes	30	events
Worst case duration in 15 minutes	0.75	minutes		Worst case duration in 15 minutes	0.75	minutes
15 minute hour Leq	67.0	dB(A) @ 1m		15 minute hour Leq	67.0	dB(A) @ 1m
Distance to receiver	47	m		Distance to receiver	44	m
Basement screening	0	dB(A)		Barrier screening	0	dB(A)
Distance attenuation	-33.4	dB(A)		Distance attenuation	-32.9	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Leq impact at Façade	36	dB(A)	#	Leq impact at Façade	37	dB(A)
Car bypass	72	dB(A) @ 1m	#	Car bypass	72	dB(A) @ 1m
Single event duration	7	seconds		Single event duration	7	seconds
Number of events in 15 minutes	15	events		Number of events in 15 minutes	15	events
Worst case duration in 15 minutes	1.75	minutes		Worst case duration in 15 minutes	1.75	minutes
15 minute hour Leq	62.7	dB(A) @ 1m		15 minute hour Leq	62.7	dB(A) @ 1m
Distance to receiver	13.5	m		Distance to receiver	28	m
Barrier screening	0	dB(A)		Barrier screening	0	dB(A)
Distance attenuation	-22.6	dB(A)		Distance attenuation	-28.9	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Leq impact at Façade	43	dB(A)	#	Leq impact at Façade	36	dB(A)
Samll bus bypass	75	dB(A) @ 1m	#	Samll bus bypass	75	dB(A) @ 1m
Single event duration	10	seconds		Single event duration	10	seconds
Number of events in 15 minutes	3	events		Number of events in 15 minutes	3	events
Worst case duration in 15 minutes	0.5	minutes		Worst case duration in 15 minutes	0.5	minutes
15 minute hour Leq	60.2	dB(A) @ 1m		15 minute hour Leq	60.2	dB(A) @ 1m
Distance to receiver	13.5	m		Distance to receiver	28	m
Barrier screening	0	dB(A)		Barrier screening	0	dB(A)
Distance attenuation	-22.6	dB(A)		Distance attenuation	-28.9	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Leq impact at Façade	40	dB(A)	#	Leq impact at Façade	34	dB(A)
Group of people talking	65	dB(A) @ 1m	#	Group of people talking	65	dB(A) @ 1m
Single event duration	450	seconds		Single event duration	450	seconds
Number of events in 15 minutes	1	events		Number of events in 15 minutes	1	events
Worst case duration in 15 minutes	7.5	minutes		Worst case duration in 15 minutes	7.5	minutes
15 minute hour Leq	62	dB(A) @ 1m		15 minute hour Leq	62	dB(A) @ 1m
Distance to receiver	65.0	m		Distance to receiver	50	m
Barrier screening	0	dB(A)		Barrier screening	0	dB(A)
Distance attenuation	-36.3	dB(A)		Distance attenuation	-34.0	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Leq impact at Façade	28	dB(A)	#	Leq impact at Façade	31	dB(A)
Patrons outside at northern verandah	75	dB(A) @ 1m	#	Patrons outside at northern verandah	75	dB(A) @ 1m
Single event duration	900	seconds		Single event duration	900	seconds
Number of events in 15 minutes	1	events		Number of events in 15 minutes	1	events
Worst case duration in 15 minutes	15	minutes		Worst case duration in 15 minutes	15	minutes
15 minute hour Leq	75	dB(A) @ 1m		15 minute hour Leq	75	dB(A) @ 1m
Distance to receiver	67	m		Distance to receiver	80	m
Inside to outside attenuation	0	dB(A)		Onsite building screening	-10	dB(A)
Distance attenuation	-36.5	dB(A)		Distance attenuation	-38.1	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Leq impact at Façade	41	dB(A)	#	Leq impact at Façade	30	dB(A)

Leq PROPOSED ACTIVITIES IMPACTING:						
R1: Apartments to the north across Bells Boulevarde				**R2: Apartments to the south across Bells Boulevarde**		
Patrons outside at eastern verandah	81	dB(A) @ 1m	#	Patrons outside at eastern verandah	81	dB(A) @ 1m
Single event duration	900	seconds		Single event duration	900	seconds
Number of events in 15 minutes	1	events		Number of events in 15 minutes	1	events
Worst case duration in 15 minutes	15	minutes		Worst case duration in 15 minutes	15	minutes
15 minute hour Leq	81	dB(A) @ 1m		15 minute hour Leq	81	dB(A) @ 1m
Distance to receiver	87.0	m		Distance to receiver	70	m
Barrier screening	0	dB(A)		Onsite building screening	0	dB(A)
Distance attenuation	-38.8	dB(A)		Distance attenuation	-36.9	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Leq impact at Façade	44	dB(A)	#	Leq impact at Façade	46	dB(A)
Patrons inside building	83	dB(A) @ 1m	#	Patrons inside building	83	dB(A) @ 1m
Single event duration	900	seconds		Single event duration	900	seconds
Number of events in 15 minutes	1	events		Number of events in 15 minutes	1	events
Worst case duration in 15 minutes	15	minutes		Worst case duration in 15 minutes	15	minutes
15 minute hour Leq	83	dB(A) @ 1m		15 minute hour Leq	83	dB(A) @ 1m
Distance to receiver	87	m		Distance to receiver	62	m
Inside to outside attenuation	-5	dB(A)		Inside to outside attenuation	-5	dB(A)
Distance attenuation	-38.8	dB(A)		Distance attenuation	-35.8	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Leq impact at Façade	42	dB(A)	#	Leq impact at Façade	45	dB(A)
Deliveries	82	dB(A) @ 1m	#	Deliveries	82	dB(A) @ 1m
Single event duration	900	seconds		Single event duration	900	seconds
Number of events in 15 minutes	1	events		Number of events in 15 minutes	1	events
Worst case duration in 15 minutes	15	minutes		Worst case duration in 15 minutes	15	minutes
15 minute hour Leq	82	dB(A) @ 1m		15 minute hour Leq	82	dB(A) @ 1m
Distance to receiver	65.0	m		Distance to receiver	55.0	m
Onsite building screening	0	dB(A)		Onsite building screening	0	dB(A)
Distance attenuation	-36.3	dB(A)		Distance attenuation	-34.8	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Leq impact at Façade	48	dB(A)	#	Leq impact at Façade	50	dB(A)
Waste collection	97	dB(A) @ 1m	#	Waste collection	97	dB(A) @ 1m
Single event duration	180	seconds		Single event duration	180	seconds
Number of events in 15 minutes	1	events		Number of events in 15 minutes	1	events
Worst case duration in 15 minutes	3	minutes		Worst case duration in 15 minutes	3	minutes
15 minute hour Leq	90	dB(A) @ 1m		15 minute hour Leq	90	dB(A) @ 1m
Distance to receiver	65.0	m		Distance to receiver	55.0	m
Onsite building screening	0	dB(A)		Onsite building screening	0	dB(A)
Distance attenuation	-36.3	dB(A)		Distance attenuation	-34.8	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Leq impact at Façade	56	dB(A)	#	Leq impact at Façade	58	dB(A)
Rooftop northern A/C plant	62	dB(A) @ 1m	#	South-western ground A/C plant	62	dB(A) @ 1m
Single event duration	900	seconds		Single event duration	900	seconds
Number of events in 15 minutes	1	events		Number of events in 15 minutes	1	events
Worst case duration in 15 minutes	15	minutes		Worst case duration in 15 minutes	15	minutes
15 minute hour Leq	62	dB(A) @ 1m		15 minute hour Leq	62	dB(A) @ 1m
Distance to receiver	80	m		Distance to receiver	44	m
Onsite building screening	0	dB(A)		Barrier screening	0	dB(A)
Distance attenuation	-38.1	dB(A)		Distance attenuation	-32.9	dB(A)
Façade reflection	2.5	dB(A)		Façade reflection	2.5	dB(A)
Leq impact at Façade	26	dB(A)	#	Leq impact at Façade	32	dB(A)
Combined Leq façade impact	49	dB(A)		Combined Leq façade impact	49	dB(A)