
9.2 PLANNING ENFORCEMENT ACTION AT 210 TALLAROOK PYALONG ROAD, TALLAROOK - MUSIC EVENT 19-22 APRIL 2019

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File No: PL6067/06.01

Attachments: 1. Noise Impact Assessment Report

SUMMARY

Planning Permit PL6067/06.01 allows for the use of the land at 210 Tallarook Pyalong Road, Tallarook for a place of assembly (annual music event with ancillary uses for accommodation and a food and drink premises) in accordance with the endorsed plans. The permit includes limits on hours for the serving of alcohol, requirements for emergency management and noise limitations. The permit also mirrors the requirements of State Environment Protection Policy (SEPP) No. 2 – Control of Music Noise from Public Premises.

Local community had expressed concern about the noise generated at previous events on the site and therefore Council engaged the services of an acoustic engineer to establish if the event was being conducted within the limits established within the planning permit. Council officers also attended the event and attended a number of complainant properties throughout the running of the event with a particular emphasis on noise sensitive times after 10 pm and until 12 noon the next day.

The acoustic engineer's findings identified that music was audible at noise sensitive locations (residential dwellings) within the noise sensitive time of 10pm until 12 noon the next day. This represents a breach of the planning permit conditions. The findings also highlighted that the decibel readings were within the permitted levels for the entire weekend. It was further observed by officers in attendance that on the Sunday night an out-door stage operated beyond its permitted times representing a second breach of the permit.

Planning Infringement Notices have been issued in respects of each breach identified with both being paid. Action taken has been informed by legal advice.

RECOMMENDATION

THAT Council receive and note the information contained in this report.

BACKGROUND

Planning Permit PL6067/06.01 is one of a number of planning permits which allows for the use of the land at 210 Tallarook Pyalong Road, Tallarook for up to four music events per year.

Recent events have attracted a number of complaints from local residents about impact upon their residential amenity as a result of the events.

As a result, Council invested considerable resources into monitoring the most recent Easter event and policing the requirements of the planning permit.

PLANNING ENFORCEMENT ACTION AT 210 TALLAROOK PYALONG ROAD, TALLAROOK - MUSIC EVENT
19-22 APRIL 2019 (CONT.)

ISSUES AND DISCUSSION

Planning Permit PL6067/06.01 allows for the use of the land at 210 Tallarook Pyalong Road, Tallarook for a place of assembly (annual music event with ancillary uses for accommodation and a food and drink premises) in accordance with the endorsed plans. Operation is permitted from 7am on Good Friday until 4pm Easter Monday (19-22 April 2019).

No more than 2,000 patrons are permitted to attend with the permit including limits on hours for the serving of alcohol, requirements for emergency management and noise limitations. The permit also mirrors the requirements of State Environment Protection Policy (SEPP) No. 2 – Control of Music Noise from Public Premises.

Operation of the event is permitted within the following times:

- Good Friday 10am – 1am
- Easter Saturday 10am – 1am
- Easter Sunday 10am – 1am
- Permitted an indoor disco to operate between midnight and 3am each night

Noise levels were restricted on the permit in line with the requirements of State Environment Protection Policy (SEPP) No. 2 – Control of Music Noise from Public Premises.

SEPP N-2 and the planning permit (condition 12) separate out permitted noise as follows:

- *Between 12 noon and 10 pm – 100dB at sound desk & must not exceed 65dB at surrounding residential dwellings*
- *Outside of these hours (i.e. after 10pm and until 12 noon the next day) music must be inaudible at these dwellings and not exceed 95dB at the sound desk*

SEPP N-2 defines 'sensitive noise locations' as follows:

"Noise sensitive area" means (a) that part of the land within the apparent boundaries of any piece of land which is within a distance of 10 metres outside the external walls of any of the following buildings

- *Dwelling (except Caretaker's House)*
- *Residential Building*

This definition was utilised to inform the planning compliance investigation.

Acoustic Engineers Findings

During the event Council engaged the services of Octave Acoustics to monitor noise emissions through the weekend. Their post event report (attached) identified as follows:

In Victoria, music noise impacts associated with outdoor concerts are subject to State Environment Protection Policy No.2 Control of Music Noise from Public Premises (SEPP N-2). SEPP N-2 is subordinate legislation under the Environment Protection Act (1970), and compliance is mandatory. Under SEPP N-2, music noise emissions shall not exceed 65dB(A) on residential property within 10m of the façade of a dwelling.

PLANNING ENFORCEMENT ACTION AT 210 TALLAROOK PYALONG ROAD, TALLAROOK - MUSIC EVENT
19-22 APRIL 2019 (CONT.)

For the purposes of this assessment the 65dB(A) criterion is assessed over 15-minute intervals. Under SEPP N-2, the operation of an outdoor venue may only take place between 12:00 and 23:00, except where the duration of operation is greater than five hours. In this case, the operation may take place only between the 12:00 and 22:00. However, the Responsible Authority may allow later operations where it is satisfied that music from the premises is inaudible within all noise sensitive areas, or where it is satisfied that the proposed operation is a non-profit event, for charitable purposes, or is of special social significance.

During the event noise monitoring equipment was established at the locations indicated below:



Noise monitoring was carried out at properties identified as the potentially most affected by music noise impacts, over a variety of topographical profiles.

The assessment of the Acoustic Engineers is summarised as follows:

Over the duration of the event, no exceedances of the SEPP N-2 and Planning Permit PL6067/06.01 65dB(A) day/evening period requirement were recorded, at any monitoring location, due to noise emissions from the event. However, noise from the event was clearly audible after 10PM at all monitoring locations. The audibility of event noise was verified by listening to audio recordings taken by each SLM. ... It is noted that music was never audible in the morning before 12:00 midday over the duration of the event.

In conclusion the report states the following:

The result of this assessment was that music noise emissions from the event did not comply with both SEPP N-2 and Planning Permit PL6067/06.01. Music noise emissions at all measurement locations were clearly audible after 22:00, up until after

PLANNING ENFORCEMENT ACTION AT 210 TALLAROOK PYALONG ROAD, TALLAROOK - MUSIC EVENT 19-22 APRIL 2019 (CONT.)

03:00 on the following days, on all three days of the event's duration. This has breached Condition 12 of the Planning Permit. At measurement locations closer to the subject site (L4 and L5), music was sporadically audible until 05:00 on one particular day.

It is noted that no exceedances of the SEPP N-2 65dB(A) day/evening period requirement were recorded, at any monitoring location, due to noise emissions from the event.

As noted by the acoustic consultants, the above observations represent a breach of condition 12 of the planning permit. It is also noted that whilst music was audible at the monitoring locations at no point through the event were the permitted decibel levels breached. Also, music and noise generated at all other times during the event (i.e. from 12 noon until 10pm each night) complied with the requirements of the planning permit and SEPP No. 2.

Compliance during the Event

Through the course of the event a number of staff attended the site to check on compliance, in particular emphasis was placed on the noise sensitive periods after 10pm with senior officers in attendance during those times. During these times when noise complaints were received by Council's after-hours phone service a notification was sent to the officers on site who would make contact with the complainants and visited many of the sites on the night to record their own observations. In particular on the Friday and Saturday night officers of Victoria Police were also in attendance and attended homes with Council officers.

When excessive noise was observed contact was made with the property owner hosting the event and, in many instances, action was taken with noise levels reducing.

Council officers also observed an outdoor stage in operation outside of the permitted hours representing a second breach of planning permit conditions. This occurred on the Sunday night into the early hours of Monday morning.

Compliance After Event

Over the course of the event 26 complaints were received and are summarised as follows:

- 2 did not leave any address details
- Remaining complaints came from 10 properties
- 15 were received within the noise sensitive times (10pm until 12 noon next day)

EPA also established a noise monitoring location although no details have been received to date as to their findings or any action taken on their behalf.

Enforcement

Based of the above information, and observations of officers in attendance at the event, legal advice was sought as to the avenues open to Council in term of planning enforcement. The advice concluded there were a number of options open to Council as follows:

PLANNING ENFORCEMENT ACTION AT 210 TALLAROOK PYALONG ROAD, TALLAROOK - MUSIC EVENT
19-22 APRIL 2019 (CONT.)

1. The issue of a Planning Infringement Notice (PIN) in respect of the various observed breaches or one PIN in relation to each separate breach.
2. Prosecution.
3. Application for Enforcement in the Victorian Civil Administrative Tribunal (VCAT).
4. Application for Cancellation or Amendment of the planning permit to VCAT.

Council's advice concluded that two PINs should be issued, one for each identified breach of the planning permit including the noise exceedances and the operation of the indoor disco outdoors after permitted times on the Sunday. The advice concluded that if PINS are issued then no prosecution should be undertaken.

In regard to option 3 to seek an enforcement order at VCAT, this was considered difficult given the event had already occurred. Finally, it was concluded that an application to amend or cancel the permit at VCAT would be unlikely to succeed given the limited enforcement history on the site.

Action taken

Council officers having considered the foregoing and the advice received, issued two PINs for each observed breach of the planning permit. Combined the PINs amounted to a fine of in excess of \$3,200 which have now been paid concluding the formal planning enforcement process.

It is noted that should future breaches occur there is now a history of enforcement action at the site meaning future enforcement investigations may result in more severe action by Council.

CONSULTATION

Through the planning enforcement investigation internal conversations were held with Council's Local Laws department, Building Services team and officers who attended the event. Councillors and the Executive Leadership Team were briefed on the investigation and outcomes.

FINANCIAL, RESOURCE AND ASSET MANAGEMENT IMPLICATIONS

The actions undertaken by officers prior to, during and after the event, along with the engagement of acoustic engineers to monitor the event and legal advice would have cost Council in excess of \$20,000. At future events the cost of the acoustic monitoring will be borne by the organiser.

POLICY AND LEGISLATIVE IMPLICATIONS

This process and actions taken have been in accordance with the provisions of the *Planning and Environment Act 1987* and its associated Regulations.

PLANNING ENFORCEMENT ACTION AT 210 TALLAROOK PYALONG ROAD, TALLAROOK - MUSIC EVENT
19-22 APRIL 2019 (CONT.)

RISK IMPLICATIONS

Risk Ranking is determined using [ROHS201-G1- Corporate Risk Matrix](#). Risk is identified as Low, Medium, High or Very High.

Risk	Risk Ranking	Proposed Treatments	Within Existing Resources?
There is a risk that local community members who have complained about the event will not be satisfied by the outcome	Medium	Encourage operator to seek appropriate amendments to existing permits Engage with local community in this process Advertise/promote engagement process	Yes

SUSTAINABILITY IMPLICATIONS (SOCIAL AND ENVIRONMENTAL)

Large scale events if not properly run can impact upon both the social and physical environment. A proper assessment is required of any future proposals to amend existing or future permit applications allowing appropriate community input.

CHARTER OF HUMAN RIGHTS IMPLICATIONS

The rights protected in the *Charter of Human Rights and Responsibilities Act 2006* were considered in preparing this report and it's determined that the subject matter does not raise any human rights issues.

CHILDREN AND YOUNG PEOPLE IMPLICATIONS

Not applicable.

OFFICER DECLARATION OF CONFLICT OF INTEREST

No officers involved in the preparation of this report have any direct or indirect interest in this matter.

CONCLUSION

This report has outlined the planning enforcement proceedings relating to an event which occurred between the 19 and 22 of April 2019 at 210 Tallarook Pyalong Road, Tallarook. The activities undertaken by officers in this process have been set out along with the reasoning behind the actions taken by staff. The fines issued have now been paid concluding the enforcement process which is recorded against the property if future breeches occur.

PLANNING ENFORCEMENT ACTION AT 210 TALLAROOK PYALONG ROAD, TALLAROOK - MUSIC EVENT
19-22 APRIL 2019 (CONT.)

MITCHELL SHIRE COUNCIL

Council Meeting Attachment

DEVELOPMENT AND INFRASTRUCTURE

15 JULY 2019

9.2

**PLANNING ENFORCEMENT ACTION AT 210
TALLAROOK PYALONG ROAD, TALLAROOK -
MUSIC EVENT 19-22 APRIL 2019**

Attachment No: 1

Noise Impact Assessment Report



BOOGIE 13 TALLAROOK

Noise Impact Assessment Report

Mitchell Shire Council

30 APRIL 2019





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Project Boogie 13 Tallarook
 Client Mitchell Shire Council
 Document number AA681ME-01E02 Noise Impact Assessment (r1)

Revision	Date	Comment	Author	Reviewer
0	30.04.2019	Issued to Client	TE	RB
1	30.04.2019	Included council permit condition	TE	
2	1.05.2019	Amended conclusion to clarify permit breach	TE	

Disclaimer:

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Boogie 13 Tallarook
 Noise Impact Assessment Report

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1 Introduction

Octave Acoustics was engaged by the Mitchel Shire Council to carry out a music noise monitoring and impact assessment during the Boogie 13 event held on Friday 19th – Sunday 21st April 2019, located at Our Friend's Farm, Tallarook.

The concert was advertised to have multiple noise sources, consisting of a main stage and a separate dancing zone for later hours ("*Hillbilly House Party*"). Refer Figure 1 below for an event map of the subject site.

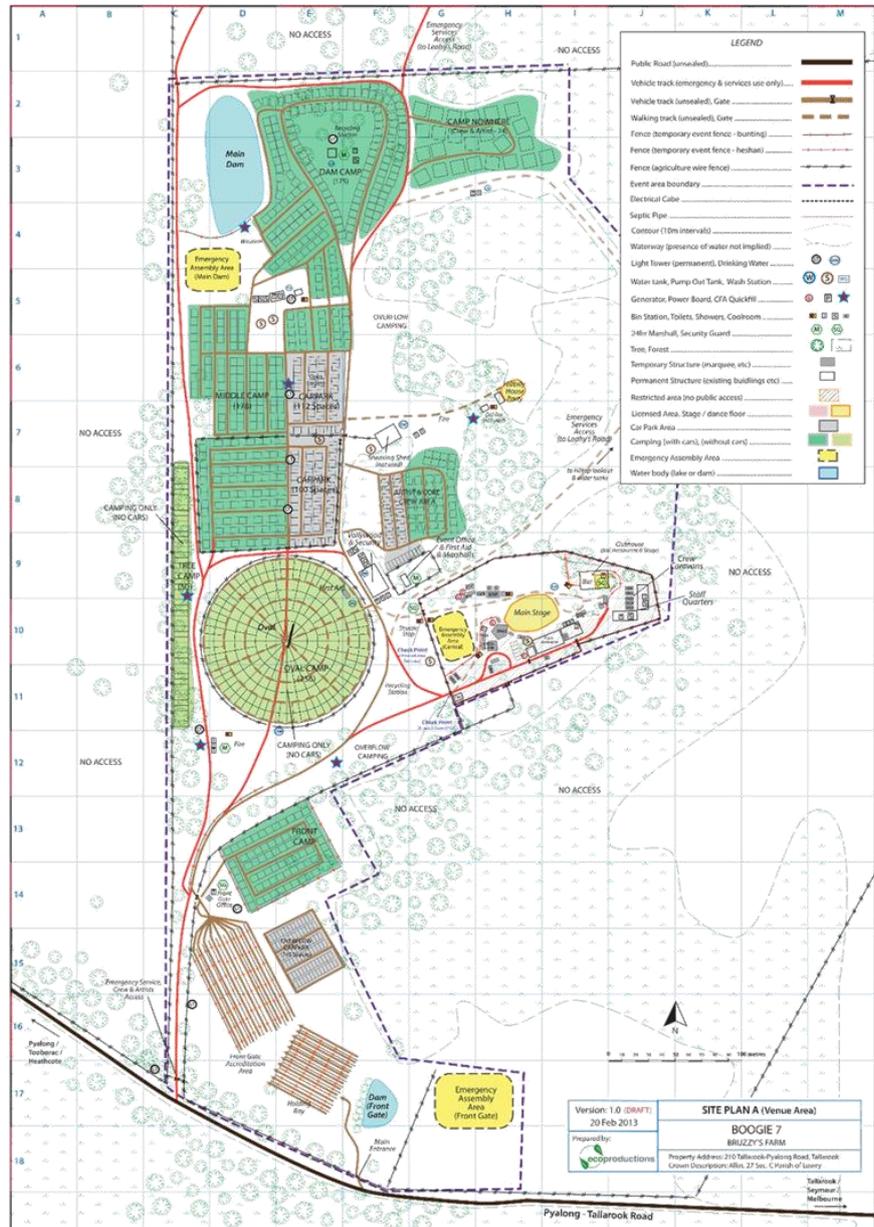


FIGURE 1 - EVENT MAP OF SUBJECT SITE

Boogie 13 Tallarook
Noise Impact Assessment Report

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2 Concert Details

The program for the Boogie 13 event was as presented in Figure 2 below.

Boogie
OUR FRIENDS FARM
TALLAROOK VIC
19-20-21 APRIL 2019

FRIDAY 19 APRIL
LICENSED AREA OPEN 2PM
MAIN STAGE
5.00 - 5.30 GRINDING EYES
5.30 WELCOME TO COUNTRY
6.00 - 6.30 LAURA IMBRUGLIA
7.00 - 7.30 AFRA BEATBOX SHOWCASE
8.00 - 8.30 BANANAGUN
9.00 - 9.40 FULTON STREET
10.10 - 10.50 GOONS OF DOOM
11.30 - 1.00 NATHANIEL RATELIFF & THE NIGHTSWEATS
TRUCK DJ's
2.00 - 5.00 CHARLIE SPARKLES
LARRY KRONICK Jr.
MICHAEL GOODFELLOW
5.30 - 6.00 ADRIANA
6.30 - 7.00 MICHAEL GOODFELLOW
7.30 - 8.00 LARRY KRONICK Jr.
8.30 - 9.00 CHARLIE SPARKLES
9.40 - 10.10 MICHAEL GOODFELLOW
10.50 - 11.30 ADRIANA
HILLBILLY DISCO BARS CLOSE 1AM
1AM - 3AM • ADRIANA • MIKEY GOODFELLOW
SPECIAL SURPRISE GUESTS
CLUBHOUSE
6.30 - 7.15 JAMES ELLIS & THE JEALOUS GUYS
7.45 - 8.15 QUEEF URBAN'S FAKED HITS
9.00 - 9.30 SPIKE THE RIVER
10.00 - 12.30 KARAOKE
NUGGET'S OUTPOST • ON TOP OF BOOGIE HILL
CHAI TENT - POETRY SLAMS

SATURDAY 20 APRIL
COFFEE & JUICE 7AM-10AM
BARS OPEN 9AM
MAIN STAGE
8.00 - 9.00 ACID YOGA
11.00 - 11.30 BUNNY RACKET
12.00 - 12.30 CYANIDE THORTON
1.00 - 1.40 SARAH MARY CHADWICK
2.10 - 2.50 LEAH SENIOR
3.20 - 4.00 THE SOUL MOVERS
4.00 - 5.00 BOXWARS
6.00 - 6.30 CONSTANT MONGREL
7.00 - 7.40 JADE IMAGINE
8.10 - 8.50 THE CHATS
9.20 - 10.00 SHOGUN & THE SHEETS
10.30 - 11.20 BAD//DREAMS
11.50 - 1.00 MAGIC DIRT
TRUCK DJ's
9.00 - 11.00 BT'S COUNTRY MOANINGS
11.30 - 12.00 MICHAEL GOODFELLOW
12.30 - 1.00 AFRA'S RHYTHM ATTACK
1.40 - 2.10 MICHAEL GOODFELLOW
2.50 - 3.20 LARRY KRONICK Jr.
5.00 - 6.00 GLENNY G
FAUX PAS NOIR
6.30 - 7.00 ADRIANA
7.40 - 8.10 AFRA'S RHYTHM ATTACK
8.50 - 9.20 LARRY KRONICK Jr.
10.00 - 10.30 COLETTE
11.20 - 11.50 ADRIANA
HILLBILLY DISCO BARS CLOSE 1AM
1AM - 3AM • LARRY KRONICK Vs AFRA
SAUVIGNON FUNK DANCERS • MADDY HOOPS
and introducing HOTCAKES
CLUBHOUSE
2.45 - 3.15 GRACE CUMMINGS
6.30 - 7.15 ROADHOUSES
8.00 - 8.45 HYPNO SEX RAY
9.15 - 9.45 QUEEF URBAN'S FAKED HITS
10.00 - 12.30 KARAOKE
SPEED FRIENDING - 5.00PM
NUGGET'S OUTPOST • ON TOP OF BOOGIE HILL
CHAI TENT - POETRY SLAMS

SUNDAY 21 APRIL
COFFEE & JUICE 7AM-10AM
BARS OPEN 10AM
MAIN STAGE
8.00 - 9.00 ACID YOGA
9.30 EASTER EGG HUNT
11.00 - 11.30 THE MAES
12.00 - 12.30 DUMB PUNTS
1.00 - 1.40 THE SMALLGOODS
2.10 - 2.40 HEXDEBT
3.10 - 3.50 VAN DUREN
4.20 - 5.00 SPIRAL STAIRS
5.30 - 6.10 LOOSE TOOTH
6.40 - 7.30 THE OCEAN PARTY
8.00 - 9.00 GORDON KOANG
9.30 - 11.00 KURT VILE & THE VIOLATORS
TRUCK DJ's
9.30 - 11.00 BT'S COUNTRY MOANINGS
11.30 - 12.00 AFRA'S RHYTHM ATTACK
12.30 - 1.00 LARRY KRONICK Jr.
1.40 - 2.10 AFRA'S RHYTHM ATTACK
2.40 - 3.10 LARRY KRONICK Jr.
3.50 - 4.20 LARRY KRONICK Jr.
5.00 - 5.30 COLETTE
6.10 - 6.40 AFRA'S RHYTHM ATTACK
7.30 - 8.00 BT'S NIGHT MOANINGS
9.00 - 9.30 FROSTEE
HILLBILLY DISCO BARS CLOSE 11PM
11PM - 3AM • FAUX PAS NOIR • COLETTE
ANDEE FROST • HOTCAKES
CLUBHOUSE
10.00 - 10.30 BUNNY RACKET
11.00 HIGH TEA
11.00 - 12.30 BOOGIE KIDS CONCERT
5.00 - 5.30 GRACE CUMMINGS
6.00 - 6.45 JAMES ELLIS & THE JEALOUS GUYS
8.00 - 10.30 KARAOKE
NUGGET'S OUTPOST • ON TOP OF BOOGIE HILL
CHAI TENT - POETRY SLAMS
LINE UP AND TIMES ARE SUBJECT TO CHANGE AT ANY BOOGIE TIME!

FIGURE 2 - SESSION TIMES FOR EVENT



3 Criteria

In Victoria, music noise impacts associated with outdoor concerts are subject to State Environment Protection Policy No.2 *Control of Music Noise from Public Premises* (SEPP N-2). SEPP N-2 is subordinate legislation under the Environment Protection Act (1970), and compliance is mandatory. Under SEPP N-2, music noise emissions shall not exceed 65dB(A) on residential property within 10m of the façade of a dwelling. For the purposes of this assessment the 65dB(A) criterion is assessed over 15-minute intervals. Under SEPP N-2, the operation of an outdoor venue may only take place between 12:00 and 23:00, except where the duration of operation is greater than five hours. In this case, the operation may take place only between the 12:00 and 22:00. However, the Responsible Authority may allow later operations where it is satisfied that music from the premises is *inaudible* within all noise sensitive areas, or where it is satisfied that the proposed operation is a non-profit event, for charitable purposes, or is of special social significance.

Condition 12 of the event's Planning Permit, PL6067/06.01, dictate that;

Noise generated must not exceed 100dB(A) at the sound desk, and between 12 noon and 10pm the noise levels at surrounding residential dwellings must not exceed 65dB(A). Should the use operate beyond these hours the music from the proposed uses must be inaudible at these dwellings and the noise generated at the sound desk must not exceed 95dB(A). Any complaints about noise generated by the music program as per condition 11 to the satisfaction of the Responsible Authority, and if the complaint is not resolved to Council's satisfaction the operator is required to fund an independent acoustic test and report undertaken by a Council nominated professional, and the operator must implement the recommendations of this report.

Figure 3 shows the context of the site and noise monitoring locations. Noise monitoring was carried out at properties identified as the potentially most affected by music noise impacts, over a variety of topographical profiles. Compliance at the nominated monitoring locations is expected to result in compliance at all other potentially affected receivers.



FIGURE 3 - SUBJECT SITE AND MONITORING LOCATIONS

Boogie 13 Tallarook
Noise Impact Assessment Report

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4 Receiver Locations

Music noise assessment locations were informed by the Mitchell Shire Council's suggestions, with Octave Acoustics selecting the final six. These were as presented in Table 1 below. The locations were chosen to cover the periphery of the site, to help understand noise propagation characteristics of the area. It is expected that music complying with SEPP N-2 at all monitoring locations would comply with these criteria at all potentially affected residential properties, regardless of wind speed and direction.

TABLE 1 – MUSIC NOISE ASSESSMENT LOCATIONS

Designation	Address
L1	250 Ashes Bridge Road
L2	60 Ashes Bridge Road
L3	315 Tallarook-Pyalong Road
L4	290 Tallarook-Pyalong Road
L5	155 Tallarook-Pyalong Road
L6	230 Leahys Road

5 Assessment

Music noise levels at each assessment location were monitored for the duration of the event using NTi Audio XL2 sound level meters (SLM). The NTi XL2 sound level meters were calibrated before and after the assessment using a Bruel Kjaer 4231 calibrator. No drift in calibration was detected. The NTi XL2 complies with the requirements of IEC 61672-1:2004 Sound Level Meters. Out of the six SLM's used, four were classified as Class 1 Instruments, and two were classified as Class 2 Instruments. The calibrator complies with the requirements of IEC 60942:2004 Sound Calibrators. The XL2 meters carried current manufacturers certification and the calibrator carried current NATA certification.

The microphones of all SLMs were located at a height of 1.2m above the ground in free field conditions adjacent residential dwellings at all monitoring locations. Detailed measurement results for all locations are presented in Appendices B - G respectively.

Over the duration of the event, no exceedances of the SEPP N-2 and Planning Permit *PL6067/06.01* 65dB(A) day/evening period requirement were recorded, at any monitoring location, due to noise emissions from the event. However, noise from the event was clearly audible after 10PM at all monitoring locations. The audibility of event noise was verified by listening to audio recordings taken by each SLM. Refer Table 2 for exceedances below. It is noted that music was never audible in the morning before 12:00 midday over the duration of the event.

TABLE 2 - EXCEEDANCES OF SEPP N-2 AND PLANNING PERMIT PL6067/06.01 CONDITION 12 DURING THE DURATION OF THE EVENT

Location	Start Time	Finish	Exceedances	Observations
All measurement locations (L1, L2, L3, L4, L5 and L6)	22:00 - Friday 19 th April	03:03 – Saturday 20 th April	Clearly audible music	Music clearly audible above background noise at all monitoring locations. In some locations (L3 and L4), music is 10dB(A) above ambient evening background level.
All measurement locations (L1, L2, L3, L4, L5 and L6)	22:00 – Saturday 20 th April	03:13 – Sunday 21 st April	Clearly audible music	Music clearly audible above background noise at all monitoring locations.
L4,L5	03:03 – Sunday 21 st April	05:00 – Sunday 21 st April	Sporadically audible music	Occasionally music can be heard at these monitoring locations. The noise characteristics from the music heard during this time are noticeably different (i.e. less powerful bass) from that usually produced by the event. As such, it is unclear if the source of this noise is event organised, or created by event patrons.
All measurement locations (L1, L2, L3, L4, L5 and L6)	22:00 - Sunday 21 st April	03:18 – Monday 22 nd April	Clearly audible music	Music clearly audible above background noise at all monitoring locations.



6 Conclusion

Octave Acoustics was engaged by the Mitchel Shire Council to carry out a music noise monitoring and impact assessment during the Boogie 13 event held on Friday 19th – Sunday 21st April 2019, located at Our Friend's Farm, Tallarook.

The result of this assessment was that music noise emissions from the event did not comply with both SEPP N-2 and Planning Permit *PL6067/06.01*. Music noise emissions at all measurement locations were clearly audible after 22:00, up until after 03:00 on the following days, on all three days of the event's duration. This has breached Condition 12 of the Planning Permit. At measurement locations closer to the subject site (L4 and L5), music was sporadically audible until 05:00 on one particular day. Table 2 above displays all exceedances of Condition 12 of the Planning Permit.

It is noted that no exceedances of the SEPP N-2 65dB(A) day/evening period requirement were recorded, at any monitoring location, due to noise emissions from the event.



Appendix A: Glossary of Acoustic Terms

'A' FREQUENCY WEIGHTING

The 'A' frequency weighting roughly approximates to the Fletcher-Munson 40 phon equal loudness contour. The human loudness perception at various frequencies and sound pressure levels is equated to the level of 40 dB at

1 kHz. The human ear is less sensitive to low frequency sound and very high frequency sound than midrange frequency sound (i.e. 500 Hz to 6 kHz). Humans are most sensitive to midrange frequency sounds, such as a child's scream. Sound level meters have inbuilt frequency weighting networks that very roughly approximates the human loudness response at low sound levels. It should be noted that the human loudness response is not the same as the human annoyance response to sound. Here low frequency sounds can be more annoying than midrange frequency sounds even at very low loudness levels. The 'A' weighting is the most commonly used frequency weighting for occupational and environmental noise assessments. However, for environmental noise assessments, adjustments for the character of the sound will often be required.

AMBIENT NOISE

The ambient noise, etc. Usually assessed as an energy average over a set time period 'T' (LAeq, T).

AUDIBLE

Audible refers to a "dible" to "clearly audible" and "prominent".

BACKGROUND NOISE LEVEL

Total silence does not exist in the natural or built-environments, only varying degrees of noise. The Background Noise Level is the minimum repeatable level of noise measured in the absence of the noise under investigation and any other short-term noises such as those caused by all forms of traffic, industry, lawnmowers, wind in foliage, insects, animals, etc.. It is quantified by the noise level that is exceeded for 90 % of the measurement period 'T' (LA90, T). Background Noise Levels are often determined for the day, evening and night time periods where relevant. This is done by statistically analysing the range of time period (typically 15 minute) measurements over multiple days (often 7 days). For a 15 minute measurement period the Background Noise Level is set at the quietest level that occurs at 1.5 minutes.

'C' FREQUENCY WEIGHTING

The 'C' frequency weighting approximates the 100 phon equal loudness contour. The human ear frequency response is more linear at high sound levels and the 100 phon equal loudness contour attempts to represent this at various frequencies at sound levels of approximately 100 dB.



DECIBEL

The decibel (dB) is a logarithmic scale that allows a wide range of values to be compressed into a more comprehensible range, typically 0 dB to 120 dB. The decibel is ten times the logarithm of the ratio of any two quantities that relate to the flow of energy (i.e. power). When used in acoustics it is the ratio of square of the sound pressure level to a reference sound pressure level, the ratio of the sound power level to a reference sound power level, or the ratio of the sound intensity level to a reference sound intensity level. See also Sound Pressure Level and Sound Power Level. Noise levels in decibels cannot be added arithmetically since they are logarithmic numbers. If one machine is generating a noise level of 50 dB, and another similar machine is placed beside it, the level will increase to 53 dB (from $10 \log_{10} (10(50/10) + 10(50/10))$) and not 100 dB. In theory, ten similar machines placed side by side will increase the sound level by 10 dB, and one hundred machines increase the sound level by 20 dB. The human ear has a vast sound-sensitivity range of over a thousand billion to one so the logarithmic decibel scale is useful for acoustical assessments.

dBA – See 'A' frequency weighting

dBC – See 'C' frequency weighting

EQUIVALENT CONTINUOUS SOUND LEVEL, LAeq

Many sounds, such as road traffic noise or construction noise, vary repeatedly in level over a period of time. More sophisticated sound level meters have an integrating/averaging electronic device inbuilt, which will display the energy time-average (equivalent continuous sound level - LAeq) of the 'A' frequency weighted sound pressure level. Because the decibel scale is a logarithmic ratio, the higher noise levels have far more sound energy, and therefore the LAeq level tends to indicate an average which is strongly influenced by short-term, high level noise events. Many studies show that human reaction to level-varying sounds tends to relate closer to the LAeq noise level than any other descriptor.

'F'(FAST) TIME WEIGHTING

Sound level meter design-goal time constant which is 0.125 seconds.

FREE FIELD

In acoustics a free field is a measurement area not subject to significant reflection of acoustical energy. A free field measurement is typically not closer than 3.5 metres to any large flat object (other than the ground) such as a fence or wall or inside an anechoic chamber.

FREQUENCY

The number of oscillations or cycles of a wave motion per unit time, the SI unit is the hertz (Hz). 1 Hz is equivalent to one cycle per second. 1000 Hz is 1 kHz.

LOUDNESS



The volume to which a sound is audible to a listener is a subjective term referred to as loudness. Humans generally perceive an approximate doubling of loudness when the sound level increases by about 10 dB and an approximate halving of loudness when the sound level decreases by about 10 dB.

NOISE

Noise is unwanted, harmful or inharmonious (discordant) sound. Sound is wave motion within matter, be it gaseous, liquid or solid. Noise usually includes vibration as well as sound.

'S' (SLOW) TIME WEIGHTING

Sound level meter design-goal time constant which is 1 second.

SOUND PRESSURE

The rms sound pressure measured in pascals (Pa). A pascal is a unit equivalent to a newton per square metre (N/m²).

SOUND PRESSURE LEVEL, L_p

The level of sound measured on a sound level meter and expressed in decibels (dB). Where $L_p = 10 \log_{10}$

$(P_a/P_o)^2$ dB (or $20 \log_{10} (P_a/P_o)$ dB) where P_a is the rms sound pressure in Pascal and P_o is a reference sound pressure conventionally chosen is $20 \mu\text{Pa}$ (20×10^{-6} Pa) for airborne sound. L_p varies with distance from a noise source.

'Z' FREQUENCY WEIGHTING

The 'Z' (Zero) frequency weighting is 0 dB within the nominal 1/3 octave band frequency range centred on 10 Hz to 20 kHz. This is within the tolerance limits given in AS IEC 61672.1-2004: 'Electroacoustics - Sound level meters – Specifications'.