

Ref: 9176

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Sent via email to: melinda.smith@ccc.govt.nz

16/10/2025

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Dear Melinda

RMA/2025/1880

This letter is in response to the Commissioners Request for Further Information for the above consent application received by email and dated 15/10/25, as per the below.

Further to our discussions on the matter of Rolling Meadows, on the basis of the information I have before me I am currently of a mind to request the applicants obtain the affected party approval of the owners and occupiers of 230 and 234 Lower Styx Road. I currently consider that the predicted night time noise level exceedances shown in Table 12 of the acoustic report by Earcon [version 13] for the residences at 230 and 234 Lower Styx Road to result in noise effects that are not less than minor. The noise level exceedances experienced between 10pm to 12am on New Years Eve at these two properties is considered to be a substantial increase in perceived loudness (see Mr Alps advice below), set within an extended duration of the three days of the event, for three consecutive years. These two properties may also experience additional adverse noise effects (of which the level is uncertain, other than to the limit provided in the offered condition) from sound that has low frequency beat (bass).

Response: In response to the above, the levels predicted to be experienced by 230 and 234 Lower Styx Road have been reduced from an exceedance of 7dB to 4dB, during the hours of 10pm to 12am on the 31st December. This is referred to in Table 12 of the Acoustic Report, dated 16 October 2025 (Revision 14) and attached in Appendix 1 of this report.

This change has arisen due to the stage volume for Stage A being reduced to 92 dB LAeq(15 min) at 30 m from the stage, during the hours of 10pm and 12am on the 31st December. Previously this was 95 LAeq(15 min). As a result of this change, an exceedance of 4dB is considered to be an acceptable exceedance from the noise limits, and therefore any adverse effects on 230 and 234 Lower Styx Road are less than minor. This determination of effects is further supported by the short duration of the exceedance (2 hours) the temporary and seasonal nature of the activity being over New Years.

Given this change, the Noise Management Plan has also been updated, with Revision 6 attached in Appendix 2. The volunteered conditions have also been updated as per Appendix 3.

Please feel free to contact the writer on 03 339 0401 or via email rose@blg.nz, if you have any questions.

Yours faithfully,

Baseline Group

R Marshall

Rose Marshall

Senior Planner

Appendix 1: Acoustic Report Version 14



240 Lower Styx Road
Bottle Lake, Christchurch

ACOUSTICS

Date: 16th October 2025

Prepared for: Sub180 Entertainment Limited

Prepared by: Earcon Acoustics Limited

Reference: J006777



Document Control

240 Lower Styx Road, Bottle Lake, Christchurch
Assessment of Noise Effects – Festival Activities

J006777

Contact	Issue	Date	Rev
Daniel Martens daniel.martens@earcon.co.nz	For Internal Review	16/10/2025	14
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1 Introduction

This report has been prepared to assess the noise effects associated with the proposed festival activities at 240 Lower Styx Road, Bottle Lake, Christchurch. The primary intent of this report is to assess proposed activities in context of compliance with regulatory requirements for neighbouring sensitive receivers in the vicinity of the proposed festival area. This report covers:

- **Noise Sources:** Assessment of the predicted noise levels emanating from potential equipment and activities associated with festival events and crowds.
- **Noise Propagation:** Modelling of noise propagation from the proposed festival area to receivers in proximity to the development
- **Mitigation Options:** Consideration of practicable mitigation measures for the control of noise from the event

2 Site

2.1 Identification

The festival is proposed to occur at 240 Lower Styx Road in Bottle Lake, Christchurch.

The events associated with the festival are planned on the north-eastern side of the site, with camping and parking to the south-east and 3 stages distributed throughout the site, as detailed in the following Section – Proposed Activities.

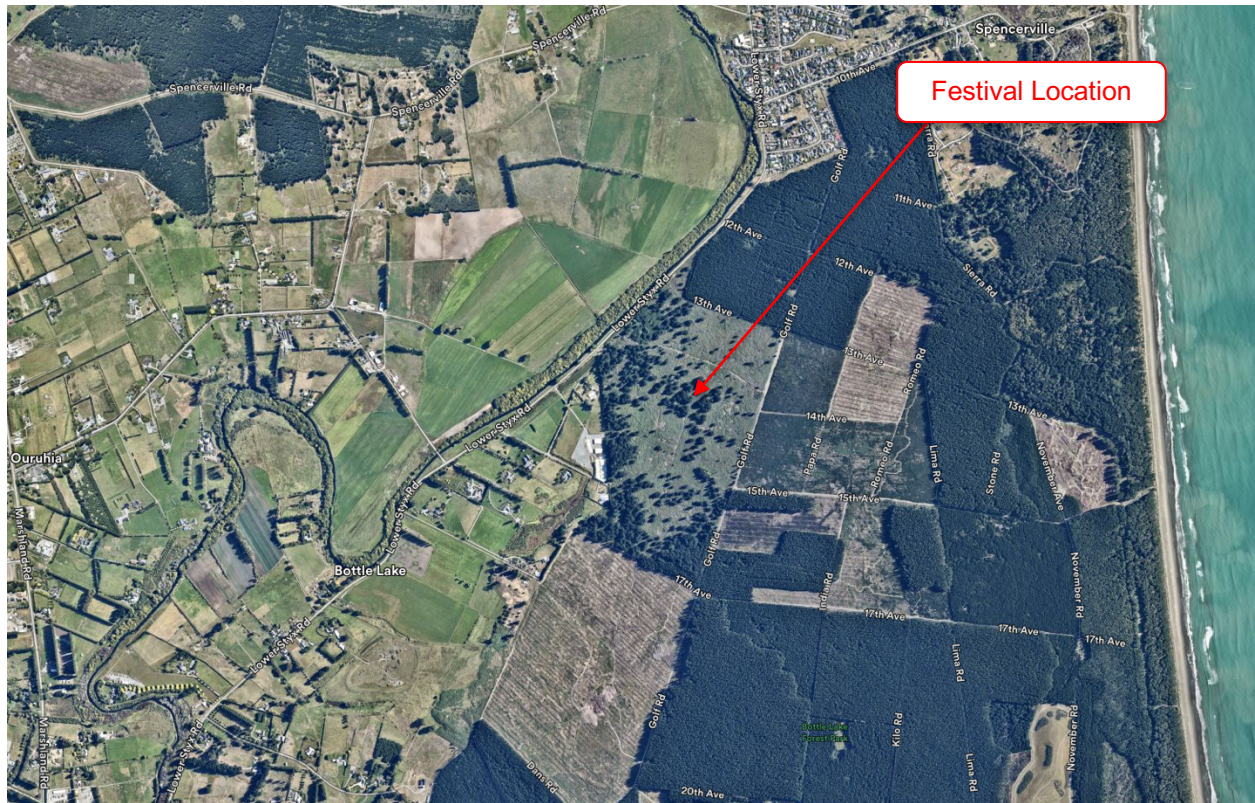


Figure 1 - Site Location

2.2 Zoning

In accordance with the Christchurch District Plan, the zoning of the subject area and areas in the vicinity are Rural Urban Fringe Zone with Open Space Natural Zone to the east and Specific Purpose (Gulf Resort) Zone to the north-west. Further to the north are Residential Small Settlement Zone properties.

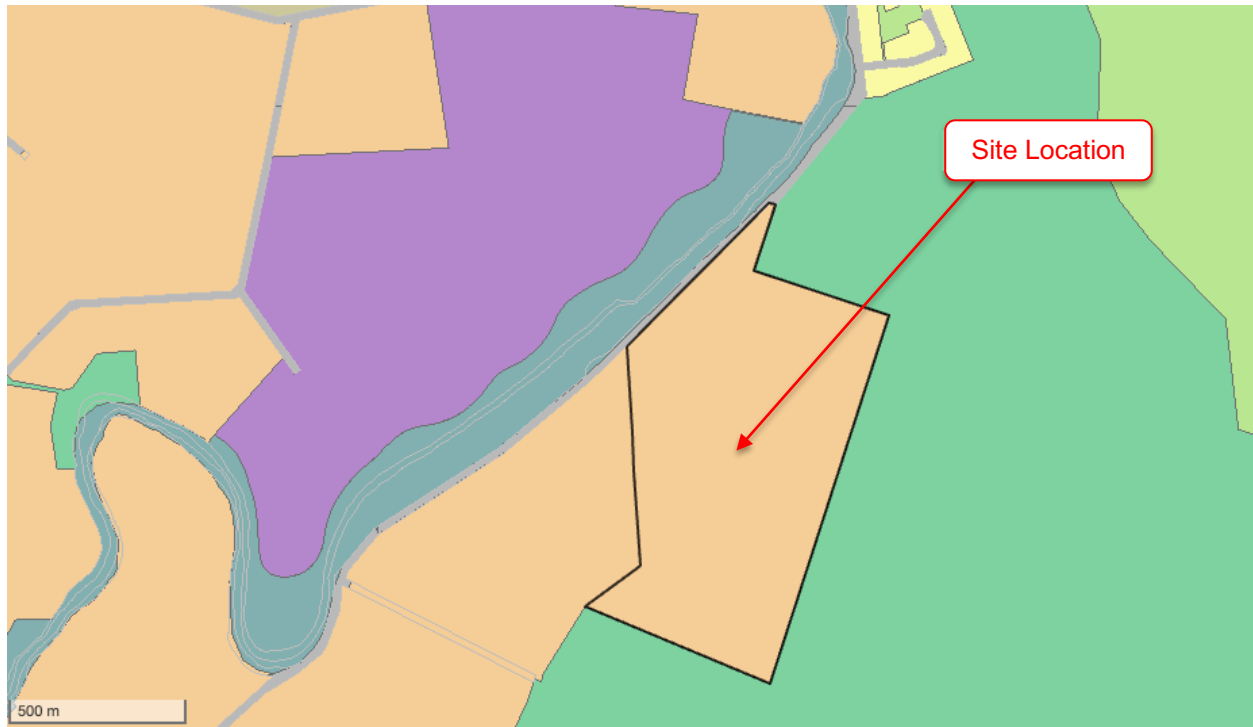


Figure 2 - Site Zoning

2.3 Vicinity and Environment

The proposed festival area is bordered to the west by residential dwelling in close proximity. The stages and speakers will be situated and oriented away from these receivers to reduce noise levels as much as practicably possible. The closest inhabited buildings are identified as being within approximately 350m from the closest Stage, being Stage B.

We do not have ambient noise level measurements in the area, however, can extrapolate based on ambient measurements in generally rural areas. I would estimate that ambient background noise levels in the area could be as low as 35dBA during the daytime, 20dBA or lower during the night-time hours. This would be highly dependent on weather conditions and even the slightest breeze would likely result in significantly higher levels of noise. Additionally, whilst relatively far away, I would expect there to be a relatively notable level of noise from the ocean at some receivers, e.g. the campgrounds, which would be fairly continuous and generally keep the background noise levels elevated.

In context, the background ambient noise levels may be discernibly lower than the noise levels that will be generated, as such the noise from the festival, e.g. where the predicted level is 40dBA or above, would be audible.

3 Assessment Standards

3.1 General Noise Standards

6.1.4.1 Measurement and assessment of noise

a. Unless otherwise specified elsewhere in this District Plan, noise shall be measured in accordance with NZS 6801:2008 “Acoustics – Measurement of environmental sound”, and assessed in accordance with NZS 6802:2008 “Acoustics-Environmental noise”, except that provisions in NZS 6802 referring to Special Audible Characteristics shall not be applied.

b. The noise standards shall apply at any point within a site receiving noise from an activity, except where:

- i. the site boundary is a boundary with a site in the Transport Zone outside the Central City, in which case noise standards shall apply at or beyond the far boundary of the Transport Zone; or*
- ii. the site boundary is a boundary with a site in the Transport Zone, open space zone or any combination of these zones in the Central City, in which case noise standards shall apply at or beyond the far boundary of the Transport or open space zone; or*
- iii. the standards specify otherwise.*

c. Where a site is divided by a zone boundary then each part of the site divided by the zone boundary shall be treated as a separate site for the purpose of these rules.

3.2 Zone Standards

The following standard applies for noise produced within the subject site and received at the neighbouring Rural Urban Fringe Zoned properties.

6.1.5.2.1 Zone noise limits outside the Central City

a. Outside the Central City, any activity that generates noise shall meet the Zone noise limits in Table 1 below at any site receiving noise from that activity, as relevant to the zone of the site receiving the noise.

Zone of site receiving noise from the activity	Time (hrs)	Noise Limit (dB)	
		L_{Aeq}	L_{Amax}
All residential zones	07:00-22:00	50	n/a
All rural zones, except Rural Quarry Zone, assessed at any point within a notional boundary	22:00-07:00	40	65
All rural zones, except Rural Quarry Zone, assessed at the site boundary	07:00-2200	55	n/a
Specific Purpose (Golf Resort) Zone	22:00-07:00	45	70
All open space zones	07:00-2200	55	n/a
	22:00-07:00	45	70

Table 1 – Zone noise limits outside the Central City

Note: there are two applicable noise limits at rural zoned receivers, being 5dB lower at the notional boundary, relative to the site boundary. For the purposes of assessing the noise levels; the predictions and subsequent analysis is made at the relevant location where the noise limit is lower.

3.3 Temporary Activities

Note that the rules above are for general activities and apply for all hours outside those permitted for temporary events noted below. The temporary events noise limits are noted below. These noise levels / criteria may be used as a point of reference to acceptable noise levels from the festival, and may be applied to a portion of the events activities.

Temporary activities are defined as follows under chapter 2 of the Christchurch District Plan as followings:

In relation to Chapter 6 General Rules and Procedures, means activities and their ancillary buildings that are intended to have a limited duration and incidence (one-off, infrequent, transitional or with a defined end date, as opposed to regular and ongoing) and:

- are not part of a permanent activity that occurs on the site; and*
- create no, or only negligible, lasting alteration or disturbance to any site, building or vegetation.*

It includes:

- c. public artworks, recreation activities and entertainment activities; and*
- d. the provision of car parking areas ancillary to a temporary activity, whether sealed or unsealed, provided in accordance with an approved Traffic Management Plan, except as otherwise specified in Sub-chapter 6.4 Temporary earthquake recovery activities.*

It excludes:

- e. temporary utilities, which must comply with the relevant provisions in Chapter 11 Utilities and Energy.*

Advice note:

- 1. Temporary buildings are required to comply with the provisions of the Building Act 2004.*

6.1.6.2.3 Noise – Activity Specific Noise Rules – Activity Standards – Temporary Activities

a. Temporary activities and buildings specified in Rule 6.2, other than temporary military training activities or emergency management activities which are subject to the activity standards in Rule 6.1.6.2.2, shall meet the following activity standards:

- i. Temporary activities and buildings specified in Rule 6.2, and located at a location listed in Table 4 below, shall meet the noise standards set out in Table 4.*
- ii. Any temporary activity and building specified in Rule 6.2, and located at a location not listed in Table 4, shall:*
 - a. Be located no closer than 30m from any residential unit;*
 - b. Undertake sound amplified activities for a total duration not exceeding 4 hours per day on any site, including all sound checks; and*
 - c. Occur only between 09:00 hours and 22:00 hours;*

And for sound amplified activities, either

- d. Have a total amplified power not exceeding 500 Watts RMS; or*
- e. Result in a sound level not exceeding 65dB L_{Aeq} at any residential unit, to be evidenced by a report from a suitably qualified acoustic consultant.*

Additional temporary events noise limits for specific locations (e.g. Lancaster Park, Hagley Park, etc.) are also noted in the District Plan, however, are not applicable to the subject site.

3.4 Construction Activities

6.1.6.1.1 Noise Activities Specific Noise Rules

P2 Construction activities – Construction activities shall meet relevant noise limits in Tables 2 and 3 of NZS 6803:1999 Acoustics – Construction Noise, when measured and assessed in accordance with that standard.

Table 2 – Recommended upper limits for construction noise received in residential zones and dwellings in rural areas

Time of week	Time period	Duration of work					
		Typical duration		Short-term duration		Long-term duration	
		(dBA)		(dBA)		(dBA)	
		L_{eq}	L_{max}	L_{eq}	L_{max}	L_{eq}	L_{max}
Weekdays	0630-0730	60	75	65	75	55	75
	0730-1800	75	90	80	95	70	85
	1800-2000	70	85	75	90	65	80
	2000-0630	45	75	45	75	45	75
Saturdays	0630-0730	45	75	45	75	45	75
	0730-1800	75	90	80	95	70	85
	1800-2000	45	75	45	75	45	75
	2000-0630	45	75	45	75	45	75
Sundays and public holidays	0630-0730	45	75	45	75	45	75
	0730-1800	55	85	55	85	55	85
	1800-2000	45	75	45	75	45	75
	2000-0630	45	75	45	75	45	75

Table 3 – Recommended upper limits for construction noise received in industrial or commercial areas for all days of the year

Time period	Duration of work		
	Typical duration	Short-term duration	Long-term duration
	L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)
0730 – 1800	75	80	70
1800 – 0730	80	85	75

4 Proposed Activities and Noise Sources

The Lower Styx Festival will be held once a year, at 240 Lower Styx Road, over the 29th, 30th and 31st December. The festival will include 3 stages, parking and a camping/glamping area.

The capacity of the festival will accommodate up to 10,000, approximately 4,000 vehicles, and accommodate food trucks and amusement rides.

The events comprising the festival include live music, in addition to sports competitions, etc.

This report is limited to the assessment of noise from the proposed activities. The following sections are a summary of the event types, with an indicative schedule pertaining to noise limits applicable at different days, times and zones.

4.1 Basic Festival Services

A number of services are proposed to be available throughout the festival including food trucks/vendors, an information centre, porta-loos, fridges, and power generation. In context of noise, the main sources over the day would be crowd noise, loud concert music, and equipment such as generators and food trucks. Note that the stages will be oriented towards the east, with the speakers oriented away from the neighbouring receivers. The following figures are indicative of the proposed layout of activities:

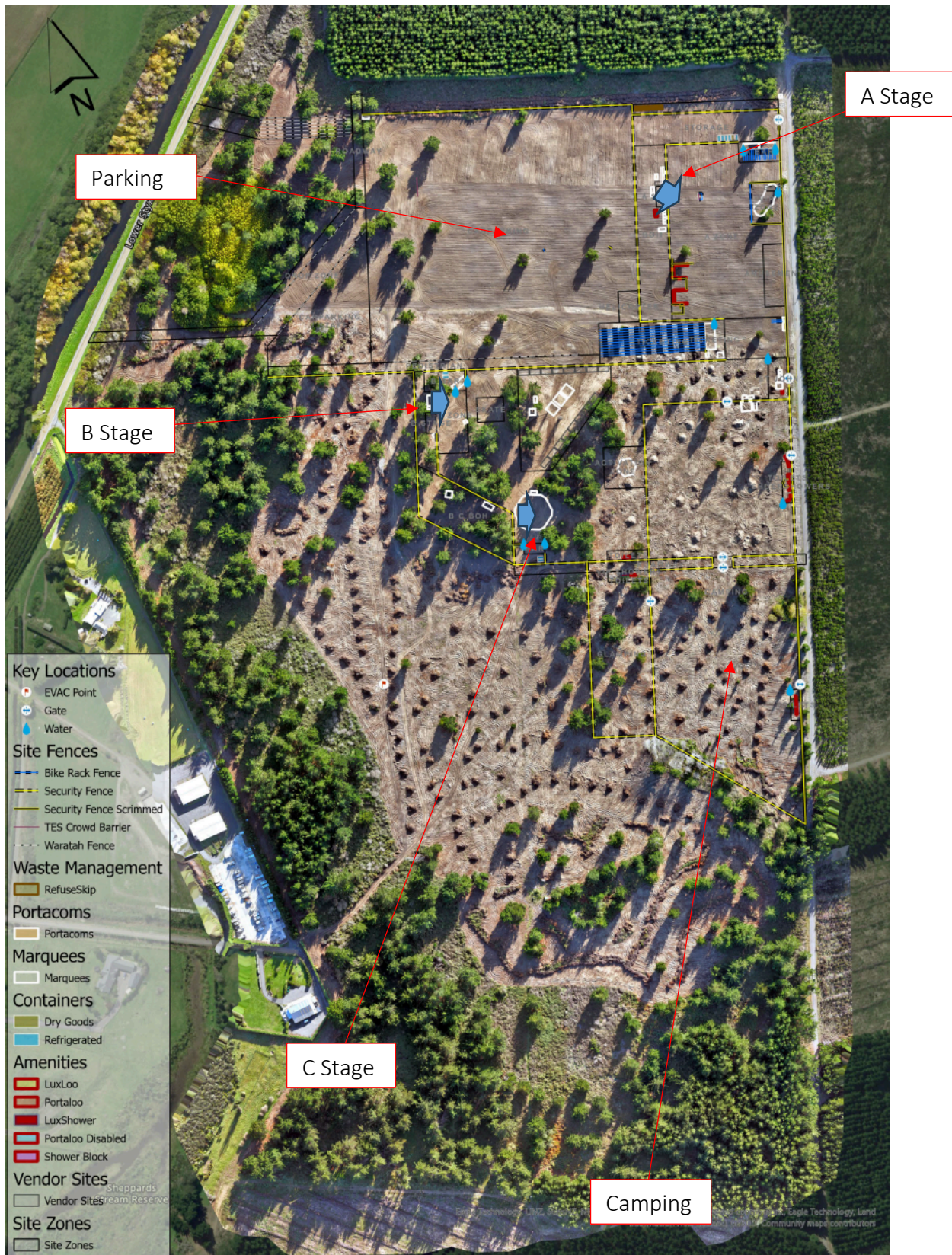


Figure 3 - Site Plan

4.2 Crowd Noise

Crowd noise levels are influenced by a number of parameters specific to each scenario and environment, including; age, gender, voice effort, background noise effect (Lombard coefficient), crowd size, synchronization of noise and directivity of noise.

Pertaining to festival and entertainment settings, noise from people would be expected to vary significantly between low noise from conversational dialog, to crowd noise and to shouting or announcements for coordination, and at the extreme; to synchronized directional shouting during live music events. The following are indicative sounds pressure levels at 1m from individual vocal efforts (Source: Lazarus, 1986):

Vocal Effort	Speech Level (dBA @ 1m)
Soft	42
Relaxed, Normal	54
Normal, Raised	60
Raised	66
Loud	72
Shouting	84
Maximal Shout	90

Table 2 – Sound Pressure level at 1m for different vocal efforts (Lazarus, 1986)

Taking into account the multitude of factors including age, gender, loudness, background noise effect (Lombard coefficient), percentage of people talking, and situational context we note the following sound power levels pertaining to people noise for crowd sizes under different situations

Noise Type – Outdoor	Number of people	Sound Power (Lw)
Raised	1	77 dBA
Loud	1	83 dBA
Shouting (Coordination)	1	95 dBA
Small Group – Raised	10	87 dBA
Small Group - Loud	10	93 dBA

Medium Group – Raised	100	97 dBA
Medium Group – Loud	100	103 dBA
Large Group – Raised	250	103 dBA
Large Group – Loud	250	109 dBA

Table 3 – Sound Power Levels for Different Vocal Efforts

With regards to directionality of noise, when a crowd noise is directional (e.g. following sports coverage on a screen) noise levels incident on receivers are lower at angles away from the direction of noise. This ranges from a reduction of 2dB for a receiver at 90° from the direction of noise. For a receiver at 130°-180° noise levels would be between 6dB and 7dB lower. (Hayne et al 2006.)

We note that modelling multiple smaller crowds yields more accurate results than modelling one large crowd as it allows for more realistic distribution of noise sources. We would generally recommend noise is modelled for groups of 10-100 people as a localised non directional source for non-crowd-controlled events. Where crowds are managed (i.e. live music event with an allocated area) then directional effects are taken into account.

4.3 Setup

The following table lists relevant noise generating equipment and mechanical plant expected to be used at different stages during the setup works on the subject site for establishment of required areas. Noise data is quoted below in accordance with NZS 6803:1999, and BS 5228: Part 1:1997.

Equipment	Sound Power	Sound Pressure
	L _{WA} [dB]	L _{Aeq} at 10m [dB]
Hammer	107	79
Hand-held electric circular saw	105	77
Circular Saw, bench mounted	106	78
Wheeled Crane (4kW)	103	75
Tracked Crane (22t)	99	71
Loading scaffolding frames and clips	96	68
Loading scaffolding poles	100	72

Table 4 – Construction Equipment noise levels – NZS6803:1999 reproduced from BS5228-1:1997

4.4 Music Activities

The highest levels of noise are expected to be associated with the proposed live shows. These involve amplified sound in addition to crowd noise.

- 29th December:
 - Stage A: 12pm - 12am (midnight)
- 30th December:
 - Stage A: 1pm – 1am
 - Stage B: 10:05am – 10pm
 - Stage C: 10:05am – 10pm
- 31st December (to 1st January)
 - Stage A: 2pm – 2am
 - Stage B: 10:05am – 10pm
 - Stage C: 10:05am – 10pm

Sound checks will be run on stage A, and only for 2 artists per day between 10:05am and 12pm. Sound checks would be carried out at a lower level than those used for performances. The sound checks will not alter the overall predicted noise levels.

The main sources of noise during these events are the amplified sound and crowd noise. In most cases; crowd noise would have varying levels, continuity and directionality.

The highest noise levels anticipated from the overall festival would likely occur during the live music events from amplified music, in the evenings.

We note that after 10pm; music levels will cause an exceedance of the 45dB LAeq night-time limit for Rural and Specific Purpose (Golf Resort) Zones and the 45dB LAeq night-time noise limit for the Open Space Zone. We also note that a 5dB special audible characteristics penalty would typically be applicable to the noise levels regarding music, however, is specifically excluded from assessment in accordance with the District Plan standards (see Rule 6.1.4.1).

For the daytime period (7am–10pm), an adjustment is applied to the predicted noise rating level to account for the variation in sound levels across the day, with quieter periods relative to the peak activity resulting in a small overall reduction in the calculated rating level.

Large crowds of gathered people are assumed to produce a sound power level of 83dB per person.

The event will accommodate up to 10,000 attendees resulting in a total sound power level of $L_w = 123\text{dBA}$. People are assumed to be congregated between the various stages and food court / amusement areas.

Based on measurements of similar outdoor live music events and collated with data from published research, the main source of noise from the amplified music from speaker stacks, may reach L_{Amax} 100dBA at 30m from the stage. All stages will be oriented towards the ocean to the east/south-east.

Sound levels from the main sound system are highly directional, with the majority of energy projected towards the audience. Published studies and our own measurements at comparable outdoor events indicate that levels directly behind a properly-oriented concert array are typically 20–25 dB lower than in front of the stage at the same distance. This estimate is consistent with both published guidance on loudspeaker directivity and empirical measurements we have undertaken at similar outdoor concerts and performances. In practice, rearward sound exposure is expected to be further reduced by the predominance of in-ear monitoring, which limits the use of traditional stage monitors.

Additionally the subwoofer system will be deployed in a cardioid configuration, designed to direct low-frequency energy towards the audience and reduce sound spill. This approach significantly reduces low-frequency exposure to sensitive areas.

The stage locations, orientations, and configurations have been carefully optimised to minimise noise levels at neighbouring receivers as far as reasonably practicable, while still meeting the operational requirements of the festival.

We note for reference that for live music events, noise levels averaged over the duration of the events are usually 10dBA lower than the L_{Amax} levels. This is collated by measurements at similar events, in addition to published research on the matter (e.g. T. Tronstad and F. Gelderblom – Sound Exposure During Outdoor Music Festivals – Noise Health – 2016 July -Aug).

The stages will be limited to produce:

Stage A (speaker height 8m):

- 29th December:
 - 12pm – 12am: 90dB LAeq(15min) at 30m from the stage
- 30th December:
 - 1pm – 6pm: 90dB LAeq(15min) at 30m from the stage
 - 6pm – 10pm: 95dB LAeq(15min) at 30m from the stage
 - 10pm-1am: 90dB LAeq(15min) at 30m from the stage
- 31st December:
 - 2pm – 6pm: 90dB LAeq(15min) at 30m from the stage
 - 6pm – 10pm: 95dB LAeq(15min) at 30m from the stage
 - 10pm – 12am: 92dB LAeq(15min) at 30m from the stage
 - 12am – 2am: 90dB LAeq(15min) at 30m from the stage

Stage B (speaker height 7m):

- 30th & 31st December:
 - 10:05am – 10pm: 84dB LAeq(15min) at 30m from the stage
 - measured at FOH (Front of House) at 15m to LAeq 90dB

Stage C (speaker height 4m):

- 30th & 31st December:
 - 10:05am – 10pm: 84dB LAeq(15min) at 30m from the stage
 - measured at FOH at 10m to LAeq 93dB

NZS6802:2008 Duration Adjustment Notes: amplified music will start playing no earlier than 10:05am, this ensures that music is produced for no more than 79% of the daytime period, which would accommodate a 1dB duration adjustment to the overall noise rating level.

However, it is noted that variations in the noise levels over the day can be accounted for in accordance with the NZS 6802, 6.4.6: *For situations where the level of the sound reduces significantly for large periods of time but the sound does not switch off completely, some adjustment to account for this relief to persons exposed to the sound is also appropriate. In these cases the energy average of the sound under investigation should be calculated over the entire prescribed time frame. The rating level shall be the greater of this average value for the representative level over the reference time interval -5 dB.*

The adjustment is therefore made over the total daytime period, and accounts for variation in the overall noise levels throughout the day, which equates to a 1 – 2 dB difference relative to the peak levels of noise.

To effectively control noise beyond 10pm, Stage A will operate independently. This approach ensures that night-time noise is managed from a single speaker arrangement, providing greater certainty regarding the source of noise during sensitive hours.

By isolating the source, this method simplifies recalibration of speakers to maintain compliance at surrounding noise receivers. It is a more efficient and reliable strategy compared to managing multiple concurrent noise sources.

Additionally, the realignment of speakers has managed to direct noise toward the East Coast, and reduces potential impact on residents to the North. The noise contours therefore demonstrate a reduction in noise in this area, achieving compliance with night-time noise standards except for a short period on the night of the 31st December (10pm-12pm).

4.5 Camping Activities

Camping activities will generally produce no more than low levels of noise, primarily conversational noise, but may include background levels of instrumental music, etc. during the day. This is anticipated to be a very low level of music.

Calculations for camping activities are based on the following assumptions

- The sound power level used in the calculation is based on a mix of 50% male / female.
- 50% of people are assumed to be talking at any given time.
- We used a conservative level of $L_w = 72$ dBA per person.

4.6 Traffic

An estimate of 4,000 vehicles per day (two-way) and 500 vehicles per hour at its peak has been made. These vehicle movements have been assumed to be distributed evenly between the two designated parking areas.

At the maximum of 10,000 guests, traffic movements are based on an estimate of 2.5 people per vehicle. This results in a total of 4000 vehicles over the day or 1333 vehicles per hour. Traffic movements are anticipated to occur between 10am and 10pm each day.

In accordance with the guidelines of the British Standard BS 5228:Part 1: 1997 as referenced in the NZ standard NZS6803:1999; noise levels from movement of heavy goods vehicles at low speeds are estimated to have a Sound Power Level L_{WA} of 98dB and result in a Sound Pressure Level of L_{Aeq} 70 dBA at 10m. As a conservative measure, idling heavy goods vehicles with ancillary mechanical equipment (e.g. refrigeration) are assumed to have the same noise levels quoted above.

Frequency distribution of vehicular noise is in accordance with ISO 717, where for example the Sound Pressure level 70dBA would have the following frequency distribution. We also note for reference that the frequency distribution of traffic noise in accordance with ISO717 generally corresponds with the measured distribution of similar activities.

Exterior Sound Pressure Level	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	Overall dBA
Traffic (ISO 717)	77.9	71.8	68.3	65.9	65.7	62.5	47.7	70.0

Table 5 – Example Truck Sound Pressure Level Frequency Distribution

4.7 Power Generation

The following table lists relevant power generation equipment to be assessed for use as part of the operation of the subject event. Noise data is quoted below in accordance with BS 5228: Part 1:1997.

Equipment	Sound Power	Sound Pressure
	L _{WA} [dB]	L _{Aeq} at 10m [dB]
Petrol driven generator – 1.5kVA	95	67
Petrol driven generator – 2.5kVA	98	70
Petrol driven generator – 4kVA	104	76
Diesel driven generator – 5kVA	104	76

Table 6 – Example Power Generation Equipment noise levels – BS5228-1:1997

5 Noise Propagation Modelling

To predict noise propagation at the subject site from the considered noise sources, an environmental model was constructed for the festival using CadnaA version 2025 computer modelling, using the methodology and parameters detailed below.

5.1 Modelling Methodology

The following applies to the modelling software CadnaA:

- CadnaA is an internationally recognised software package designed for the prediction of noise propagation. CadnaA implements numerous national and international standards and guidelines, including the CoRTN standard of the United Kingdom Department of Transport and Welsh Office for the Calculation of Traffic Noise as required in NZS6806:2010.
- The modelling method for noise propagation over distance is based on the international standard ISO 9613: “Acoustics – Attenuation of sound during propagation outdoors” methodology.
- The modelling also takes into account a multitude of additional absorption and reflection effects including ground and façade reflections. The program then calculates the L_{Aeq} dB or L_{Amax} dB (depending on the activity), as the metric for the noise levels at the receivers for the purposes of this assessment.

5.2 Modelling Parameters

The following parameters were incorporated into the CadnaA noise propagation models:

Parameter	Value
Ground Attenuation, as per ISO9613.2	Water: G=0, Beach: G=0.5, Open Space: G=1 Roads, Pavements, Parking Lots: G=0, Other: G=0.5
Atmospherics	Temperature: 20°C Rel. Humidity: 70%
Receiver Heights	Outdoor: 1.5m – Relative AGL
Source Heights	Crowd: 1.5m – Relative AGL Engines: 1m – Relative AGL Speakers: Varies between stages – see section 4.4
Building Facades	Structured Reflecting Facades

Table 7 – Modelling Parameters

5.3 Modelled Scenarios

A number of scenarios were assessed covering the different combinations of noise generating activities and noise sources for events. Modelling was done for the proposed areas as per the festival plan.

We note that modelling and assessment of noise levels was done for the cumulative combinations based planned activities, with power generation and vehicular noises including food trucks included in all scenarios.

5.3.1 Setup days

Assessment is made for construction works across the proposed festival area covering primarily the central and southern areas of the site. This includes the equipment detailed in the Section 4.3, used and operated simultaneously across all festival areas.

5.3.2 Low intensity activity

The low-level activity will be general background activities, conversation, camping, and does not include any music or large crowd noise.

5.3.3 Predicted Noise Levels by Day & Time

Each day is modelled based where each stage is utilized over the day. For modelling purposes, the speaker stack have varying heights noted in section 4 above, with the stage assumed to include two primary sets of speakers, each with a horizontal directional spread of 45° vectored towards the crowd.

5.3.4 Mitigation

No physical screening mitigation is proposed, however, stages have been oriented so as to minimise the noise projected towards the residentially zoned neighbours and the campground to the north-east. The speakers for A Stage have been oriented towards the south-east and B & C Stage to the east-south-east.

Over the course of this project, numerous iterations of noise assessment and acoustic reporting have been undertaken. These iterations have reflected a range of factors including:

- the original proposed stage layout;
- the investigation of various mitigation measures;
- multiple changes to stage orientation and speaker height; and
- refinements to speaker directivity and dispersion.

For completeness, the applicant has explored the option of including an acoustic wall around stage A, however this will only result in a small reduction in noise. Significant noise reductions have been found through location and orientation of speaker, as assessed in the original application. The current modelling therefore represents an optimised orientation and configuration that achieves the desired music levels while reducing off-site impacts as far as practicable.

6 Predicted Noise Levels

6.1 Setup/Pack Down

Noise modelling is done for the L_{Aeq} metric as per the associated references in BS5228. Noise levels during the setup and pack down phases are assessed against the construction noise limits of 80 dB L_{Aeq} and 95dB L_{AFmax} for short-term work. Based on the noise propagation models, noise levels are predicted to be:

Receiver	Predicted Noise Level dB L_{Aeq}	Noise Limit dB L_{Aeq}	Comments
176 Lower Styx Road	48	80	Complies
206 Lower Styx Road	48		
212 Lower Styx Road	46		
218 Lower Styx Road	48		
220 Lower Styx Road	48		
222 Lower Styx Road	49		
224 Lower Styx Road	49		
226 Lower Styx Road	52		
228 Lower Styx Road	50		
230 Lower Styx Road	53		
234 Lower Styx Road	56		
Specific Purpose (Golf Resort) Zone	57		
Residential Zone (e.g. 286 Lower Styx Road)	46		

Table 8 – Predicted Setup Noise Levels

6.2 Event Noise Levels

Noise modelling is done for the L_{Aeq} metric. Noise levels during this scenario are assessed against the permitted noise levels for the zoning.

We note that the 5dB special audible characteristics penalty, which would typically be applied to music noise, is not applicable to assessment under the Christchurch District Plan and is therefore excluded from assessment.

There is a noise limit of 55/45dBA during the day/night at the boundary of the Open Space zone property to the east. However, this property doesn't contain any noise sensitive activities such that the effects may be considered limited, over 4 days.

6.2.1 Low Intensity

Current assessment is based on conversational noise levels throughout the site, with no music. This is considered representative of typical background activities.

Receiver	Predicted Noise Level dB L _{Aeq}	Noise Limit Day / Night dB L _{Aeq}	Comments
176 Lower Styx Road	<30	50dB / 40dB	Complies at all times
206 Lower Styx Road	<30		
212 (216) Lower Styx Road	<30		
218 Lower Styx Road	<35		
220 Lower Styx Road	<30		
222 Lower Styx Road	<35		
224 Lower Styx Road	<30		
226 Lower Styx Road	<35		
228 Lower Styx Road	<35		
230 Lower Styx Road	38		
234 Lower Styx Road	39		
Spencer Beach Top 10 Holiday Park	<30	55dB / 45dB	
Specific Purpose (Golf Resort) Zone	37		
Residential Zone (e.g. 286 Lower Styx Road)	<30	50dB / 40dB	

Table 9 – Low Intensity Activity Predicted Noise Levels

6.2.2 Predicted Noise Levels by Day & Time

The following noise levels are predicted for each day and the varying time periods during which the different stages are operating. Note that the daytime levels represent the duration-adjusted noise rating level over the period 7:00 am to 10:00 pm. Noise levels for the various stage combinations throughout the day are provided in Appendix B for reference and further detail, if required.

6.2.2.1 Predicted Noise Levels 29th December

Receiver	Predicted Noise Rating Level dB L _{Aeq}		L _{Amax}	Noise Limit Day / Night	dB exceedance
	Duration Adjusted Daytime Noise Rating Level	Stage A only After 10pm	Night- time		
176 Lower Styx Road	36	37	47	50dB / 40dB L _{Aeq} & 65dB L _{Amax} at night	N/A
206 Lower Styx Road	35	36	46		N/A
212 Lower Styx Road	36	37	47		N/A
218 Lower Styx Road	36	37	47		N/A
220 Lower Styx Road	36	37	47		N/A
222 Lower Styx Road	37	38	48		N/A
224 Lower Styx Road	37	38	48		N/A
226 Lower Styx Road	39	40	50		N/A
228 Lower Styx Road	38	39	49		N/A
230 Lower Styx Road	40	41	51		1dB 10pm – 12am
234 Lower Styx Road	41	42	52		2dB 10pm – 12am
Residential Zone (e.g. 286 Lower Styx Road)	38	39	49	55dB / 45dB L _{Aeq} & 70dB L _{Amax} at night	N/A
Spencer Beach Top 10 Holiday Park	41	42	52		N/A
Specific Purpose (Golf Resort) Zone	42	43*	53		N/A

Table 10 – High Intensity Activity – Cumulative Predicted Noise Rating Levels

Complies	
1-2dB above the night-time noise limit	

*Assessed at the site boundary and assessed against the boundary noise limit of 45dB. Noise levels at the notional boundary of any of the closest receivers is less than 40dB L_{Aeq} at all times.

6.2.2.2 Predicted Noise Levels 30th December

Receiver	Predicted Noise Level dB LAeq		L _{Amax}	Noise Limit Day / Night	dB exceedance
	Duration Adjusted Daytime Noise Rating Level	10pm – 1am Stage A only	Night- time		
176 Lower Styx Road	45	37	47	50dB / 40dB L _{Aeq} & 65dB L _{Amax} at night	N/A
206 Lower Styx Road	42	36	46		N/A
212 Lower Styx Road	46	37	47		N/A
218 Lower Styx Road	44	37	47		N/A
220 Lower Styx Road	44	37	47		N/A
222 Lower Styx Road	45	38	48		N/A
224 Lower Styx Road	45	38	48		N/A
226 Lower Styx Road	48	40	50		N/A
228 Lower Styx Road	46	39	49		N/A
230 Lower Styx Road	52	41	51		2dB 10:05am – 10pm 1dB 10pm – 1am
234 Lower Styx Road	53	42	52		3dB 10:05am – 10pm 2dB 10pm – 1am
Residential Zone (e.g. 286 Lower Styx Road)	46	39	49	55dB / 45dB L _{Aeq} & 70dB L _{Amax} at night	N/A
Spencer Beach Top 10 Holiday Park	48	42	52		N/A
Specific Purpose (Golf Resort) Zone	50	43*	53		N/A

Table 11 – High Intensity Activity – Cumulative Predicted Noise Rating Levels

Complies	
1-3dB above the noise limit	

*Assessed at the site boundary and assessed against the boundary noise limit of 45dB. Noise levels at the notional boundary of any of the closest receivers is less than 40dB LAeq at all times.

6.2.2.3 Predicted Noise Levels 31st December

Receiver	Predicted Noise Level dB L _{Aeq}			L _{Amax}	Noise Limit Day / Night	dB exceedance
	Duration Adjusted Daytime Noise Rating Level	10pm – 12am Stage A only	12am – 2am Stage A only	Night- time		
176 Lower Styx Road	45	39	37	52	50dB / 40dB L _{Aeq} & 65dB L _{Amax} at night	N/A
206 Lower Styx Road	42	39	36	52		N/A
212 Lower Styx Road	46	40	37	53		N/A
218 Lower Styx Road	44	39	37	52		N/A
220 Lower Styx Road	44	39	37	52		N/A
222 Lower Styx Road	45	40	38	53		N/A
224 Lower Styx Road	45	40	38	53		N/A
226 Lower Styx Road	48	42	40	55		2dB 10pm – 12am
228 Lower Styx Road	46	41	39	54		1dB 10pm – 12am
230 Lower Styx Road	52	44	41	57		2dB 10:05am – 10pm 4dB 10pm – 12am 1dB 12am – 2am
234 Lower Styx Road	53	44	42	57	55dB / 45dB L _{Aeq} & 70dB L _{Amax} at night	3dB 10:05am – 10pm 4dB 10pm – 12am 2dB 12am – 2am
Residential Zone (e.g. 286 Lower Styx Road)	46	41	39	54		1dB 10pm – 12am
Spencer Beach Top 10 Holiday Park	48	44	42	57		N/A
Specific Purpose (Golf Resort) Zone	50	44*	43*	57		N/A

Table 12 – High Intensity Activity – Cumulative Predicted Noise Rating Levels

Complies	
1-3dB above the night-time noise limit	
4dB above the night-time noise limit	

*Assessed at the site boundary and assessed against the boundary noise limit of 45dB. Noise levels at the notional boundary of any of the closest receivers is less than 40dB L_{Aeq} at all times.

Also note that in all instances the noise levels propagating towards Rothesay Road are reduced to less than 35dB L_{Aeq} levels more than 600m away from the closest residence in that areas. The noise received to the south in this area is expected to be effectively inaudible.

7 Analysis and Conclusion

The proposed festival will involve the use of three stages for live music performances, with events scheduled over four consecutive days. Given the various District Plan noise restrictions, it is crucial to assess the impact of amplified sound on the surrounding environment, particularly in relation to the noise limits set for the area.

Festival Operations and Noise Exceedances

Given that the proposed festival is scheduled to operate beyond the standard permitted hours, it will necessarily conflict with the 9:00am to 10:00pm time restriction. The event's requirement to run past 10:00pm each day creates a direct conflict with these time-based noise limitations.

Night-time Noise Limits

The District Plan specifies a night time noise limit of 40dB L_{Aeq} , at the notional boundaries of the rural sites, and at the residential boundaries (noting that the special audible characteristics penalty is not applicable in accordance with the District Plan standards). Additionally, a 45dB L_{Aeq} night-time noise limit is applicable at the boundaries of the specific purpose (golf resort) zone, and rural properties, this is generally only relevant to any property where the dwelling is located a significant distance from the sites boundary or where there is no dwelling. These are very low thresholds, designed to maintain a quiet environment and minimize noise disturbance from events or activities in the area.

With the exception of 10pm-12am (midnight) on the 31st December, there will be up to a 3dB daytime exceedance and 2dB night-time exceedance with the noise limits at the closest neighbouring receivers, with music output from Stage A controlled as noted in section 4 above. A special allowance is made for higher levels of music between 10pm and midnight on New Years Eve to allow for 2dB higher music levels, to celebrate the new year. This results in exceedances of up to 4dB at the closest neighbouring receivers.

It is noted that a special audible characteristic penalty has not been applied within this assessment. Such penalties are typically included to account for heightened disturbance caused by features of the sound beyond its overall level. In recognition of this, it is recommended that low-frequency content is carefully controlled to minimise potential disturbance. Specifically, we recommend that no individual third octave band noise level exceed L_{Zeq} 85 dB during the day and 80dB at night, at the neighbouring receivers. This generalised restriction provides a clear performance target for managing bass energy, which is commonly the dominant factor influencing community noise disturbance from music events.

The predicted exceedance of 2-3dB is considered to be a negligible exceedance with 2dB being an inaudible subjective perception difference and 3dB only just being audible to human hearing. The effects are therefore considered to be less than minor.

Noise Mitigation/Management Measures

The following noise mitigation/management measures will be implemented to reduce the impact on neighbouring properties:

- **Sound System Design:** Directing the speakers optimally towards the south-east will help to minimize the spread of noise towards the neighbouring receivers.
 - The stage locations, orientations, and configurations have been carefully optimised to minimise noise levels at neighbouring receivers as far as reasonably practicable, while still meeting the operational requirements of the festival.
 - The stage orientations have been modelled using the following compass bearings. A margin of error of ± 10 degrees has been applied, and it is assumed that speakers will be angled slightly off-centre towards the main audience area or front of house:
 - A Stage: 130 degrees
 - B Stage: 115 degrees
 - C Stage: 105 degrees
 - Limit the music levels, and staggering the use of the stages, use of cardioid subwoofers, monitoring the noise with spot measurements.
 - Use of in-ear monitors for as many artists as possible (to limit noise projected behind the stages).
- **On-Site Acoustic Support:** It is recommended that a qualified acoustician be involved during the stage establishment and initial sound checks. This would allow for real-time verification of music levels, adjustments to speaker configuration, and fine-tuning of the setup.

Limiting the stages used will provide a reduction in the overall noise levels received at the neighbouring properties.

Sound checks will be run on stage A, and only for 2 artists per day between 10am and 12pm. Sound checks would be carried out at a lower level than those used for performances. The sound checks will not alter the overall noise levels predicted.

Effects of Surrounding Forestry on Noise Propagation

Although the surrounding forestry presents a substantial visual barrier, its influence on noise propagation is limited. The primary attenuation effect occurs within the forested area itself (and can be seen in the noise contours), where ground absorption and scattering reduce local noise

levels. However, at the more distant receiver locations, the sound energy largely propagates above and over the treetops. As a result, the reduction in predicted noise levels at the receivers beyond the forestry is relatively small, typically in the order of 1 dB, and not greater than 2 dB.

The difference in predicted levels between a forested landscape and a cleared (logged) landscape is therefore negligible, with changes considered less than minor. Current predictions are based on the existing conditions, which include areas of established and regenerating forestry.

Noise Levels Received Inside Dwellings

As a worst case, assuming that there are bedrooms on the side of the dwellings facing the festival, and windows are open, the noise levels inside would be no more than 40dB. With windows closed and assuming relatively standard building construction details, e.g. non-acoustic standard double glazing, the internal noise levels inside would be below 30dB. Generally speaking, this would be barely audible, with the potential exception of the noise level at and below 125Hz.

It is acknowledged that minor non-compliances are identified at 230 and 234 Lower Styx Road in Tables 10–12. These dwellings are the most proximate to the festival site. Based on typical building construction, internal noise levels with windows closed are expected to fall below the generally accepted night-time criterion of 30 dB LAeq. While low-frequency components may remain faintly audible to sensitive individuals, the overall internal levels are not expected to result in significant or widespread sleep disturbance. The events design and use of directional low-frequency control (cardioid subs) are expected to minimise effects on sleep inside nearby dwellings.

Noise Levels Received by Campers

The predicted noise levels at the most affected areas of the campground are in the order of 42–48 dB LAeq. These levels are comparable to a quiet conversation at a distance of several metres, or to typical ambient noise in suburban outdoor environments during the evening.

For campers in tents, there is little acoustic attenuation provided by the tent material, and as such the internal levels experienced would be similar to the external environment. Noise will therefore remain audible within the tents, particularly the low-frequency components of music. For occupants of campervans or caravans, some degree of noise reduction can be expected through vehicle construction, with internal levels likely to be 5–10 dB lower than outside, depending on the windows and ventilation arrangements.

It is important to note that music of this nature contains a strong low-frequency beat, often perceived as a “thumping” sound. Low-frequency energy travels efficiently and is less reduced by distance or lightweight structures such as tents/caravans. As such, while the overall noise levels are relatively modest, the bass beat is likely to remain clearly perceptible and may be the most noticeable feature for campers. This type of sound is also commonly identified as a cause of disturbance, particularly at night, even when the overall noise level is not considered excessive.

The bass noise effects will be managed through a recommended condition of consent, which restricts third-octave band levels to no more than 85 dB LZeq during the daytime and 80 dB LZeq during the night-time at the receiving environments.

Although the noise is audible and may result in some disturbance for sensitive individuals, the exposure is temporary and associated with a limited time occurring each year, and therefore the overall effect on the campground environment is expected to be limited in extent and duration. I consider compliance with the District Plan noise rules (except for a short period on new year's night), in combination with the proposed conditions restricting third-octave band levels, will result in the effect on the campground being less than minor.

Conclusion

In summary, the proposed festival presents several challenges in terms of compliance with the District Plan's noise restrictions. These challenges have been largely overcome with the final layout of the festival to minimise the noise effects on the neighbouring receivers.

The only notable exception to compliance is the period between **10 pm and midnight on 31 December**, where slightly higher noise levels are proposed to accommodate New Year's Eve celebrations.

Outside of this period, the festival is predicted to comply during the day and at night for residentially zoned receivers, with only small exceedances at rural sites:

- 230 Lower Styx Road – with a minor exceedance of 1 & 2 dB above the rural night-time and daytime limits respectively.
- 234 Lower Styx Road – with a minor exceedance of 2 & 3 dB above the rural night-time and daytime limits respectively.

In general, the festival is expected to produce no more than a 3 dB exceedance of the night-time limit. This classifies the activity as a restricted discretionary activity under Rule 6.1.5.1.3 of the District Plan.

It is noted that a 3dB exceedance is considered to be negligible being a barely audible difference, with 2dB being an inaudible difference. The effects of the most exposed neighbouring receivers is therefore considered to be less than minor.

The exceedance will only occur for a limited duration, being restricted to a few hours on a few nights each year. The festival is a New Year's celebration, during which some elevated noise levels are generally anticipated and are often more readily accepted by the community, particularly around and slightly beyond midnight.

During the period between 10pm and 12am on December 31st a slightly higher exceedance is predicted to accommodate the new year's celebration. With the appropriate control of the

music levels the exceedance is predicted as being no more than 4dB, however, it is noted that higher exceedances around the transition into the new year may be considered acceptable for the short period around midnight.

As a temporary event, it does not represent an ongoing source of noise, and the impact on neighbouring receivers is therefore intermittent and short-term. In this context, the predicted exceedance can be regarded as acceptable, and the associated noise effects are considered to be less than minor.

The proposed festival would comply with the temporary events noise limit of 65dB at all neighbouring receivers. However, is anticipated to produce such noise levels exceeding the duration limitation of the District Plan standards. Nevertheless, this may allow for elevated levels of noise for a restricted period of times over the event and gives context to acceptable levels of noise from temporary events.

In terms of noise management, the festival operators have expressed a clear commitment to remaining within compliance with the specified limits, or within the very small exceedances identified in this assessment (generally not more than 3dB, and limited to no more than 4dB around the midnight period on New Year's Eve). Whilst compliance monitoring is referenced to measurements taken at the front-of-house (FOH) mixing position, in practice the management of sound levels will place greater emphasis on measurements undertaken at neighbouring receiver locations. This approach ensures that any necessary adjustments to music levels are made with respect to the actual environmental impact on surrounding residents, rather than solely in relation to FOH reference levels.

This receiver-focused monitoring and adjustment process provides additional confidence that any exceedances are minimised in both magnitude and duration. It also reflects good practice by ensuring that management decisions are based on how sound is experienced at sensitive locations, rather than only at the source. This commitment demonstrates a proactive approach to environmental noise management and helps to balance the needs of the festival with the reasonable expectations of the community.

Appendix A – Noise Contours

Interpretation of Noise Contour Modelling

The noise contour plots prepared for the proposed music festival illustrate a distinct directionality to the predicted noise levels, reflecting the orientation and layout of the stage and sound system. The patterns shown are broadly consistent with expectations for amplified music sources of this type, with higher levels extending in the main direction of the loudspeakers and reduced levels behind the stage area.

In the modelling outputs, some relatively sharp transitions and distinct contour boundaries are visible. These are not considered to represent sudden real-world changes in noise level, but rather a combination of factors inherent to the modelling process. The large geographical area modelled requires calculations to be performed at a slightly reduced spatial resolution for efficiency, which can result in contour lines appearing more angular or stepped.

Some of the contour boundaries in the images appear as distinct lines or sharper transitions than might occur in real-world conditions. This is a recognised characteristic of predictive noise modelling, influenced by several factors:

Directional modelling constraints: The software allows directional patterns to be incorporated, but only within certain parameters. Where the physical sound system has a more complex or refined directional profile, the model may use simplified approximations.

Calculation artefacts: Complex sound fields can produce constructive and destructive interference patterns between multiple sources, and the modelling algorithms can depict these in a stylised manner.

The contours are presented as areas at 5dB increments, this also contributes to relatively harsh lines in the imagery but ultimately makes the image easier to read. These effects are largely cosmetic in nature, relating to how the results are displayed rather than to the accuracy of the underlying predictions. The modelling inputs and methodology remain robust, and the results presented in this report are considered reliable for the purposes of assessing compliance and potential impacts.

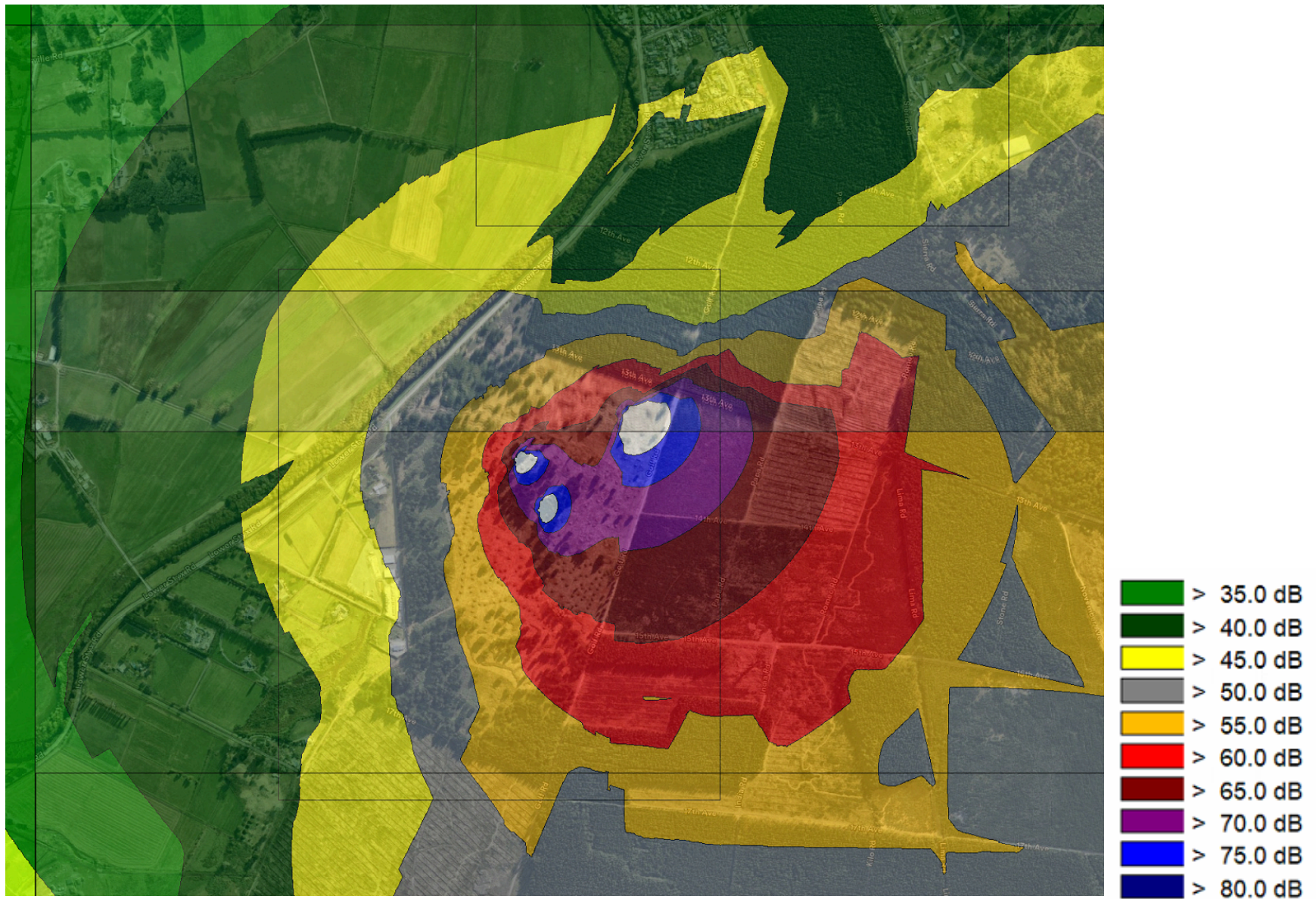
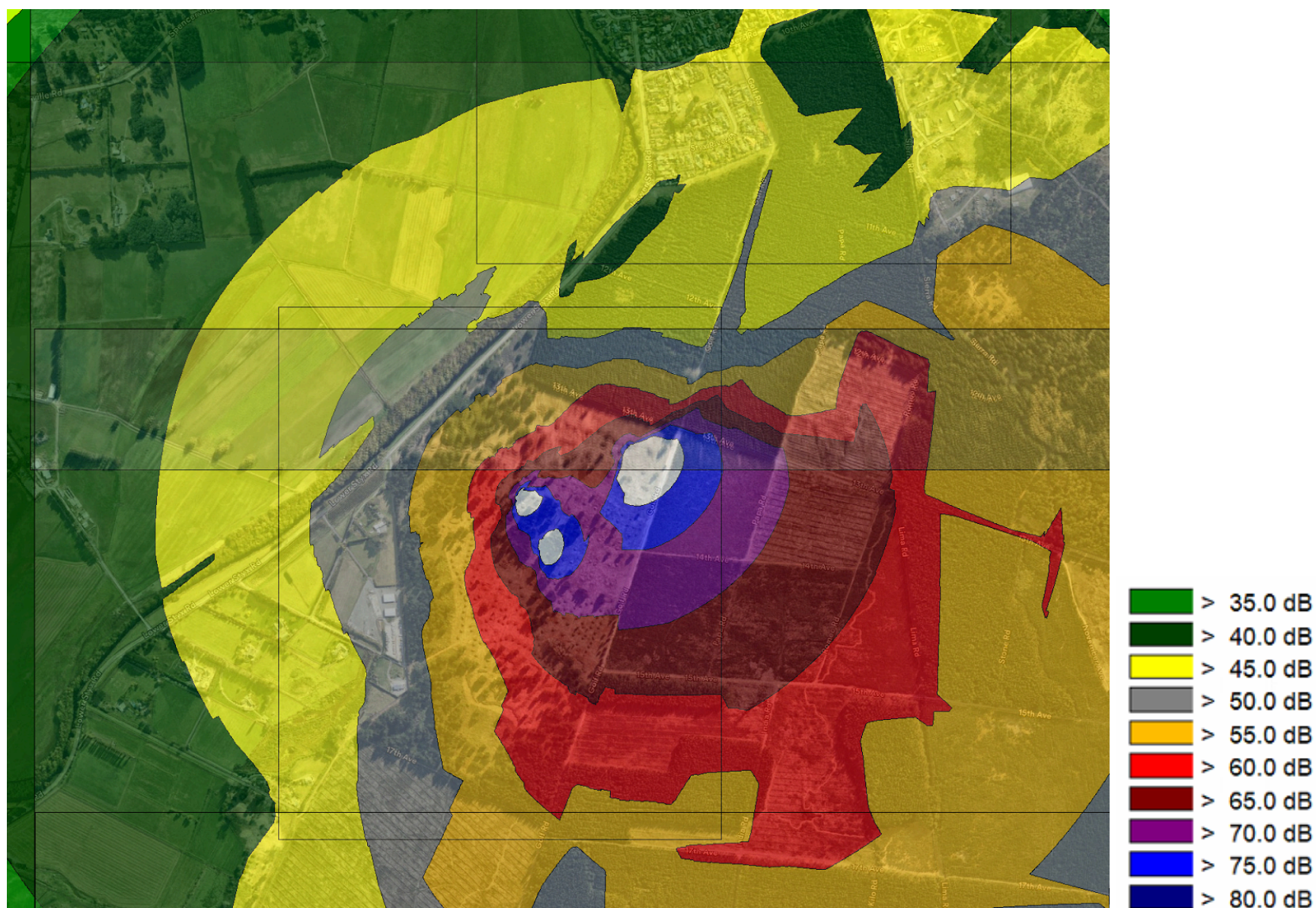
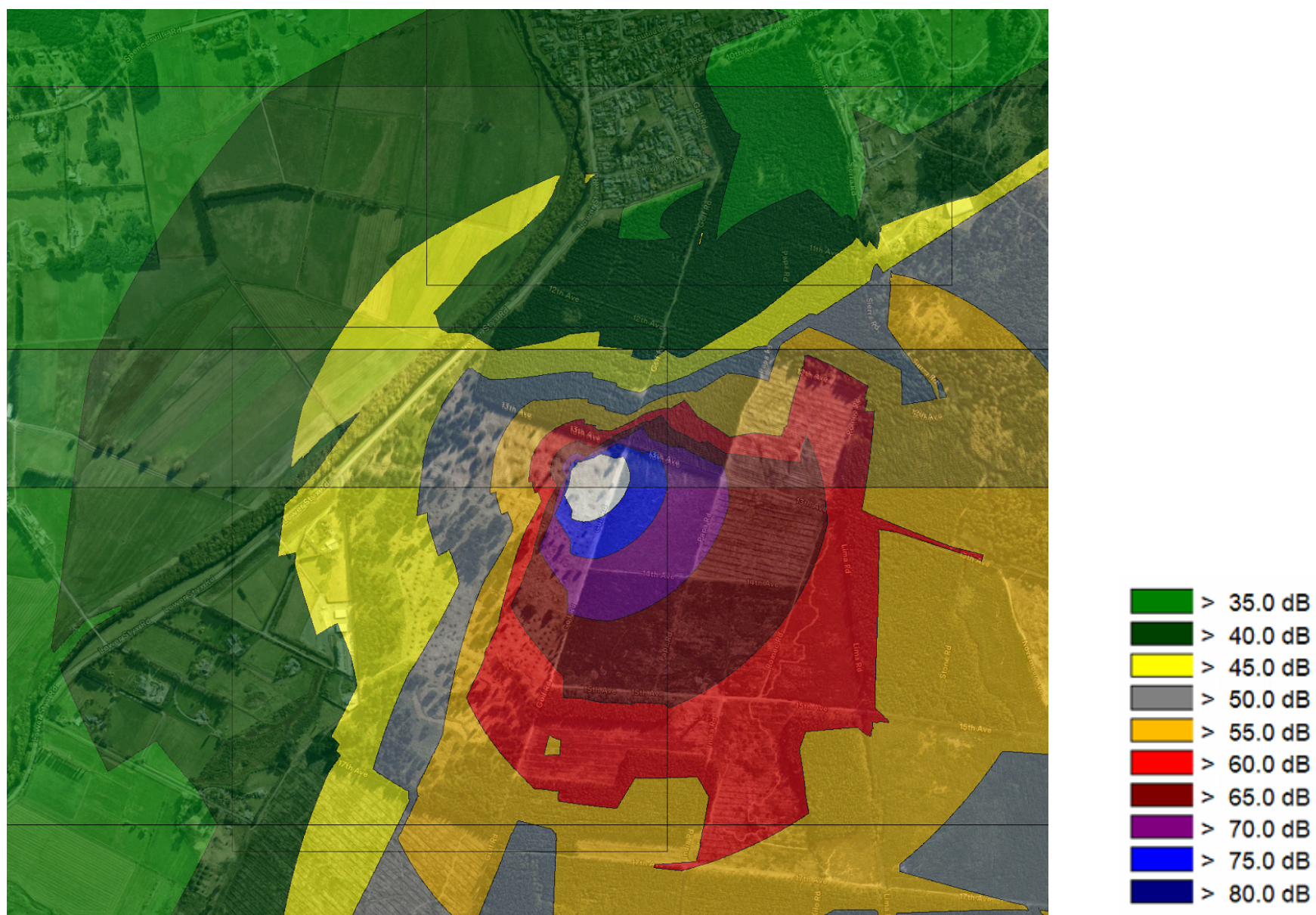
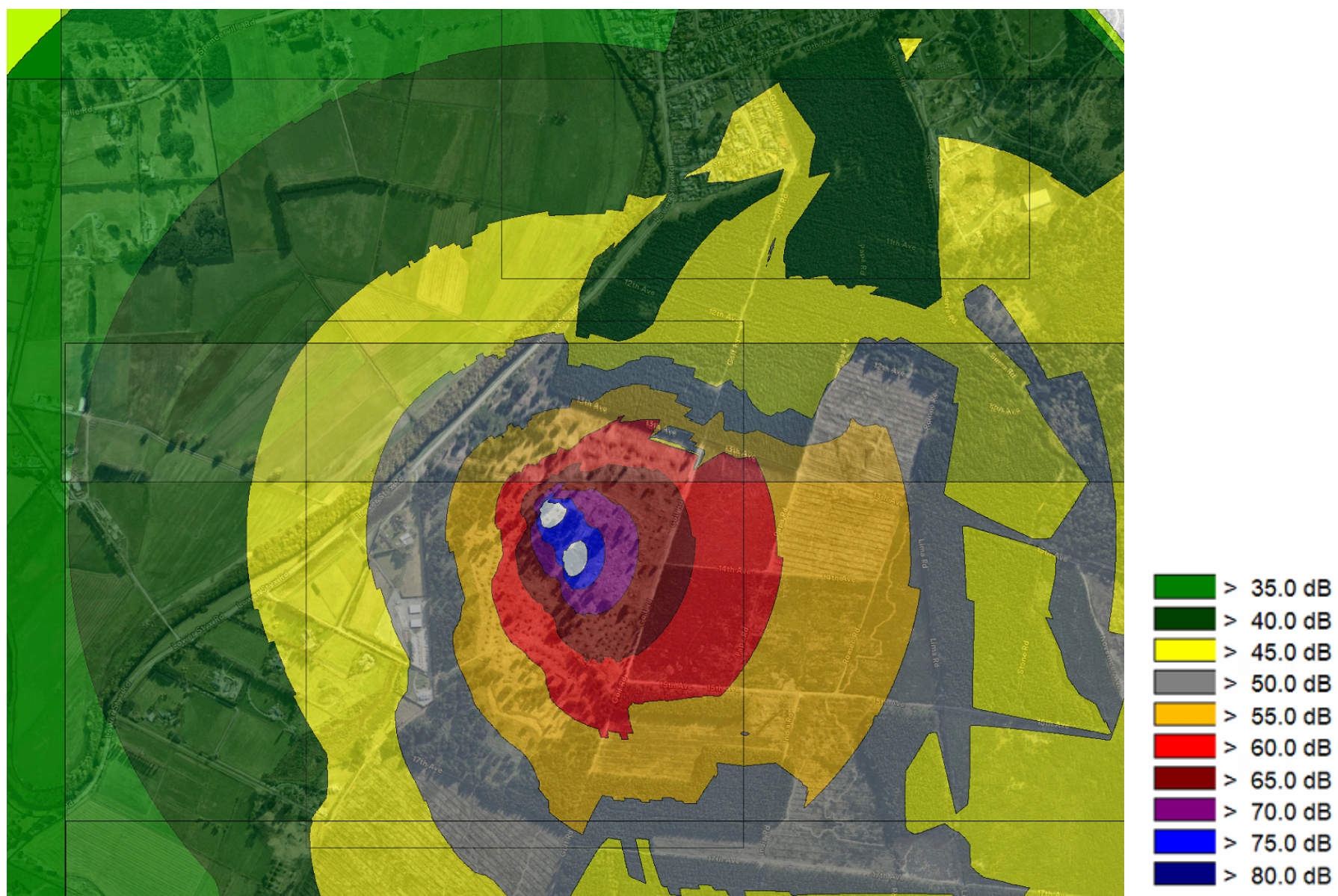


Figure A1 – All 3 Stages – Daytime Duration Adjusted Noise Rating Level









Appendix B – Daytime Noise Levels

The following noise levels are provided to illustrate the predicted sound levels from the stage combinations (and noise level variations) at the reference receiver locations.

A duration adjustment over the full daytime period (7am–10pm) may be applied when assessing the overall rating level; however, this adjustment cannot be applied on a stage-by-stage basis. This is because the duration correction must account for the cumulative effect of all sources over the entire operating period, including quieter intervals and overlapping contributions, which cannot be readily represented by considering each stage in isolation.

Note that the predicted noise rating levels are based on a energy average of the overall sound over the daytime in accordance with the NZS 6802, 6.4.6: *For situations where the level of the sound reduces significantly for large periods of time but the sound does not switch off completely, some adjustment to account for this relief to persons exposed to the sound is also appropriate. In these cases the energy average of the sound under investigation should be calculated over the entire prescribed time frame. The rating level shall be the greater of this average value for the representative level over the reference time interval -5 dB.*

The adjustment is therefore made over the total daytime period, and accounts for variation in the noise levels between the 3 scenarios present below.

The overall noise rating level for the daytime period is presented in Section 6 of the report above.

Receiver	Predicted Noise Level dB L _{Aeq}		
	Stages B & C @84dB at 30m	All Stages A Stage @ 90dBA at 30m B & C Stage @ 84dB at 30m	All Stages A Stage @ 95 dBA at 30m B & C Stage @ 84dB at 30m
176 Lower Styx Road	45	46	47
206 Lower Styx Road	42	42	44
212 Lower Styx Road	46	47	48
218 Lower Styx Road	44	44	46
220 Lower Styx Road	45	45	46
222 Lower Styx Road	45	46	47
224 Lower Styx Road	45	46	47
226 Lower Styx Road	49	49	50
228 Lower Styx Road	46	47	48
230 Lower Styx Road	52	53	54
234 Lower Styx Road	52	54	55
Spencer Beach Top 10 Holiday Park	49	50	50
Specific Purpose (Golf Resort) Zone	52	51	52
Residential Zone (e.g. 286 Lower Styx Road)	46	47	48

Table B1 – Predicted Noise Levels

Glossary of Terms- Acoustics

Ambient Noise: the total noise, at a given place, a composite of sounds from many sources near and far.

Asymmetric: a waveform not identical on both sides of the mean or zero line, lacks symmetry.

Average: in acoustics where dB levels are extensively used, average may not mean adding up the values and then dividing by the number of samples.

Octave: a range of frequencies whose upper frequency limit is twice that of its lower frequency limit. For example, the 1000 Hertz octave band contains noise energy at all frequencies from 707 to 1414 Hertz.

In acoustical measurements, Sound Pressure Level is often measured in octave bands, and the centre frequencies of these bands are defined by ISO - 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz to divide the audio spectrum into 10 equal parts.

The sound pressure level of sound that has been passed through an octave band pass filter is termed the octave band sound pressure level.

One-third Octave Bands, there are three similar bands in each octave band.

1/1, 1/3, 1/6, 1/12, and 1/24 octaves are all used in acoustics.

Background Noise: the noise at a given location and time, measured in the absence of any alleged noise nuisance sources, also known as Residual Noise.

Broadband Noise: also called wideband noise - noise whose energy is distributed over a wide section of the audible range as opposed to Narrowband Noise.

Class 1: precision grade sound level meters for laboratory and field use - also known as Type 1.

Continuous Spectrum: sound spectrum whose components are continuously distributed over a given frequency range.

Frequency Weighted Sound Levels: Frequency weightings correlate objective sound measurements with the subjective human response. The human ear is frequency selective; between 500 Hz and 6 kHz our ears are very sensitive compared with lower and higher frequencies.

A-weighting: the A-weighting filter covers the full audio range - 20 Hz to 20 kHz and the shape is similar to the response of the human ear at the lower levels

C-weighting: a standard frequency weighting for sound level meters, commonly used for higher level measurements and Peak - Sound Pressure Levels.

Z-weighting: Z for 'Zero' frequency weighting, which implies no frequency weighting. In reality the range is 10 Hz to 20 kHz ± 1.5 dB.

dB Level: is the Logarithm of the ratio of a given acoustic quantity to a reference quantity of the same kind. The base of the logarithm, the reference quantity, and the kind of level must be indicated.

decibel: dB : a relative unit of measurement widely used in acoustics, electronics and communications. The dB is a Logarithmic unit used to describe a ratio between the measured level and a reference or threshold level of 0dB. The ratio may be Sound Power, Sound Pressure, voltage or Sound Intensity, etc.

Deltatron ®: trade name for IEPE - Integrated Electronics Piezoelectric.

FFT: Fast Fourier Transform : a digital signal processing technique that converts a time record into a narrow band constant bandwidth filtered spectrum. Measurements are defined by specifying the frequency span and a number of lines (or filters).

Frequency: f : the number of times that a Periodic function or vibration occurs or repeats itself in a specified time, often 1 second - cycles per second. It is usually measured in Hertz (Hz).

Frequency Analysis: analysing an overall broadband noise to identify the different contributions in different parts of the audio spectrum. Typically, the analysis is made using 1/1-Octave, 1/3-Octave or narrow band (FFT) Analysis.

Frequency Band: a continuous range of frequencies between two limiting frequencies.

Hertz: Hz : the unit of Frequency or Pitch of a sound. One hertz equals one cycle per second.

Impact Sound: the sound produced by the collision of two solid objects. Typical sources are footsteps, dropped objects, etc., on an interior surface (wall, floor, or ceiling) of a building.

Infrasound: sound whose frequency is below the low-frequency limit of audible sound (about 16 Hz).

Integrating (of an instrument): indicating the mean value or total sum of a measured quantity.

kHz: kilohertz : 1 kHz = 1000 Hz = 1000 Hertz.

LA: A-weighted, Sound Level.

LA10: is the noise level just exceeded for 10% of the measurement period, A-weighted and calculated by Statistical Analysis.

LA90: is the noise level exceeded for 90% of the measurement period, A-weighted and calculated by Statistical Analysis.

LAn: noise level exceeded for n% of the measurement period with A-weighted , calculated by Statistical Analysis - where n is between 0.01% and 99.99%.

LAeq: A-weighted, equivalent sound level. A widely used noise parameter describing a sound level with the same Energy content as the varying acoustic signal measured - also written as dBA Leq

LAF: A-weighted, Fast, Sound Level.

LAFmax: A-weighted, Fast, Maximum, Sound Level.

LAFmin: A-weighted, Fast, Minimum, Sound Level.

LAleq: A-weighted, Impulse, Leq, Sound Level.

LAmx: A-weighted, Maximum, Sound Level

LAS: A-weighted, Slow, Sound Level.

LASmax: A-weighted, Slow, Maximum, Sound Level.

LASmin: A-weighted, Slow, Minimum, Sound Level.

LC: C-weighted, Sound Level.

LCE: C-weighted, Sound Exposure Level

LCeq: C-weighted, Leq, Sound Level

LCF: C-weighted, Fast, Sound Level.

LCFmax: C-weighted, Fast, Maximum, Sound Level.

LCpeak: C-weighted, Peak, Sound Level.

Leq: Equivalent Sound Level

Lpeak: Peak Sound Level

LZ: Z weighted, Sound Level.

LZE: Z-weighted, Sound Exposure Level

LZeq: Z-weighted, Leq, Sound Level.

LZF: Z-weighted, Fast, Sound Level.

LZFmax: Z-weighted, Fast, Maximum, Sound Level.

LZFmin: Z-weighted, Fast, Minimum, Sound Level.

Multi-spectrum: a one or two-dimensional array of spectra, consisting of two or more spectra that were recorded during the same measurement

Narrowband Noise: noise which has its energy distributed over a relatively small section of the audible range.

Natural Frequency: the frequency at which a resiliently mounted mass will vibrate when set into free vibration. The frequency of oscillation of the free vibration of a system if no Damping were present.

Noise: any sound that is undesired by the recipient. Any sound not occurring in the natural environment, such as sounds emanating from aircraft, highways, industrial, commercial and residential sources. Interference of an electrical or acoustical nature.

Octave: a range of frequencies whose upper frequency limit is twice that of its lower frequency limit. For example, the 1000 Hertz octave band contains noise energy at all frequencies from 707 to 1414 Hertz.

Octave Band analyser: an instrument that measures Sound Levels in octave bands.

Peak-to-Peak: the amplitude difference between the most positive and most negative value in a time waveform, that is, the total Amplitude.

Piezoelectric: PE : any material which provides a conversion between mechanical and electrical energy. Piezo is a Greek term which means 'to squeeze'. If mechanical stresses are applied to a piezoelectric crystal, then an electrical charge results. Conversely, when an electrical voltage is applied across a piezoelectric material, the material deforms.

Pitch: is a subjective auditory sensation and depends on the frequency, the harmonic content, and to a lesser extent on the loudness of a sound.

Spectrum: the description of a sound wave's resolution into its components of frequency and amplitude.

Third Octave Band: Octave bands sub-divided into three parts, equal to 23% of the centre frequency. Used when octave analysis is not discrete enough. Divides the audio spectrum into 33 or more equal parts with Constant Percentage Bandwidth filter.

Tone: sound or noise recognisable by its regularity. A simple or Pure Tone has one frequency. Complex tones have two or more simple tones, the lowest tone frequency is called the Fundamental, the others are Overtones.

Vibration: mechanical oscillations occur about an equilibrium point. The oscillations may be periodic such as the motion of a pendulum or random.

Appendix 2: Noise Management Plan Revision 6

DRAFT: Noise Management and Monitoring Plan (NMP)

Event: Rolling Meadows 2025 (**Rolling Meadows**)

Location: 240 Lower Styx Road

Date(s): 29/12/25 - 1/1/26

Prepared by: Technical Event Solutions; Author: Ben Kamps

Certified by: [To be updated and obtained at time of finalisation in accordance with 'Condition 3']

Version: 6.0 (16 October 2025)

1. Introduction

This Noise Management Plan (NMP) is prepared by Technical Events Solutions in accordance with NZ standards: NZS 6801:2008 Acoustics – Measurement of environmental sound and NZS6802:2008 Acoustics – Environmental noise.

The NMP is created to enable appropriate management of noise created from Rolling Meadows during its 3-year consent at 240 Lower Styx Road. This NMP sets out procedures to ensure that the potential adverse noise effects of its activities are minimised and that its obligations and conditions outlined in its consent RMA/2025/1880 are fulfilled.

This NMP is prepared in accordance with the below conditions of consent RMA/2025/1880:

3. The NMP is created to enable appropriate management of noise created from Rolling Meadows during its 3 year consent at 240 Lower Styx Road. The operation of each event shall be undertaken in accordance with an event specific Noise Management Plan (NMP), and submitted to Council at least four weeks before the 20th of December for certification by the Manager Resource Consents by way of rcmon@ccc.govt.nz. The NMP shall be first certified by a suitably qualified and experienced acoustic engineer before being submitted to Council. A copy of the approved NMP shall be kept on the site at all times. Any amendments to the approach to managing noise in the NMP from year to year, other than those to make it event-specific shall be:
 - for the purposes of improving the measures outlined in the NMP for achieving the NMP purpose;
 - consistent with the conditions of this resource consent; and
 - certified by an appropriately qualified and experienced acoustic engineer.

The consent RMA/2025/1880 imposes the following requirements that must be complied at all times:

2. One amplified musical event per calendar year is consented; to occur on the 29th December -1st January each year, for a duration of three years (2025, 2026 and 2027). Maximum event size for ticketholders as follows: • 10,000 total including up to 5,000 camping
4. The applicant shall arrange for noise to be monitored and recorded during the sound checks, and through the duration of the event in accordance with the Noise Management Plan, with the aim of ensuring a compliant event. All monitoring information shall be provided to the Christchurch City Council Environmental Health Team within ten working days of the completion of each event by way of rcmon@ccc.govt.nz and shall include conclusions as to whether or not the various aspects of the event were compliant with conditions.
5. The event must utilise the stage orientation and speaker position as set out in the Site Plan (Figure 3) of the Earcon Acoustic Assessment (dated 26th September 2025, Revision 12), which forms part of the approved consent documentation, unless an alternative arrangement is approved through a Noise Management Plan in accordance with condition [3] above.
6. The following operation times of the stages shall be adhered to: • 29 December – Stage A (12:00-24:00 hours) • 30 December – Stage A (13:00-01:00 hours), Stage B and C (10:05-22:00 hours) • 31 December – Stage A (14:00-02:00 hours), Stage B and C (10:05-22:00 hours)

2. Noise Limits

Noise limits are based on the Earcon Acoustic Assessment (dated 16th October 2025, Revision 14) and relevant district plan requirements. Noise levels shall comply with the conditions in the resource consent at any residential unit when measured in accordance with NZS 6801:2008 Acoustics – Measurement of environmental sound and assessed in accordance with NZS 6802:2008 Acoustics – Environmental noise:

Noise limits for the festival are outlined in the following condition of consent RMA/2025/1880.

7. All events authorised by this consent shall comply with the noise limits specified in Rule 6.1.5.2.1 of the Christchurch District Plan except where specific 'dB exceedance' are identified in Tables 10–12 of Earcon Acoustic Assessment (dated 16th October 2025, Revision 14).
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Advice Note: The authorised 'dB exceedance' is contained in the right column of Tables 10-12 of Earcon Acoustic Assessment (dated 16th October 2025, Revision 14). The applicable receiver for the authorised dB exceedance is contained in the far left column of those same tables. The District Plan standards otherwise to be achieved are noted in these same tables under the heading 'Noise Limit, Day / Night'.

Advice note: The monitoring requirements for this condition are set within Noise Management Plan required by Condition 3.

Bass Noise Limit

8. The LZeq (10 min) sound pressure level measured in any third octave band is not to exceed 85 dB at any time at any residential unit or at the nearest campground camping sites, except between 10pm and 2am where it shall not exceed 80 dB.

Pack-in and Pack-Out

20. Pack-in and pack-out activity shall only occur between 07:00 and 20:00 hours and shall not exceed a noise level of 60 dB LAeq (1 hour), decreasing to 50 dB LAeq (1 hour) after 18:00, at any residential property when measured and assessed in accordance with NZS 6801:2008 Acoustics – Measurement of Environmental Sound and NZS 6802:2008 Acoustics – Environmental Noise.

The Noise Limit conditions (condition 7 above) refers to tables produced in the Earcon Acoustic Assessment (dated 16th October 2025, Revision 14). These tables identify the applicable District Plan noise limits and authorised 'Db exceedance' for each day of the event.

Rolling Meadows is responsible to ensure that these noise limits are complied with at the identified receivers, utilising the methodology outlined in section 3 of this NMP below.

Noise Limits – 29 December

6.2.2.1 Predicted Noise Levels 29th December

Receiver	Predicted Noise Rating Level dB		Night-time	Noise Limit Day / Night	dB exceedance
	Duration Adjusted Daytime Noise Rating Level	Stage A only After 10pm			
176 Lower Styx Road	36	37	47	50dB / 40dB L _{Aeq} & 65dB L _{Amax} at night	N/A
206 Lower Styx Road	35	36	46		N/A
212 Lower Styx Road	36	37	47		N/A
218 Lower Styx Road	36	37	47		N/A
220 Lower Styx Road	36	37	47		N/A
222 Lower Styx Road	37	38	48		N/A
224 Lower Styx Road	37	38	48		N/A
226 Lower Styx Road	39	40	50		N/A
228 Lower Styx Road	38	39	49		N/A
230 Lower Styx Road	40	41	51		1dB 10pm – 12am
234 Lower Styx Road	41	42	52		2dB 10pm – 12am
Residential Zone (e.g. 286 Lower Styx Road)	38	39	49	55dB / 45dB L _{Aeq} & 70dB L _{Amax} at night	N/A
Spencer Beach Top 10 Holiday Park	41	42	52		N/A
Specific Purpose (Golf Resort) Zone	42	43*	53		N/A

Noise Limits - 30 December

6.2.2.2 Predicted Noise Levels 30th December

Receiver	Predicted Noise Level dB L _{Aeq}		L _{Amax}	Noise Limit Day / Night	dB exceedance
	Duration Adjusted Daytime Noise Rating Level	10pm – 1am Stage A only	Night- time		
176 Lower Styx Road	45	37	47	50dB / 40dB L _{Aeq} & 65dB L _{Amax} at night	N/A
206 Lower Styx Road	42	36	46		N/A
212 Lower Styx Road	46	37	47		N/A
218 Lower Styx Road	44	37	47		N/A
220 Lower Styx Road	44	37	47		N/A
222 Lower Styx Road	45	38	48		N/A
224 Lower Styx Road	45	38	48		N/A
226 Lower Styx Road	48	40	50		N/A
228 Lower Styx Road	46	39	49		N/A
230 Lower Styx Road	52	41	51		2dB 10:05am – 10pm 1dB 10pm – 1am
234 Lower Styx Road	53	42	52		3dB 10:05am – 10pm 2dB 10pm – 1am
Residential Zone (e.g. 286 Lower Styx Road)	46	39	49	55dB / 45dB L _{Aeq} & 70dB L _{Amax} at night	N/A
Spencer Beach Top 10 Holiday Park	48	42	52		N/A
Specific Purpose (Golf Resort) Zone	50	43*	53		N/A

Table 11 – High Intensity Activity – Cumulative Predicted Noise Rating Levels

Noise Limits - 31 December

6.2.2.3 Predicted Noise Levels 31st December

Receiver	Predicted Noise Level dB L _{Aeq}			L _{Amax}	Noise Limit Day / Night	dB exceedance
	Duration Adjusted Daytime Noise Rating Level	10pm – 12am Stage A only	12am – 2am Stage A only	Night- time		
176 Lower Styx Road	45	39	37	52	50dB / 40dB L _{Aeq} & 65dB L _{Amax} at night	N/A
206 Lower Styx Road	42	39	36	52		N/A
212 Lower Styx Road	46	40	37	53		N/A
218 Lower Styx Road	44	39	37	52		N/A
220 Lower Styx Road	44	39	37	52		N/A
222 Lower Styx Road	45	40	38	53		N/A
224 Lower Styx Road	45	40	38	53		N/A
226 Lower Styx Road	48	42	40	55		2dB 10pm – 12am
228 Lower Styx Road	46	41	39	54		1dB 10pm – 12am
230 Lower Styx Road	52	44	41	57		2dB 10:05am – 10pm 4dB 10pm – 12am 1dB 12am – 2am
234 Lower Styx Road	53	44	42	57	55dB / 45dB L _{Aeq} & 70dB L _{Amax} at night	3dB 10:05am – 10pm 4dB 10pm – 12am 2dB 12am – 2am
Residential Zone (e.g. 286 Lower Styx Road)	46	41	39	54		1dB 10pm – 12am
Spencer Beach Top 10 Holiday Park	48	44	42	57		N/A
Specific Purpose (Golf Resort) Zone	50	44*	43*	57		N/A

Table 12 – High Intensity Activity – Cumulative Predicted Noise Rating Levels

Pack-in and Pack-out

During pack-in and pack-out activities, Rolling Meadows shall ensure that noise-generating and mechanical plant utilised during setup and pack-down works is operated only during restricted hours (between 07:00 and 20:00 hours). This is to ensure compliance with the noise requirements established in Condition 20. All activities shall be managed to minimise disturbance to surrounding receivers.

3. Monitoring Procedure and Requirements

This NMP sets out procedures to ensure that the potential adverse noise effects of its activities are minimised and that its obligations and conditions outlined in its consent RMA/2025/1880 are fulfilled.

1.	Noise limits must be measured in accordance with NZS 6801:2008 Acoustics – Measurement of Environmental Sound and assessed in accordance with NZS 6802:2008 Acoustics – Environmental Noise. An adjustment must not be applied to amplified music or amplified voice sounds containing special audible characteristics (with respect to section 6.3 of NZS6802:2008).
2.	Noise monitoring shall be undertaken at approximately five representative locations, chosen to represent the closest and most affected neighbouring receivers, referenced in Figure 1 below. To be measured at or in close proximity to the boundary of: 1. 230 Lower Styx Road 2. 234 Lower Styx Road 3. 286 Lower Styx Road 4. 26 Styx River Place 5. Spencer Beach Top 10 Holiday Park (in proximity to the closet campsites) Note: preferred monitoring locations have been identified, however, subject to suitability or excess background noise levels, alternative monitoring locations closer to the festival may be required and extrapolated from to provide an estimated noise levels at the relevant receiver(s). Alternative monitoring location must be approved by the Council's Environmental Officer in charge of monitoring during the event. Additional noise monitoring locations may also be required through the Complaints Response & Corrective Actions procedure outlined within this NMP.

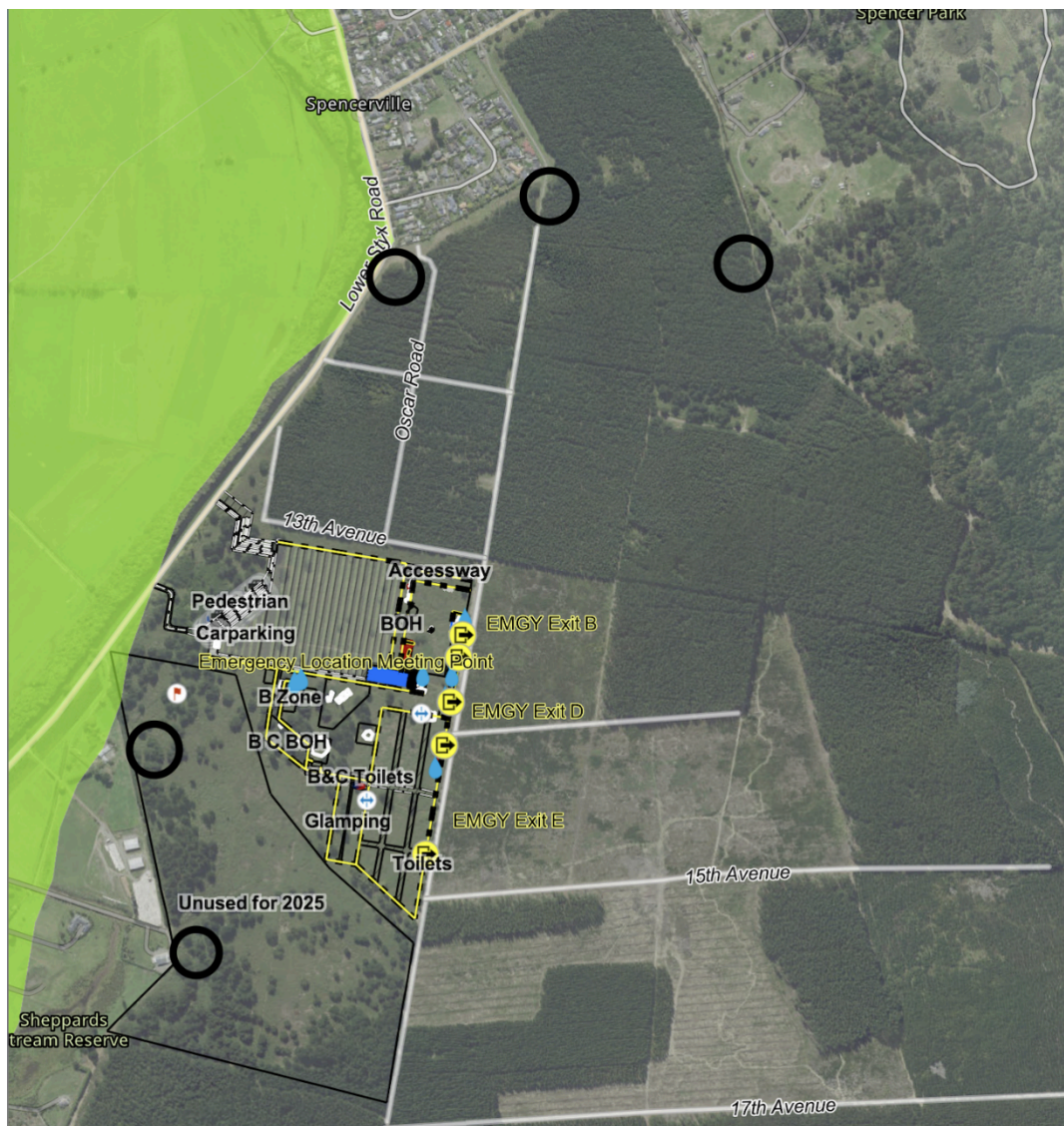


Figure 1 - Proposed Monitoring Locations (black circle)

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|----|--|
| 3. | <p>At a minimum, noise monitoring shall be carried out at each of the locations identified in figure 1:</p> <ol style="list-style-type: none"> 1. Within 1 hour of amplified music beginning 2. When Stage A begins amplified music at: 12:00 (29th), 13:00 (30th) and 14:00 (31st) 3. At 18:00 when Stage A volume changes 4. Shortly after each headline act changeover on Stage A up until 22:00 hours 5. Hourly after 22:00 until all stages close 6. Hourly for 3 hours after a complaint is received from the closest location to the complainants address, in accordance with the 'Complaints Response & Corrective Actions' outlined in section 5 of this NMP below. |
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4.	Monitoring at the identified locations shall include monitoring in accordance with the 'Bass Noise Limits' as required by condition 8 of the resource consent.
5.	Continuous noise level monitoring will be carried out at the front of house to ensure noise levels specified in condition [#] of RMA/2025/1880 are being met at all times. 1. Where the results of boundary monitoring indicate that the consented noise limits are being approached or exceeded, the FOH noise limits shall be adjusted accordingly to ensure ongoing compliance with the requirements of this consent.
6.	Noise monitoring shall be undertaken throughout the event, with results recorded in real time. These records shall be maintained in a shared spreadsheet that Council's Environmental Officer in charge of monitoring during the event has full access to. The spreadsheet shall include time-stamped sound level readings, monitoring locations, and any corrective actions taken.
7.	Within 10 working days of the completion of the first concert, the Consent Holder shall provide the noise monitoring results, confirming whether the noise levels complied with the requirements of Condition # of RMA/2025/1880, and shall submit these results to the Council's Team Leader – Compliance Monitoring.
8.	Equipment Monitoring will be conducted using a Class 1 sound level meter with a valid calibration certificate, in accordance with NZS 6801:2008. Measurements will be undertaken using the LAeq, LAmax and LZeq descriptors, with windshields fitted to microphones.
9.	Meteorological conditions Wind speed, wind direction, and temperature inversions will be recorded hourly. If weather conditions indicate potential for sound to travel further than expected, mobile monitoring will be deployed to affected areas.
10.	Noise monitoring will be undertaken by suitably experienced and qualified personnel. Rolling Meadows have engaged the following consultant(s) for the 2025 event: Sound Company Engaged: Technical Event Solutions (TES), Christchurch Main Contact: Ben Kamps, 021 262 7520, ben@tes.nz Acoustic Engineer Engaged: Earcon Acoustics, Christchurch Main Contact: Daniel Marten, 027 513 5890, daniel.martens@earecon.co.nz

4. Noise Mitigation Measures

To minimise sound propagation from the event the following Mitigation shall be applied as required by of condition [#] of RMA/2025/1880:

8. The noise levels and configuration for each stage and speaker positioning shall be as specified below, unless otherwise authorised by a Noise Management Plan in accordance with condition [3] above:

Stage A (at 30m from the stage)

29 December

- 12:00-00:00 hours – 90 dB $L_{Aeq15\ min}$

30 December

- 13:00-18:00 hours - 90 dB $L_{Aeq15\ min}$
- 18:00-22:00 hours - 95 dB $L_{Aeq15\ min}$
- 22:00-01:00 hours - 90 dB $L_{Aeq15\ min}$

31 December

- 14:00-18:00 hours - 90 dB $L_{Aeq15\ min}$
- 18:00-22:00 hours - 95 dB $L_{Aeq15\ min}$
- 22:00-00:00 hours - 92 dB $L_{Aeq15\ min}$
- 00:00-02:00 hours - 90 dB $L_{Aeq15\ min}$

Stage B

30 & 31 December

- 10:05-22:00 hours – 84 dB $L_{Aeq15\ min}$ @ 30m (90 dB $L_{Aeq15\ min}$ @ 15m – Front of House)

Stage C

30 & 31 December

- 10:05-22:00 hours – 84 dB $L_{Aeq15\ min}$ @ 30m (93 dB $L_{Aeq15\ min}$ @ 10m – Front of House)

Speaker Trim Heights (as modelled by Earcon, and measured above ground level (not stage height):

- Stage A - 8m
- Stage B - 7m
- Stage C - 4m

Speaker/Stage Orientation – Compass Bearings:

- Stage A – 130 degrees
- Stage B – 115 degrees
- Stage C – 105 degrees

In addition, Rolling Meadows shall implement the following noise mitigations measures to minimise sound propagation during the course of the event:

1.	An appropriately qualified acoustic engineer shall be present on site to ensure that the sound and mixing system is configured in accordance with the approved layout and complies with the noise limits identified in this NMP. The engineer shall verify that all equipment settings and speaker placements are optimised to minimise noise impacts on surrounding properties.
2.	Loudspeaker orientation: 1. All speakers angled inward and downward to reduce propagation toward all residential units no matter the zoning, and campers. 2. Delay towers to be limited and aligned to reduce overspill beyond site. 3. All speakers will be orientated towards the east, with the stage orientated slightly to the south- east, as displayed on Site Plan (Figure 3) of the Earcon Acoustic Assessment (dated 26th September 2025, Revision 12). The compass directions to be implemented are: <u>Speaker/Stage Orientation – Compass Bearings:</u> • Stage A – 130 degrees • Stage B – 115 degrees • Stage C – 105 degrees
3.	Cardioid Subwoofer Deployment All stages will use a ‘cardioid’ deployment to reduce noise spill.
4.	Cumulative Effects & Multi-Stage Control Cumulative sound from multiple stages will be managed through: 1. Live coordination between FoH engineers and monitoring staff. 2. Real-time level adjustments to avoid exceedance at any boundaries in accordance with conditions of consent.
5.	Sound checks Audible soundchecks will be conducted on A stage only during the hours of 10am - 2pm on the 30th and 31st and only for the headline artists performing on each respective day. These sound checks will be conducted far below the 90db LAeq (15min) outlined above.
6.	Site Layout The event must utilise the stage orientation and speaker position as set out in the Site Plan (Figure 3) of the Earcon Acoustic Assessment (dated 16th October 2025, Revision 14).

5. Complaints Response & Corrective Actions

The following condition of RMA/2025/1880 outlines the complaint notification process to Council.

10. Compliance recording and daily reporting, shall be documented and sent to Council by 11am the day after each event day via EnvironmentalHealth@ccc.govt.nz and rcmon@ccc.govt.nz.

Any complaints received over the course of the event should be forwarded to the Council on 03 941 8999 (which will divert to Council's after-hours noise control service (Allied) when offices are closed), who will liaise with the Council's Environmental Officer in charge of monitoring at CCC during any event.

In addition, a complaints hotline will be active from sound check through to close of the event. All complaints will be registered and are the responsibility of the Event Manager and Production Manager to ensure they are addressed, and corrective actions are taken immediately.

The following procedure shall be followed upon receipt of a complaint:

1.	Event Manager is notified immediately and ensures noise at the mixing desk does not exceed the levels committed to by Rolling Meadows as set out in the Earcon Acoustic Assessment dated 16th October 2025 (Revision 14) and that operations remain within consented timeframes.
2.	At the earliest opportunity, monitoring will be undertaken at the complainant's location if requested and access is available. Monitoring will be conducted each hour for 3 hours at a complainant's address, or the nearest location to where the complaint originated.
3.	Upon completion of monitoring, results are reported back to the mixing desk and Event Manager , with adjustments made immediately if required to ensure compliance.
4.	These measurements will be added to a shared spreadsheet that council has access to with the following information including both Lmax, LAeq and LZeq (15min) readings: 1. Date, time and location of the complaint 2. Nature of the complaint 3. How the complaint was made 4. Monitoring taken place at the complainant address 5. Resolution to the complaint 6. Any further communication with the complainant
5.	All complaints will be reviewed post event with production and event teams, with any learnings noted for future events.

6. Communication Strategy

Neighbour notification: All properties within the predicted >40 dB contour of the Acoustic Assessment prepared by Earcon Acoustic Assessment (dated 16th October 2025, Revision 14) will be notified in writing at least 10 days before the event, as per

the following condition of RMA/2025/1880. The applicable properties are captured by the below conditions of consent.

17. At least ten days before each event, a letterbox drop to residents along Lower Styx Road (from 166 Lower Styx Road to Heyders Road) as well as the residents along Nautilus Place, Seabrooke Drive, Hemingway Place, Calypso Place, and Styx River Place, advising of the proposed event date including timings and sound check times shall be completed. The letter shall include the contact details of the Event Manager should there be any questions or concerns. At the same time, a copy of the letter shall be sent to the Council's monitoring team, by way of rcmon@ccc.govt.nz.

The Communication Strategy shall also meet the following requirements:

1.	The Letter drop shall contain the following information: 1. Key event information 2. Stage timings 3. Information on the fireworks display if applicable 4. Complaint process for noise issues 5. Contact details for an event manager who will record inquiries 6. Summary of noise mitigation and monitoring measures.
2.	Further communication will be posted in community groups 1 week prior to the event reiterating this information.
3.	The NMP will be sent to all staff in their staff handbook pack. TES will brief all stage managers and audio teams including running through the NMP prior to the event.
4.	Monitoring and Audio teams will be required to sign off that they have read and understood the NMP.

7. Management & Contact Details

Contact details for **Stage Managers** in control of audio are as follows:

All Stages (oversite)	Ben Kamps (ben@tes.co.nz and 021 262 7520)
Stage A	Jamie Thomsson (jamie@tes.co.nz and 027 445 0593)
Stage B	Will Graham (will@tes.co.nz and 022 135 9875)
Stage C	Jack Lanham (jack@tes.co.nz and 027 612 8535)

Contact details for **Event Manager** who will be responsible for ensuring the Noise Management Plan and Resource Consent is follows:

29 December	12:00-24:00	Jamie Moir - 0278671810
30 December	00:00 -10:00	Aaron Smith - 0279193604
	10:00-24:00	Jamie Moir - 0278671810

31 December	24:00-10:00	Aaron Smith - 0279193604
	10:00-24:00	Jamie Moir - 0278671810
1 January	24:00-10:00	Aaron Smith - 0279193604

**Note event personnel may change closer to the event.

Appendix 3: Updated Volunteered Conditions

1. The development shall proceed in general accordance with the information and plans submitted with the application, including the further information/amended plans submitted 31/08/2025, 24/09/25, 26/09/25, 01/10/25 and 16/10/25 as they relate to the proposed festival, site layout and acoustic mitigation, including the approved site plan labelled RMA/2025/1880 and dated 17/09/25. The final versions of documents submitted are listed below:
 - Event Management Plan (Revision 7, dated 26/09/25)
 - Alcohol Management Plan (Revision 5, dated 26/09/25)
 - Noise Management Plan (Revision 6, dated 16/10/25)
 - Acoustic Assessment (Revision 14, dated 16/10/25)
2. One amplified musical event per calendar year is consented; to occur on the 29th December -1st January each year, for a duration of three years (2025, 2026 and 2027).
Maximum event size for ticketholders as follows:
 - 10,000 total including up to 5,000 camping
3. The operation of each event shall be undertaken in accordance with an event specific Noise Management Plan (NMP). The NMP is created to enable appropriate management of noise created from Rolling Meadows during its 3-year consent at 240 Lower Styx Road. The NMP shall be submitted to Council at least four weeks before the 20th of December each year for certification by the Manager Resource Consents by way be submittedgovt.nz. The NMP shall be first certified by a suitably qualified and experienced acoustic engineer before being submitted to Council. A copy of the approved NMP shall be kept on the site at all times during pack in, the event and pack out. Any amendments to the approach to managing noise in the NMP from year to year, other than those to make it event-specific shall be:
 - for the purposes of improving the measures outlined in the NMP for achieving the NMP purpose;
 - consistent with the conditions of this resource consent; and
 - certified by an appropriately qualified and experienced acoustic engineer.
4. The applicant shall arrange for noise to be monitored and recorded during the sound checks, and through the duration of the event in accordance with the Noise Management Plan, with the purpose of ensuring a compliant event. All monitoring information shall be provided to the Christchurch City Council Environmental Health Team within ten working days of the completion of each event by way of EnvironmentalHealth@ccc.govt.nz and rcmon@ccc.govt.nz and shall include conclusions as to whether or not the various aspects of the event were compliant with conditions.
5. The event must utilise the stage orientation and speaker position as set out in the Site Plan (Figure 3) of the Earcon Acoustic Assessment (dated 16 October 2025, Revision 14) which forms part of the approved consent documentation, unless an alternative arrangement is approved through a Noise Management Plan in accordance with condition [3] above.
6. The following operation times of the stages shall be adhered to:
 - 29 December – Stage A (12:00-00:00 hours)
 - 30 December – Stage A (13:00-01:00 hours), Stage B and C (10:05-22:00 hours)
 - 31 December – Stage A (14:00-02:00 hours), Stage B and C (10:05-22:00 hours)
7. All events authorised by this consent shall comply with the noise limits specified in Rule 6.1.5.2.1 of the Christchurch District Plan except where specific 'dB exceedances' are identified in Tables 10–12 of the Earcon Acoustic Assessment dated 16 October 2025 (Revision 14).

Advice Note: The authorised 'dB exceedances' are contained in the right column of Tables 10-12 of Earcon Acoustic Assessment dated 16 October 2025 (Revision 14). The applicable receiver for the authorised dB exceedance is contained in the far left column of those same tables. The District Plan standards otherwise to be achieved are noted in these same tables under the heading 'Noise Limit, Day / Night'.

The monitoring requirements for this condition are set within the certified Noise Management Plan required by Condition 3.

8. The noise levels and configuration for each stage and speaker positioning shall be as specified below, unless otherwise authorised by a Noise Management Plan in accordance with condition [3] above:

Stage A (at 30m from the stage)

29 December

- 12:00-00:00 hours – 90 dB LAeq15 min

30 December

- 13:00-18:00 hours - 90 dB LAeq15 min
- 18:00-22:00 hours - 95 dB LAeq15 min

- 22:00-01:00 hours - 90 dB LAeq15 min

31 December

- 14:00-18:00 hours - 90 dB LAeq15 min
- 18:00-22:00 hours - 95 dB LAeq15 min
- 22:00-00:00 hours - 92 dB LAeq15 min
- 00:00-02:00 hours - 90 dB LAeq15 min

Stage B

30 & 31 December

- 10:05-22:00 hours – 84 dB LAeq15 min @ 30m (90 dB LAeq15 min @ 15m – Front of House)

Stage C

30 & 31 December

- 10:05-22:00 hours – 84 dB LAeq15 min @ 30m (93 dB LAeq15 min @ 10m – Front of House)

Speaker Trim Heights (as modelled by Earcon, and measured above ground level (not stage height):

- Stage A - 8m
- Stage B - 7m
- Stage C - 4m

Speaker / Stage Orientation – Compass Bearings:

- Stage A – 130 degrees
- Stage B – 115 degrees
- Stage C – 105 degrees

- The LZeq (10 min) sound pressure level measured in any third octave band is not to exceed 85 dB at any time at any residential unit or at the nearest campground camping sites, except between 10pm and 2am where it shall not exceed 80 dB.

- Compliance recording and daily reporting, shall be documented and sent to Council by 11am the day after each event day via EnvironmentalHealth@ccc.govt.nz and rcmon@ccc.govt.nz.

Any complaints received over the course of the event should be forwarded to the Council on 03 941 8999 (which will divert to Council's after-hours noise control service (Allied) when offices are closed), who will liaise with the Council's Environmental Officer in charge of monitoring at CCC during any event.

- All events shall be carried out in accordance with an approved Traffic Management Plan (TMP). If any changes are proposed to the existing approved TMP Revision 5.3 approved by Keith Smith 22 September 2025 they should first be submitted to Council, by way of dutyplanner@ccc.govt.nz, for certification that they remain appropriate under this consent; at least two weeks before they are submitted to the Temporary Traffic Management team at Council for approval. Activities on any public road should be planned so as to cause as little disruption, peak traffic delay or inconvenience to road users as possible without compromising safety
- The TMP shall make provision for other users to maintain access to their sites during any event.
- STMS certified marshals are required to be in attendance for each event, for managing traffic on street and for directing on-site parking and pedestrian movements.
- No attendees will be permitted to leave the site on foot, which will be monitored by Security throughout the event.
- Parking for staff and ticketholders shall be pre-allocated (or pre-sold) up to 3400 spaces to be accommodated within the designated parking area. All communications with staff and ticketholders shall make it clear that only those with pre-allocated parking passes will be able to utilise the parking available on site and that people will not be admitted to the site unless in a vehicle. Such communications shall be clear that charter buses will be provided to meet demand from those who have requested it prior to the event through ticketing, and that those arriving at or leaving the site shall otherwise have to arrange private pick up, taxi or rideshare on site as arriving on foot or leaving by foot will not be permitted for safety reasons.
- All signage on site and along Lower Styx Mill Road, will be placed as to not obscure or detract from any traffic signs or controls, unless required as part of the approved Traffic Management Plan.

17. At least ten days before each event, a letterbox drop to residents along Lower Styx Road (from 166 Lower Styx Road to Heyders Road) as well as the residents along Nautilus Place, Seabrooke Drive, Hemingway Place, Calypso Place, and Styx River Place, advising of the proposed event date including timings and sound check times shall be completed. The letter shall include the contact details of the Event Manager as a contact should there be any questions or concerns. At the same time, a copy of the letter shall be sent to the Council's monitoring team, by way of rcmon@ccc.govt.nz.
 18. Fire and Emergency New Zealand will conduct a pre-event inspection, particularly of the identified at risk areas, and assessment of mitigation measures included within the Fire Mitigation Plan. A copy of any correspondence from FENZ confirming the suitability of mitigation measures, will be sent to the Council's monitoring team, by way of rcmon@ccc.govt.nz at least four weeks before the 20th of December.
 19. All structures and festival equipment will be removed from site within 1 month of the festival completion, aside from the permanent structures identified below, which may remain on site for the duration of the consent:
 - 2 x 40ft containers
 - 2 x 20ft containers
 - 6 x water tank 30,000L containers
 - 1 x skate ramp
- All of the permanent structures identified above shall be removed from site within 1 month of the 2027/2028 festival completion.
20. Pack-in and pack-out activity shall only occur between 07:00 and 20:00 hours and shall not exceed a noise level of 60 dB LAeq (1 hour), decreasing to 50 dB LAeq (1 hour) after 18:00, at any residential unit or the nearest campground camping site when measured and assessed in accordance with NZS 6801:2008 Acoustics – Measurement of Environmental Sound and NZS 6802:2008 Acoustics – Environmental Noise.
 21. Any temporary lighting provided on site – during or proceeding or following the event - should not be directed at residential units or roadways and should not exceed 4 lux at any residential boundary or 10 lux at any rural boundary.
 22. If requested by, and with the agreement of the owners, security will be provided at the applicant's cost at the road gates of 230 and 234 Lower Styx Road. Any such security to be provided during times that can be agreed between the parties.
 23. Pursuant to Section 128 of the Resource Management Act 1991, the Council may once per year, at any time in the months of April or May, serve notice of its intention to review the conditions of this consent for the purpose of dealing with any adverse effects on the environment which may arise from the exercise of this consent and which it is appropriate to deal with at a later stage; including but not limited to:
 - Traffic management off-site and on-site
 - Acoustic considerations and impact on surrounding properties