

**BEFORE THAMES-COROMANDEL DISTRICT COUNCIL
INDEPENDENT HEARING COMMISSIONER**

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of a resource consent application by Thames-Coromandel District Council for 20 day time and 7 night time events per year, for 15 years, at Williamson Park, Whangamata

**STATEMENT OF EVIDENCE OF NEVIL HEGLEY FOR THAMES-COROMANDEL
DISTRICT COUNCIL**

Dated: 1 October 2018

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INTRODUCTION

1. My name is NEVIL IAN HEGLEY. I have the following experience and qualifications relevant to the evidence I shall give:
 - a) I have specialised in environmental and industrial acoustic engineering for more than 40 years;
 - b) I have an MSc from Southampton University where I undertook research in acoustics in 1975/76;
 - c) I am a Member of the Institution of Professional Engineers New Zealand, the Institution of Civil Engineers London and the Acoustical Society of America;
 - d) I have appeared on the majority of the Standards sub-committees dealing with sound issues since 1977 and I was the Chairman of both the 1984 and 1999 versions of the Construction Noise Standard NZS6803;
 - e) In 2010 I received the Meritorious Award by Standards New Zealand for outstanding commitment to the development of New Zealand Acoustic Standards; and
 - f) I have been involved with the acoustic assessment of more than 25 outdoor concert venues from the Bay of Islands to Wellington.
2. I have read the Code of Conduct for Expert Witnesses as contained in the Environment Court Consolidated Practice Note (2011) and I agree to comply with it as if this hearing was before the Environment Court. My

qualifications as an expert are set out above. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

THE PROPOSAL

3. The proposal is to develop the existing Williamson Park to accommodate various types of community and public events. This evidence considers the potential noise effects of the proposal and the design criteria that will be appropriate to control the noise to within a reasonable level for the neighbours.
4. It is anticipated that up to twenty day events per year between 7:00am and 7:00pm and seven night events per year with six events between 4:00pm and 11:00pm and one event on New Year's Eve from 4:00pm to 12:30pm will be held with the emphasis on family style entertainment.
5. This evidence considers the noise from the various events and how the events will be controlled to ensure the noise for neighbours is within a reasonable limit.
6. The exact mix of events has not been finalised although the following is a list of typical events that are being planned:
 - Day time – up to a total of 20 events
Hours: 7am – 7pm
 - Night time – up to a total 7 events
New Year's Eve: 4pm – 12:30am
All other night events: 4pm – 11:15pm (music finishing at 11.00pm)
7. It is my understanding that the key area of contention in relation to noise is events which incorporate amplified music and, in particular, concerts.

Therefore, I have focused my evidence on these types of events.

PREDICTED NOISE

8. For the music events it is proposed to construct a stage in the centre of the park facing out to sea (toward the east) as shown on Figure 1.



Figure 1. Location of Stage

9. The proposed sound system to be used for the concerts has been discussed with potential concert operators and I have taken into account the levels that are often adopted at similar venue. Based on this, I am of the opinion that a sound level of 95dBA at 35m as measured at the mixing desk is realistic for both the patrons and operator to comply with. It has been assumed that the reduction in the noise between the front of the stage and the back of the stage behind the speakers will be 7dBA, which reflects the directivity effect of the speakers and the difference that has been measured at other sites.
10. Noise from concerts at Williamson Park has been modelled using the Brüel & Kjær Predictor programme. This is a powerful environmental noise calculation software package that uses a digital terrain model, which in this

case has been assumed to be flat (the small variation in height on the site and immediate surrounding land is fairly represented by this assumption). The noise output from the speaker system adopted in the calculations has the sound spectrum of similar concerts that have been measured in the field. The calculations have been undertaken in accordance with the requirements of ISO 9613-1/2 Acoustics – Attenuation of Sound during Propagation Outdoors. For this project a 10m grid has been adopted at 1.5m above ground height. The noise from the amplified music has been evaluated and the noise calculated at each grid point from which the noise contours have been determined. All calculations have been undertaken assuming a slightly positive meteorological effect and ground absorption of 0.7, which is representative of the surrounding ground. No screening effect of the houses in the residential zone has been included in the calculations so in many cases the level received will be lower than predicted.

11. Based on the above the noise contours for concerts at Williamson Park, based on a level of 95dB at 35m in front of the stage, have been calculated as shown on Figure 2.

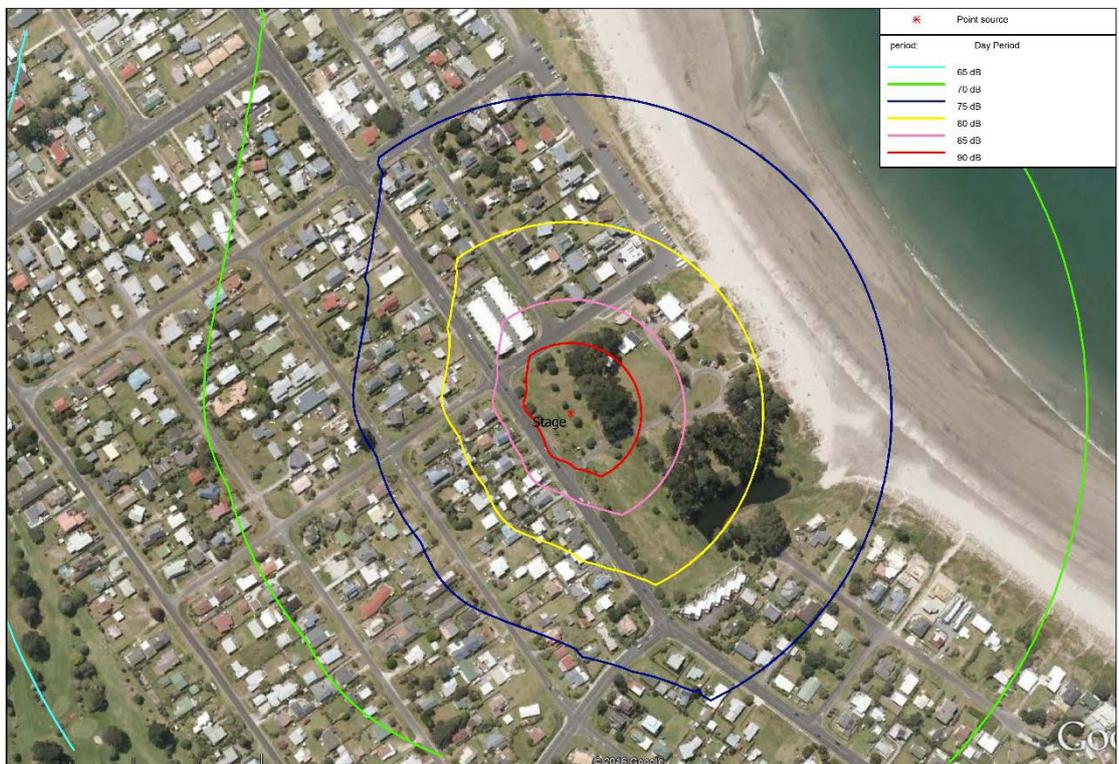


Figure 2. Predicted Noise Contours, dB L_{Aeq}

PUBLIC ADDRESS SYSTEM

12. Noise from any public address system that may be used for community events has the potential to annoy residents, as it conveys a message in which the residents will not be interested in.
13. For this reason, any public address system should be installed so that it would provide clarity and volume for the patrons, yet not annoy the residents. This will be achieved by using a low noise level system, which utilizes a relatively large number of directional speakers around the area to be covered to ensure that a speaker is always reasonably close to the receiver position and will focus on the people, not the residents outside of the park. This makes it practicable to keep the volume to within the requirements of the Proposed District Plan and ensure clarity within the park.

CROWD NOISE

14. It is generally accepted that crowd noise cannot be controlled. However, for the proposed venue crowd noise will not reach a level similar to the amplified music except possibly for a very short period when cheering may occur at the end of an item. Thus, crowd noise is not expected to be a problem for any of the events held at the park.
15. The approach not to include crowd noise in the assessment has been supported by the Environment Court, such as for the night time events at Eden Park in Auckland and the planning controls adopted at other venues around the country, such as the Wellington, Rotorua, Tauranga and North Harbour Stadiums.

DESIGN CRITERIA

16. In determining if the noise will be reasonable for the neighbours, guidance

has been taken from Proposed District Plan Decisions Version (PDP), which with respect to noise, is operative as there are no outstanding appeals.

17. As shown in Figure 3, the site is zoned Recreation with residential neighbours on three sides of the proposed venue.

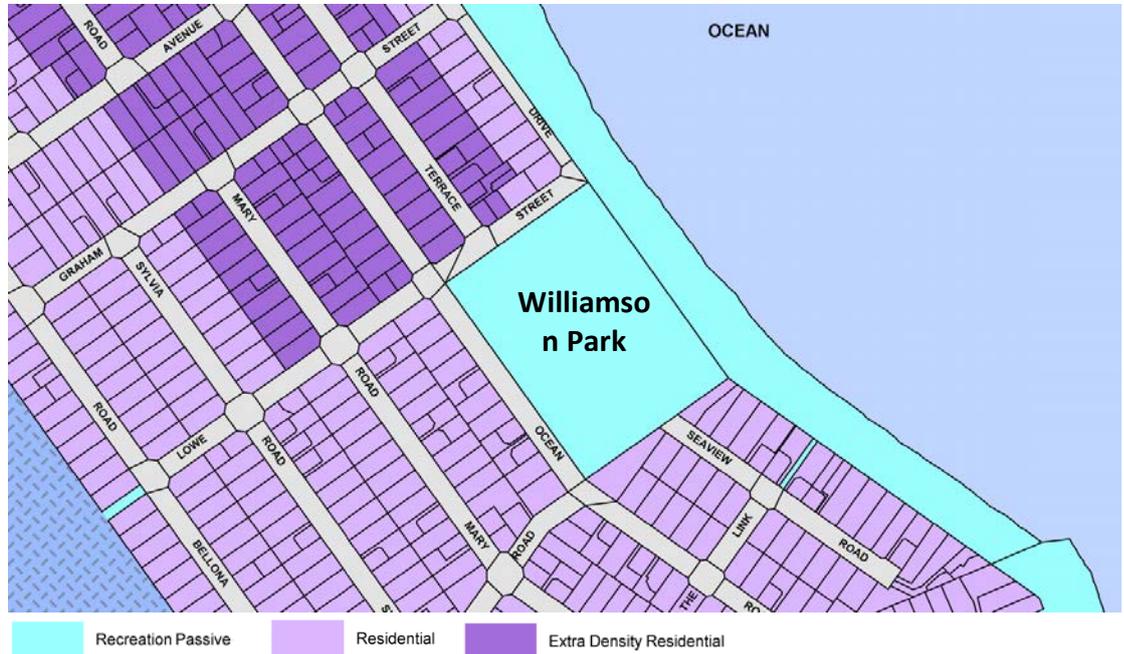


Figure 3. Site Zoning

18. The relevant noise controls in the (PDP), section 53.4, Rule 7 states:

1. A festival event and any noise from it, is a permitted activity provided:
 - a) Electronically amplified noise and vehicle noise at the notional boundary of adjacent sites from 10pm to 7am the following day is no louder than 40dB $L_{Aeq}(15min)$ and 70dB L_{AFmax} ; and
 - b) It occurs between the hours of 7am - 10pm Sunday - Thursday and 7am - 12 midnight Friday and Saturday; and
 - c) The noise of any helicopter associated with the festival, event complies with the standards in NZS 6807:1994 Noise Management and Land Use Planning for Helicopter Landing Areas (excluding Section 5: Land Use Planning); and
 - d) No buildings are erected (under this rule) that remain after the festival, event finishes; and
 - e) It lasts no longer than 12 consecutive hours; and

f) There are no more than 500 people on the site.

2. A festival, event that is not permitted under Rule 7.1 is a restricted discretionary activity.
3. The Council restricts its discretion to matters 1, 6-7, 12 and 13 in Table 6 at the end of Section 53.

NOTE

1. After 10 pm, the Council may apply excessive noise provisions under sections 326 - 328 of the RMA if noise, particularly electronically amplified noise, is excessive for the location and event.
 2. The Council recommends event planners contact the Area Manager prior to the festival, event.
19. In addition, section 16 of the Resource Management Act requires that the best practicable option must be adopted to ensure that the emission of noise does not exceed a reasonable level.
 20. After 10pm the PDP adopts a limit of 40dB $L_{Aeq(15min)}$ and 70dB L_{AFmax} .
 21. The only time when a noisier event may occur when the lower night time noise limits are in place is for the seven night time events proposed each year. In such a case there will be up to a 2½ hour period between 10:00pm - 12:30am on New Year's Eve and 1 hour on six other occasions between 10pm – 11pm when the 40dB $L_{Aeq(15min)}$ and 70dB L_{AFmax} limits are applicable.
 22. For events with relatively high noise levels such as proposed it is the total noise received over a given period that will influence the reaction to the sound, not simply the level of noise on its own. Basically, this means that one very loud sound for a short period will have a similar effect as a lower sound that continues for a longer period. The actual level will depend to some extent on the type of sound (music in this case), the existing noise environment, community expectations, the benefits that may be associated with the sound and the time when the sound occurs.

23. A higher noise level than is set in the PDP for 1 hour into the night time period (2½ hours in the case of New Year's Eve) may be considered reasonable for amplified music if the event is of limited duration. There will be up to six events when the higher noise levels could occur for 1 hour into the night time period for events other than New Year's Eve.
24. The levels proposed for the concerts may be compared to levels currently experienced at other venues throughout the country where a compromise has been reached by providing a reasonable level of acoustic amenity for the residential community and providing the public with additional entertainment opportunities that would not otherwise be available.
25. Allowing higher noise levels at entertainment venues for a limited period is accepted in many places throughout the country and is necessary if entertainment is to be provided for the community. This approach has been used at locations such as the Palmerston North Show Grounds where a level of 75dBA L₁₀ at the residential interface is permitted for 30 days each year for the full day. At Western Springs in Auckland a level of 82dBA L_{Aeq(5min)} for up to 6 nights plus 70dB L_{Aeq(5min)} for four nights of the year is permitted at the residential boundary (as well as noise from the Speedway) and at Hamilton Stadium 6 events a year at 80dBA L₁₀ are permitted. These levels are accepted by the community with the knowledge that the events are of limited duration and number each year.

PROPOSED CONDITIONS

26. When considering the above, a reasonable balance between offering entertainment with amplified music and protecting the residents from excessive noise is proposed. The noise from the proposed events shall

be controlled to a level of 95dB L_{Aeq} when measured at the mixing desk (35m from the stage), which has been adopted to calculate the noise contours shown on Figure 2.

27. Not all musical items will be played at these levels and where the level is lower the noise received by the residents will be correspondingly lower. As a guide, the area of influence will reduce by approximately quarter for the musical items where the noise is 5 - 6dBA lower than the 95dB L_{Aeq} level adopted in the predictions.
28. To provide a degree of certainty for the neighbours it is recommended there should be some conditions to control the proposed activities. These are:
 - a) Subject to the conditions below, electronically amplified noise at the notional boundary of adjacent sites must not exceed 40dB $L_{Aeq(15min)}$ and 70dB L_{AFmax} if it occurs between the hours of 10pm to 7am the following day;
 - b) For up to six occasions a year and up to 11pm, amplified noise during an event must not exceed a level of 95dB L_{Aeq} when measured at 35m from the stage;
 - c) On New Year's Eve and up to 12:30am the following day, amplified noise during an event must not exceed a level of 95dB L_{Aeq} when measured at 35m from the stage;
 - d) Noise from sound checks must not exceed 30 minutes on the day of the event and a level of 85dB L_{Aeq} when measured at 35m from the stage;
 - e) No event shall exceed 12 consecutive hours;

- f) The noise shall be measured in accordance with the requirements of NZS6801:2008 Acoustics - Measurement of Environmental Sound; and
- g) For an event where the noise level will be up to 95dB L_{Aeq} when measured at 35m from the stage the community within the 70dB L_{Aeq} noise contour [as shown on Figure 2 above] shall be advised of the event via a letter box drop a minimum of seven days before the event. As a minimum, this letter shall include the date and time of the proposed event and a contact number in case there are any concerns.

SUBMISSIONS

- 29. There are a number of submissions that raise noise as a concern to them. The majority of the submissions related to noise simply say it is of concern with relatively few expanding on their concerns. While many of the concerns expressed are addressed above the following sets out a response to specific issues raised.
- 30. One submission¹ noted that the music events approved for 2016/2017 and 2017/2018 got later and louder. Exactly the same noise limits were adopted for each event although I did not monitor the 2016/2017 event so cannot say what the level was.
- 31. The design level is for a slightly positive noise effect at the receiver position and the effect of different weather conditions will be greater with an increasing distance between the noise source and receiver position. Depending on the location of the submitter the effects of the weather could have easily made a 10dB difference to the level heard for the different events. This does not mean the event was not complying with the set levels; it means that the level received was

¹ David Strange, 29A Comins Crescent, Auckland

different. Also, the types of song played and if the song is to the liking of the receiver or not, can make the level of noise appear different.

32. It has been submitted² the noise levels to be allowed far exceed those regulations already existing. The general noise rules are developed to control an ongoing noise rather than a limited number of events. However, in this case the Council does have a rule for festival events and as pointed out above there is no specific noise limit for the daytime period. This application offers a daytime limit and requests a relaxation by 1 hour for any event other than the New Year's Eve event, which by the very nature of such an event needs to include the midnight period. The proposal provides a balance between providing entertainment for the community and minimising the adverse effects of the event for the neighbours.
33. One submission³ says the noise levels to be allowed far exceed anything in the past and the decibel levels are very dangerous and should not be allowed. The proposed levels are the same as previously approved and it is proposed to control the noise to the same level as adopted previously. As set out above, the District Plan does allow for festival events with specific noise limits.
34. I am unsure what is meant by dangerous noise levels. The highest noise level that will be received by any neighbour is approximately 85dB L_{Aeq} for a period of typically 4 hours. In terms of the OHS requirements this level is not a hearing hazard, even if the noise occurred 5 days of the week over a 40 year period.

S42A REPORT

35. I have read the officer's report and comments regarding noise and generally agree with his findings and recommendations insofar as they

² Jocelyn Wright, 114 Papanui Road, Whangamata

³ Alan Finney, 114 Papanui Road, Whangamata

relate to noise.

36. However, if the limitation to the number of ticketed events (proposed condition 7) is due to noise this cannot be supported as the noise is not related to the method of access to any concert.

CONCLUSIONS

37. When considering the above, a reasonable balance is proposed between the requirements of the suggested entertainment with amplified music and the acoustic protection of the residents.
38. Taking into account the expectations of the Proposed District Plan for any festival, the limited duration of the proposed events and the predicted noise levels, the noise will be loud but will be within a reasonable level for the neighbours. By adopting the recommended conditions any adverse effect for the neighbours will be minimised and generally will comply with the requirements of the Proposed District Plan Decisions Version.

1 October 2018

Nevil Hegley