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Daisy Ager
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Dear Daisy

WILLIAMSON PARK, WHANGAMATA

As requested I have assessed the noise from the proposal to hold two music events on the 28th January and 4th February 2017 at Williamson Park, 418 Ocean Road, Whangamata.

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

The proposed sound system to be used for the two events has been reported by the operator as having a sound level of 95dBA at 35m, which is at the mixing desk. This is considered to be a realistic level for such an event and similar to the level used in shows located in the Auckland area. 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 events.

Noise from the proposed concerts has been modelled using the Brüel & Kjær Predictor v11.10 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 noise output from the speaker system adopted in the calculations has the sound spectrum of a similar concert that was 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. The noise has been predicted to satisfy the requirements of NZS6802:2008 Acoustics – Environmental Noise.

Based on the above the noise contours for the proposed concerts, 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}

In determining if the noise will be reasonable for the neighbours guidance has been taken from both the Operative District Plan and Proposed District Plan Decisions Version.

In both District Plans the site is zoned Recreation. There are residential neighbours on three sides of the proposed venue. In the Operative District Plan, Table 1, *Standards for Noise received at Houses* is considered to be applicable as the lower levels in Table 2 are not necessary to ensure that occupants of a house are not subject to excessive noise. The levels set out in Table 1 are 55dBA L_{10} between 7am - 10pm and 45dBA L_{10} plus 70dBA L_{max} between 10pm - 7am.

The relevant noise controls in the Proposed District Plan Decisions Version (PDP), section 53.4, Rule 7 states:

1. A festival event 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) NA; and
 - d) It lasts no longer than 12 consecutive hours; and
 - e) There are no more than 500 people on the site.

The PDP does not set any noise limit at the notional boundary of adjacent sites so is less restrictive during the daytime than the Operative District Plan. However, at night time the PDP noise limits adopt the L_{Aeq} limit and even taking into account the difference between L_{Aeq} and L_{10} , the PDP is the more stringent of the two Plans. The single event sound (L_{Amax}) is the same for both Plans.

During the daytime the noise will be within the requirements of the PDP.

In both cases, the night time noise limits will be exceeded by a significant amount although it is proposed that the music will cease at 10:50pm.

For special events, such as the 2 proposed, the total noise received over a given period will influence the reaction to a 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 some time. 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.

A higher noise level than is set in the PDP may be considered reasonable for amplified music if the event is of limited duration. The two events of the proposal will start at 6pm and the music will finish at 10.50pm, a total of just under 5 hours.

The levels proposed for the events 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.

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 L_{10} at the residential interface is permitted for 30 days each year for the full day. At Western

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Springs in Auckland a level of 85dBA L_{10} for up to 6 nights a year is permitted at the residential boundary (as well as noise from the Speedway) and at Hamilton Stadium 6 events a year at 80dBA L_{10} are permitted. These levels are accepted by the community with the knowledge that the events are of limited duration and number each year.

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

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 half for the musical items where the noise is 5 - 6dBA lower than the 95dB L_{Aeq} level adopted in the predictions.

In the event approval is given to the proposal it is recommended there should be some conditions to control the noise. These are:

- i) Amplified music during an event shall not exceed a level of 95dB L_{Aeq} when measured at 35m from the stage;
- ii) Noise from sound checks shall not exceed a level of 80dB L_{Aeq} when measured at 35m from the stage;
- iii) No event shall commence before 6:00pm and shall finish by 10:50pm;
- iv) The noise from the sound checks shall not exceed 30 minutes between 12 midday and 4:00pm on the day of the event;
- v) The noise shall be measured in accordance with the requirements of NZS6801:2008 Acoustics - Measurement of Environmental Sound; and
- vi) The community within the 70dB L_{Aeq} noise contour 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.

When taking into account the expectations of the Proposed District Plan Decisions Version for any festival, the limited duration of the proposal and the predicted noise levels, the noise will loud but within a reasonable level for the neighbours.

Should you have any questions regarding the above please do not hesitate to contact me.

Yours sincerely
Hegley Acoustic Consultants



Nevil Hegley