



Assessment of Acoustic Mitigation Peer Review

Rangitooopuni Riverhead Auckland

Date: 5th May 2025

Prepared for: Rangitooopuni Developments Limited Partnership

Prepared by: Earcon Acoustics Limited

Reference: J006955.OR.1

Introduction

Earcon Acoustics Ltd has been engaged by Rangitooopuni Developments Limited Partnership (RDLP) to peer review the proposed mitigation measures in the Acoustic Memo for the proposed Rangitooopuni Development in Riverhead, Auckland (“**Subject Site**”). As requested, we have undertaken the peer review based on the following documents:

- Rangitooopuni Development Waitematā Gun Club Noise Reverse Sensitivity, prepared by Marshall Day Acoustics (MDA) dated 02/05/2025 (“**Assessment**”).
- Waitemata Gun Club Consent History and Existing Use Rights, prepared by Campbell Brown Planning dated 01/05/2025 (**Memo**)

We note that this peer review is limited in scope to the proposed mitigation measures associated with the predicted noise levels from operation of the Waitemata Gun Club in proximity to the Subject Site. We make no comment on the predicted noise levels, and take these, prima facie, as representative.

Based on our review of the Memo, we note the following:

The Proposal

The proposal subject of the Assessment pertains to a residential development in Riverhead, to the north of the existing Waitemata Gun Club (**the Gun Club**). The main sources of noise in the vicinity of the proposed development are the activities associated with the Gun Club. As per the Memo, it is our understanding that the Gun Club can lawfully undertake shooting activities during one day per month between the hours of 11am and 5pm.

The Assessment

The Assessment provides approximate gunshot noise levels received across the proposed development. The predictions are based on LAF_{max} noise descriptor, which is representative of the impulsive noise associated with a gunshot. The Assessment classifies noise received at different areas into five categories:

- Category 1: More than LAF_{max} 65dB
- Category 2: LAF_{max} 55dB-65dB
- Category 3: LAF_{max} 45dB-55dB
- Category 4: LAF_{max} 35dB-45dB
- Category 5: Less than LAF_{max}]

We note that noise from gun clubs can be represented using a range of noise descriptors, depending on the frequency of activities and times of day they occur. Nevertheless, we agree with the MDA methodology that for the subject site, the frequency of activities (one day per month) and the time of day of activities (daytime hours of 11am to 5pm), use of the LAF_{max} descriptor is appropriate and representative of the effects of noise. In addition, we agree with the noise levels ranges represented by the categories, as these generally represent the different levels of effects associated with the LAF_{max} noise descriptor used. The Assessment recommends the following with regards to each of the areas as categorised in context of noise received from the Gun Club activities:

- Categories 1 and 2 – More than LAF_{max} 55dB: The Assessment recommends that for these areas, all proposed titles in the Subject Site should include no-complaints covenants, and that residents are notified of shooting days in advance.
- Category 3 - LAF_{max} 45dB to LAF_{max} 50dB: The Assessment recommends that for these areas, all proposed titles in the Subject Site should include no-complaints covenants.
- Categories 4 and 5 – Less than LAF_{max} 45dB: The Assessment recommends that no further mitigation measures are necessary in these areas.

Noise Levels

We reference here examples of noise levels associated with other gun clubs in similar environments based on publicly available information:

Waiuku Pistol Club¹

It is our understanding that the Waiuku Pistol Club has Resource Consent that allows the following noise levels at neighbours:

- Wednesday to Sunday 10am to 4pm: LA_{max} 55dB
- On up to 18 days per year Wednesday to Sunday 10am-4pm: LA_{max} 60dB

We note this example for two reasons:

1. LA_{max} 55dB is an acceptable level of noise from a gun club operating 5 days a week for 6 hours a day.
2. In addition to that, for 18 days a year, noise levels up to LAF_{max} 60dB would be acceptable at residential receivers. We note this would be cumulative (additional to) the normal five days a week exposure to LA_{max} 55dB.

¹ https://waiukupistolclub.org.nz/UFresource/WPC_Handbook_June_2022_v1_Complete.pdf

NZ Shooting Sports Centre

The Environmental Noise Assessment² pertaining to this facility recommends adoption of the following noise limits:

- Monday to Saturday 7am to 10pm and Sunday 9am to 6pm: **LA_{max} 55dB**
- For 18 special event days: **LA_{max} 60dB**

We also quote the following from this assessment (Page 7 – Appendix A):

“It is understood that of all the noise rules associated with gun clubs around the city and afar, the Waiuku gun club noise limit has had the best outcome for both the club and the adjacent community. [...] would recommend applying those noise limits to this application.”

We note the above for two reasons:

1. LA_{max} 55dB is deemed an acceptable level of noise from a gun club operating 7 days a week, with hours extending to 10pm.
2. In addition to that (i.e. cumulatively), for 18 days a year, noise levels up to LA_{max} 60dB would be acceptable.

Cable Bay Rifle Range

We reference here the Environment Court Decision³ pertaining to noise from this facility. We note here that rifle ranges generate materially higher noise levels and effects than target shooting gun clubs.

This rifle range operated 6 days per week from 8am to 8pm and involved thousands of shots per day including high calibre rifles, resulting in high cumulative effects. Notwithstanding the high overall cumulative effects, the Environment Court decision exempted some infrequent activities, including clay shooting for up to 6 times a year, and 250 shots per week of target shooting (PDF Page 37 – Paragraph [140])

We note this Environment Court decision for one main reasons:

1. Infrequent events warrant higher allowance of noise levels, and in some cases where the frequency of events and number of shots is low, can warrant exemption.

² Environmental Noise Assessment: Page 1 – Noise Performance Standard

<https://www.aucklandcouncil.govt.nz/ResourceConsentDocuments/14%20Acoustic%20Assessment.pdf>

³ Environment Court Decision by Judge B.D. Dwyer dated 01/03/2011.

<https://www.aeservices.co.nz/wp-content/uploads/2015/07/Cable-Bay-Rifle-Range.pdf>

Review of Proposed Mitigation Measures

The Assessment recommends the following with regards to each of the areas as categorised in context of noise received from the Gun Club activities:

Categories 1 and 2 – More than LAF_{max} 55dB:

The Assessment recommends that for these areas, all proposed titles in the Subject Site should include no-complaints covenants, and that residents are notified of shooting days in advance.

While it can be argued based on the examples noted above that for a total of 12 events a year (as applies at the subject site), noise levels up to LAF_{max} 60dB may not warrant mitigation, we do agree with the recommendation in the Assessment that for this subject site, areas designated Category 1 and 2 warrant imposing no-complaints covenants. For these areas, covenants would serve (within our scope of acoustics) as a formal acknowledgement by new occupants that the gun club operates in the vicinity and has an existing lawful right to operate within its consented limits. As such, we agree the noise levels in Category 1 and 2 for areas with more than L_{Amax} 55 warrant No-Complaints Covenants.

Comments

Regarding the requirement for notification of neighbours before a gun club event, we are unsure how this would work in practice. Notification is usually imposed on the source of noise, not the receivers. It is our understanding that this application pertains to receivers of noise. If the Gun Club has Resource Consent for 12 days a year and their Consent does not include a requirement to notify neighbours, we are unsure what mechanism is available to enforce a requirement to notify. The Gun Club has a lawful right to undertake shooting activities one day a month, and unless they have an existing requirement to notify neighbours, they would be under no obligation to do so.

As an assessment for protection from reverse sensitivity, it is our understanding that existing noise sources are treated as environmental, whereby no further controls can be imposed on these existing, lawfully established noise sources. As such, we believe the requirement to notify neighbours, while well intended, is out of context and unlikely to be viable.

Recommendations – Categories 1 and 2 (More than LAF_{max} 55dB)

- The requirement to notify residents may be out of context as the proposal for the Subject Site pertains to receivers not the source of noise. We are of the opinion that notification of residents is unlikely to be practicable.

Category 3 – LAF_{max} 45dB-55dB:

As noted in the examples above (Waiuku Pistol Club, NZ Shooting Sports Centre) noise levels up to LAF_{max} 55dB are commonly deemed as acceptable in residential environments without need for additional mitigation, even when occurring almost daily and extending to evening hours.

Furthermore, when events are limited in frequency, higher noise levels would be acceptable and reasonable. In the cases above for example, up to 18 events a year with noise levels up to LAF_{max} 60dB would be deemed acceptable without need for mitigation.

For the subject site, Gun Club activities would lawfully be limited to once per month

Recommendations – Category 3 (LAF_{max} 45dB-55dB)

- We are of the opinion that the requirement to include no-complaints covenants for areas in this category (LAF_{max} 45dB-55dB) may be overly conservative and not considered necessary to manage noise or reverse sensitivity effects.

Categories 4 and 5 – Less than LAF_{max} 45dB:

We agree with the Assessment that noise at these levels for the duration, frequency and times of day these noise levels would occur, does not warrant further mitigation.

Summary

We agree with the conclusion of the Assessment that areas of the Subject Site where noise levels from Gun Club activities exceed LAF_{max} 55dB warrant a requirement that all titles in these areas include No-Complaints Covenants for the benefit of the Gun Club to protect the lawfully established activities from reverse sensitivity.

Based on similar residential areas in the vicinity of gun clubs, we are however of the opinion that noise levels below LAF_{max} 55dB do not warrant further mitigation, especially considering the lawfully established environmental noise from the Gun Club would only occur for 12 days in a year and would be limited to daytime hours.

As per the examples noted in this review, noise levels at residential receivers from target shooting at gun clubs would be acceptable up to LAF_{max} 55dB even if occurring almost daily. It is our opinion that the frequency and duration of noise up to LAF_{max} 55dB from the Gun Club activities in proximity to the Subject Site would not warrant additional mitigation.

Regarding the requirement to notify residents in areas where noise levels exceed LAF_{max} 55dB, the Assessment pertains to receivers in proximity to a lawfully established noise source. It is our understanding that existing noise sources are treated as environmental, whereby no further

controls can be imposed on these existing, lawfully established noise sources. As such, we believe the requirement to notify neighbours is out of context and unlikely to be viable or practicable.

Please do not hesitate to contact us to further discuss any aspect of this review.

Yours faithfully,

Earcon Acoustics Limited

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