

Before Gisborne District Council

Under the Resource Management Act 1991 (the **RMA**)

In the matter of applications by Gisborne District Council for resource consents to modify a stopbank at Te Karaka

Statement of evidence of Jamie Exeter on behalf of Gisborne District Council

Acoustics

14 September 2026

MC.

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1 Introduction

- 1.1 My full name is Jamie Leif Exeter. I am employed by Styles Group as an acoustics consultant and currently hold the position of Principal.
- 1.2 Gisborne District Council has asked me to provide evidence in respect of its application for resource consents to modify the stopbanks around Te Karaka (the **Stopbank Proposal**).
- 1.3 I prepared the acoustic assessment submitted with the application (the **Acoustic Assessment**) which considered construction noise and vibration and operational traffic noise from the raised sections of road.¹

2 Qualifications and experience

- 2.1 I have over 20 years' experience in acoustics. For more than 18 years I have specialised in the measurement, prediction, and assessment of environmental noise and vibration in relation to District Plans and the RMA.
- 2.2 I hold a Diploma in Audio Engineering, and I am a professional Member of the Acoustical Society of New Zealand. I have extensive experience in construction projects and regularly undertake peer review work for local authorities. I am one of the three authors of the Association of Australasian Acoustical Consultants *Guideline for Interpreting and Applying NZS 6803-1999*, the New Zealand Standard for measuring and assessing construction noise.

3 Code of conduct for expert witnesses

- 3.1 I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2023 and I agree to comply with it. I have considered all the material facts that I am aware of that might alter or detract from the opinions that I express. This evidence is within my area of expertise, except where I state that I am relying on the evidence of another person.

4 Scope of evidence

- 4.1 This evidence sets out:
 - (a) A summary of the findings of my Acoustic Assessment.
 - (b) Responses to noise matters raised by submitters.
 - (c) A summary of my noise measurements undertaken at 2424 Matawai Road (the Pine Hollow Trust property) on 8 September 2026.

¹ Acoustics & Vibration, Te Karaka Flood Management Project, Te Karaka, Gisborne, 16 April 2026, Styles Group.

- (d) Comments on the section 42A report (**s42A**).
- (e) My recommendations for the project consent conditions.
- (f) My conclusion.

5 Summary of Acoustic Assessment

Construction noise and vibration

- 5.1 Noise generated by the construction works will generally comply with the proposed limits of 70 dB L_{Aeq} and 85 dB L_{Amax} by using temporary construction noise barriers. However, compliance may not always be practicable e.g. during road raising works on Rangatira Road, Kanakanaia Road, and SH2 where the works are elevated above the dwellings and there is limited space for installing temporary construction noise barriers.
- 5.2 For these works, noise limits of 80 dB L_{Aeq} and 95 dB L_{Amax} are proposed provided the activity is identified in, and managed in accordance with, the project Construction Noise and Vibration Management Plan (**CNMVP**) and the residents are given notice before the works take place. The notice to the residents will outline the dates, timing, and duration of the works. The CNMVP will state why the higher limit is required and set out the best practicable options for mitigating the noise effects. Noise limits of up to 80 dB L_{Aeq} and 95 dB L_{Amax} are commonly adopted for short durations during construction projects in New Zealand.
- 5.3 To manage potential construction vibration effects on amenity, I recommend limits of 2 mm/s PPV at the foundations of any occupied dwelling, or 5 mm/s PPV if the activity is identified in the CNMVP and the residents are provided with notice before the works take place. I recommend that the construction vibration should comply with the guideline vibration values of the Standard DIN 4150–3:2016 *Vibrations in buildings – Part 3: Effects on structures* to avoid building damage. These limits apply irrespective of occupation and are higher than the vibration amenity limits.
- 5.4 I have recommended conditions to enable the proposed construction noise and vibration limits² and to require the appropriate notification to the receivers. I have also recommended a condition limiting the works to standard construction hours of 7:30 to 6:00 pm on Monday to Saturday. These have been adopted.

² The proposed construction noise limits are similar to the Gisborne District Plan permitted construction noise limits but adopt the current New Zealand Standard and only apply at occupied buildings. The proposed construction vibration limits are a deviation from the Gisborne District Plan limits, which I consider are not appropriate for controlling effects on amenity from construction vibration (as discussed in my Acoustic Assessment).

- 5.5 I consider overall that construction noise and vibration from the proposed works will not cause unreasonable disruption if the best practicable options to mitigate the effects are adopted through the provisions of a CNVMP that is certified by Council, and there is effective communication with the nearest receivers. This approach and the proposed limits are common for construction projects in New Zealand.

Operational noise

- 5.6 I have modelled before and after scenarios of the proposed road raising to calculate the potential difference in road traffic noise levels for the nearest receivers. My modelling assumes all other factors will be consistent, such as road surface, speed, traffic flow, and heavy vehicle counts.
- 5.7 The expected changes in road traffic noise resulting from the road raising are 0-1 dB for most of the nearest receivers, and 2 dB for two receivers near to the eastern tie-in on SH2. These changes are very small and will not be noticeable. I therefore do not consider that noise mitigation measures are required.

6 Submitter concerns regarding noise effects

29 Morris Road – Keneth and Karen McLanachan

- 6.1 The submitters have raised concerns about the proximity of the proposed haul road to their house. They have requested that the haul road be relocated to the opposite side of the stopbank to provide acoustic screening between the truck movements and their house.
- 6.2 I agree that relocating the haul road will reduce the noise effects. This change has been included in the final design.

2424 Matawai Road – Pine Hollow Family Trust

- 6.3 The submitters have raised matters of potential construction noise effects on their horses and potential disruption to business.
- 6.4 The submitters have outlined their concern that unpredictable noise and vibration levels may trigger a natural flight response in a horse and have provided relevant case studies.
- 6.5 I have reviewed the studies provided and visited the submitter's property to monitor the existing noise environment. My understanding is that the submitters' concern is primarily related to horses that are resting and grazing, rather than those engaged in activities in the arena.
- 6.6 Two of the studies provided suggest that construction noise limits for avoiding adverse effects on people may also be appropriate for avoiding effects on horses.
- 6.7 The third study recommends:
- a) Construction activities should stop when a horse is within 20 m; and
 - b) When a horse is within 50 m of construction works its behaviour should be observed to decide whether it is safe to continue the works.

- 6.8 These recommendations are requested as consent conditions by the submitters. I don't support these setbacks as conditions because:
- a) I am unsure how the 20 m setback was derived or what noise levels it is based on; and
 - b) It may be difficult for the contractor to accurately assess whether a horse within 50 m is affected, and the approach is reactive rather than proactive.
- 6.9 I recommend adopting setback distances between the stopbank works and any area where horse are grazing that are based on L_{Amax} noise limits. This allows the setback distance to be decreased if physical mitigation is used to reduce the noise emissions (e.g. temporary construction noise barriers).
- 6.10 The studies provided by the submitter suggest that horses react to unexpected loud transient sounds rather than variable continuous sounds or expected sounds. I witnessed this during my measurements when horses in an adjacent paddock were undisturbed by road traffic noise but were clearly startled by what sounded like a gunshot.
- 6.11 Transient and impulsive sound generated by construction works and truck movements are typically measured using the L_{Amax} descriptor. The L_{Amax} is the maximum A-weighted³ sound pressure level measured during a sample period (different to the L_{Aeq} which measures the average sound level over time).
- 6.12 I measured the existing L_{Amax} noise levels across the submitters' property generated by trucks passing on State Highway 2 (SH2) at various speeds. These were predominantly laden and unladen logging, agriculture, and freight trucks. Due to local roadworks, the measurements included L_{Amax} noise levels generated by engine braking and heavy vehicles accelerating. The horses in the paddocks and in the arena did not appear to be disturbed or react to the level or character of sound generated by road traffic on SH2.
- 6.13 The monitoring locations are displayed in Figure 1.

³ A frequency weighting applied to sound measurements to approximate how the human ear perceives loudness.

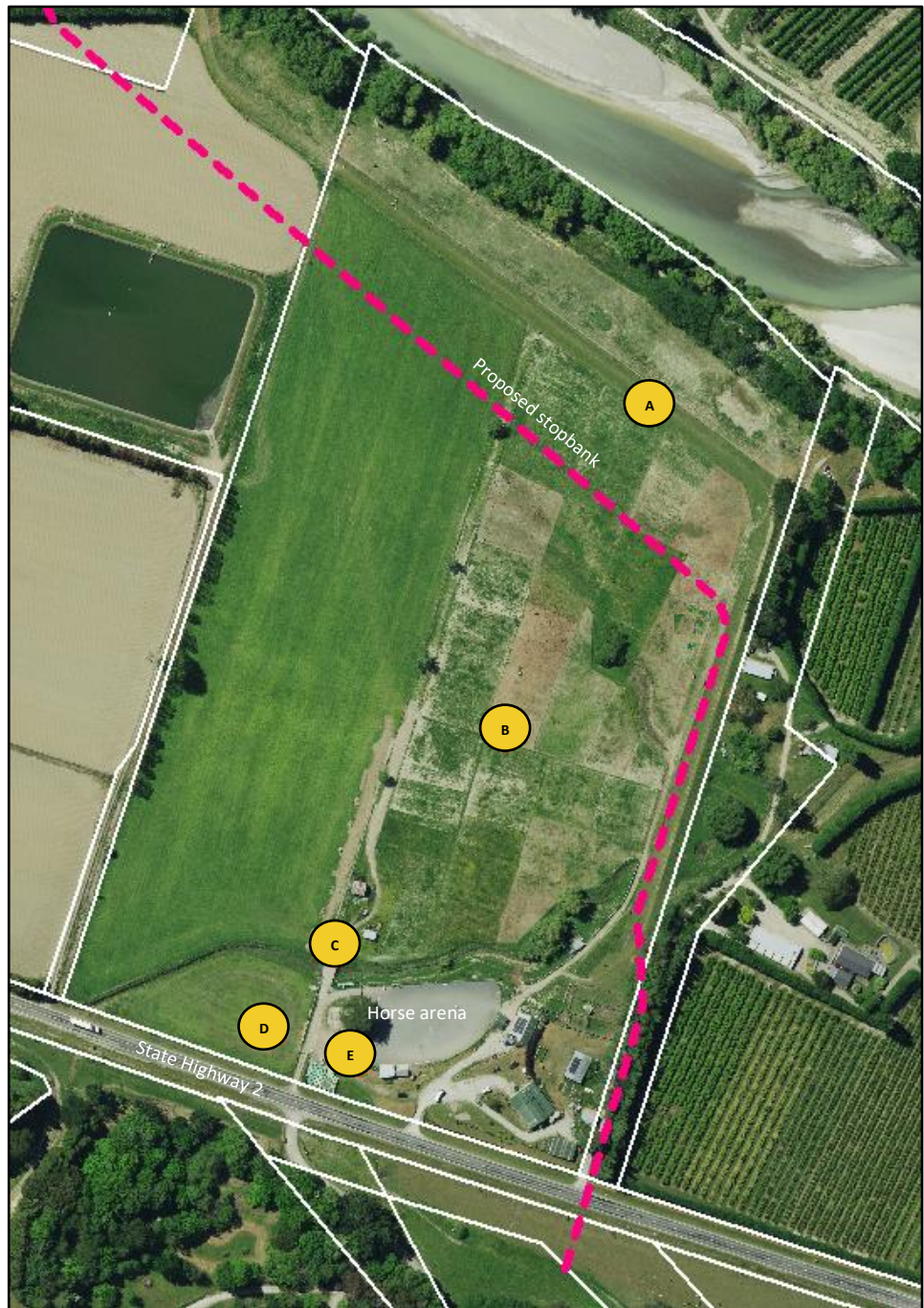


Figure 1: Noise monitoring locations at 2424 Matawai Road

6.14 The highest measured L_{Amax} noise levels generated by trucks on SH2 are (cross referenced with Figure 1):

- A. North of grazing paddocks on existing stopbank: 61 dB L_{Amax} .
- B. Approximate centre of grazing paddocks: 69 dB L_{Amax} .
- C. Southern end of grazing paddocks: 72 dB L_{Amax} .
- D. South-western grazing paddock: 81 dB L_{Amax} .
- E. South-western corner of the arena: 81 dB L_{Amax} .

- 6.15 The proposed stopbank works will primarily be undertaken by excavators, compaction rollers, and trucks. These sources will generate reasonably consistent noise that is similar in character to noise from trucks on SH2. However, there is a risk of loud transient noise events being generated by truck tailgates slamming shut. I recommend that the CNVMP includes provisions for avoiding tailgates slamming when there are horses in an adjacent paddock.
- 6.16 Assessing potential noise effects on horses is outside my expertise. My recommendations for limits and mitigation are based on my noise monitoring data and the studies provided in the submission. They are provided to inform an assessment of the potential noise effects on the horses.
- 6.17 I recommend adopting the District Plan permitted noise limit of 85 dB L_{Amax} but applying this in any area where horses are grazing. Adopting this approach would make the noise limits considerably more stringent when stopbank works are in the northern area of the submitters property because it will move the assessment point from 1 m from the dwelling to the nearest paddock occupied by horses – potentially more than 200 m nearer to the works.
- 6.18 The recommended limit of 85 dB L_{Amax} equates to a minimum setback distance of 30 m when based on conservative (high) assumption that the noisiest plant involved with the stopbank works could generate a noise level of 95 dB L_{Amax} at 10 m. The setback distance could be reduced to 13 m if a temporary construction noise barrier is used between the plant and the horses grazing.
- 6.19 Any construction noise barrier used to reduce the setback distance would need to be at least 2.4 m high and constructed from solid materials that are at least 7 kg/m² in surface mass. The barrier would need to completely block the line of sight between the plant and the horses. These specifications and other options for reducing the setback distance, such as using smaller plant, will be included in the CNVMP.
- 6.20 Figures 2 and 3 show examples of the unmitigated and mitigated⁴ areas where the noise levels could exceed 85 dB L_{Amax} at various stages of the stopbank construction. I understand that with early and effective communication from the contractor, it may be possible for the submitters to schedule paddock rotation to avoid the need for horses to graze in the areas nearest to the stopbank works.

⁴ With a 2.4 m high construction noise barrier as specified in Paragraph 6.19.

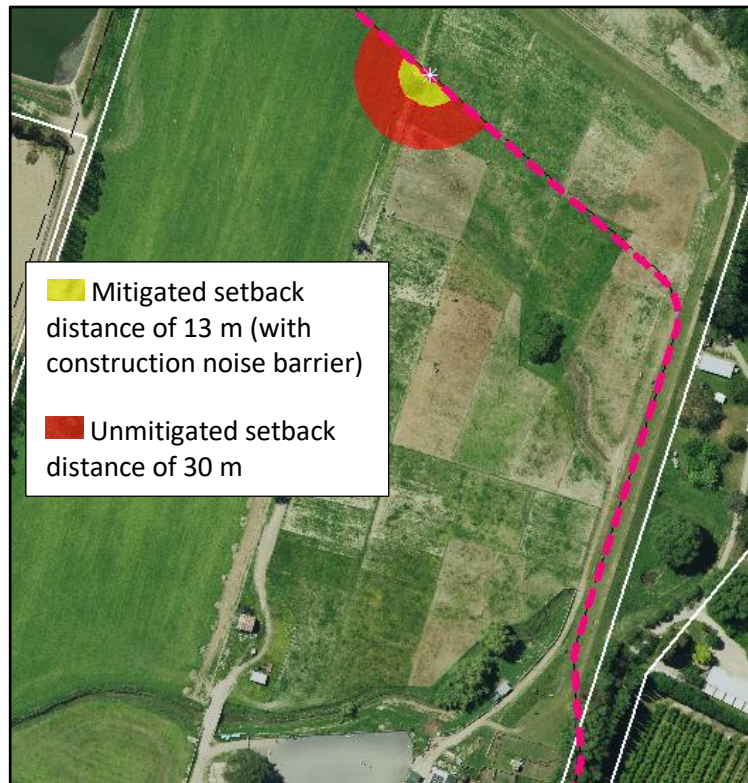


Figure 2: Setback areas during northern stopbank works

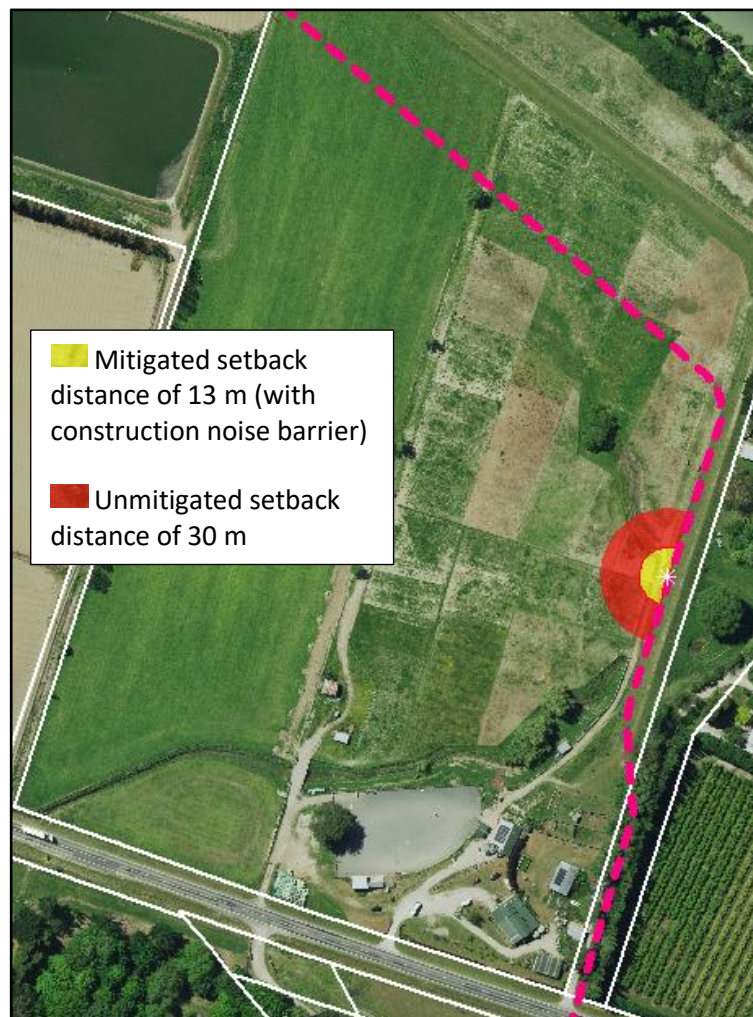


Figure 3: Setback areas during eastern stopbank works

- 6.21 To address the submitters' concerns regarding potential disruption to business, I recommend communication between the contractor and the submitter before tree and vegetation removal is undertaken at the south-eastern section of the stopbank.
- 6.22 In my view, communication between the contractor and the submitter will be a key factor in addressing the submitters' concerns.
- 6.23 I recommend that the project CNVMP includes a separate section on managing noise effects on 2424 Matawai Road that outlines:
- (a) Procedures for communicating with the submitters.
 - (b) Minimum setback distances with and without mitigation.
 - (c) The requirement to avoid tailgates slamming shut when horse are within 30 m of the works.
 - (d) Mitigation and management measures available for complying with the L_{Amax} noise limits.

7 Section 42A report

- 7.1 The s42A report does not raise any additional noise matters. I have not identified any areas of disagreement.
- 7.2 The s42A states that Council's Environmental Health Officer is supportive of the proposal subject to conditions, which have been adopted.
- 7.3 Regarding potential noise effects on 2424 Matawai Road, the s42A states '*I am satisfied that a management solution is likely and that the effects will be minor and acceptable for this submitter*'. I agree that the works can be managed through conditions and the CNVMP to ensure that the effects are reasonable.

8 Proposed consent conditions

- 8.1 I have reviewed the latest proposed consent conditions with respect to noise and vibration. I support them as appropriate for the project and consider they can be complied with.
- 8.2 I recommend that the following should also be specified in the condition set:
- a) A noise limit of 85 dB L_{Amax} in any area occupied by horses at rest or grazing at 2424 Matawai Road.
 - b) A separate section in the CNVMP for managing noise effects on 2424 Matawai Road.
 - c) The requirement to avoid truck tailgates slamming when horses at 2424 Matawai Road are within 30 m.

9 Conclusion

- 9.1 Overall, I consider that noise generated by the proposal will not cause unreasonable effects if the proposed conditions, including my recommendations in Paragraph 8.2 of this evidence, are imposed and complied with.

Jamie Exeter

14 September 2026