

**Before the Hearings Panel
At Wellington City Council**

Under Schedule 1 of the Resource Management Act 1991

In the matter of the Proposed Wellington City District Plan

**Statement of evidence of Sean Louis Syman on behalf of Wellington City
Council (Noise)**

Date: 3 July 2023

INTRODUCTION:

- 1 My full name is Sean Louis Syman. I am an Associate Acoustic Consultant in the Wellington office of SLR Consulting Limited, an environmental consultancy with offices across New Zealand and internationally.
- 2 I have prepared this statement of evidence on behalf of the Wellington City Council (the **Council**) in respect of technical related matters arising from the submissions and further submissions on the Proposed Wellington City District Plan (the **PDP**).
- 3 Specifically, this statement of evidence relates to the matters in Part 2 – District-Wide Matters / General District-Wide Matters / Noise; APP4 Permitted Noise Standards; APP5 - Fixed Plant Noise Standards; and APP6 – Permitted Noise Standards for Temporary Activities (the **Noise Chapter**). My statement of evidence addresses submissions related to rail noise and vibration, road vibration, Temporary Military Training Activities (TMTA), live music venues, and other general noise and vibration matters.
- 4 Submissions related to airport noise, road noise, helicopter noise, port noise and minimum ventilation standards for habitable rooms requiring sound insulation have been addressed in the evidence of Malcolm Hunt.
- 5 I am authorised to provide this evidence on behalf of the Council.

QUALIFICATIONS AND EXPERIENCE

- 6 I hold a Bachelor of Engineering with Honours (Mechanical) from the University of Canterbury, gained in 2014.

7 I have worked as a professional consultant in acoustics and vibration for 8 years. I began my current position with SLR Consulting Limited in April 2023. Prior to this, I was employed by Aercoustics Engineering Ltd, an acoustics and vibration consultancy based in Toronto, Canada, for 5 years as a Senior Project Manager and the Residential Acoustics sector lead. I was previously employed from 2015 – 2018 by Marshall Day Acoustics working as an acoustic consultant in Wellington.

8 I am a Member of the Acoustical Society of New Zealand.

Code of conduct

9 I have read the Code of Conduct for Expert Witnesses set out in the Environment Court's Practice Note 2023. I have complied with the Code of Conduct in preparing my evidence and will continue to comply with it while giving oral evidence before the Council. My qualifications as an expert are set out above. Except where I state I rely on the evidence of another person, I confirm that the issues addressed in this statement of evidence are within my area of expertise, and I have not omitted to consider material facts known to me that might alter or detract from my expressed opinions.

SUMMARY

10 My name is Sean Louis Syman.

11 I have been asked by the Council to provide evidence in relation to submissions on the proposed district plan, in relation to the Noise Chapter, Te Oro.

12 My statement of evidence addresses submissions related to rail noise and vibration, road vibration, Temporary Military Training Activities (TMTA), live music venues, and other general noise and vibration matters. Submissions related to airport noise, road noise, helicopter

noise, port noise and minimum ventilation standards for habitable rooms requiring sound insulation have been addressed in the evidence of Malcolm Hunt.

- 13 My evidence sets out the reasoning behind my recommendations as captured in the Section 42A report in response to the submissions on the Noise Chapter.

INVOLVEMENT WITH THE PROPOSED PLAN

- 14 I was not involved in the drafting of the Noise Chapter or associated appendices (Appendices 4-6). Due to issues of availability from previous experts involved I was engaged by the Council to provide expert acoustic and vibration advice. I have been involved in the Proposed District Plan since May 2023, primarily providing technical advice related to submissions raised on the Noise Chapter and associated appendices.

- 15 In carrying out my assessments I have attended several meetings with Council's in-house compliance / noise officers (Matthew Borich and Lindsay Hannah) and attended meetings with other experts representing submitters Waka Kotahi, KiwiRail, CentrePort and Wellington International Airport Limited (WIAL).

SCOPE OF EVIDENCE

- 16 My statement of evidence addresses the following submissions:
- KiwiRail (408)
 - Waka Kotahi NZ Transport Agency (for vibration) (370)
 - Save our Venues (445)

- New Zealand Defence Force (423)
- BP Oil New Zealand, Mobil Oil New Zealand Limited and Z Energy Limited (The Fuel Companies) (372)
- Woolworths New Zealand Limited (359)
- Fire and Emergency New Zealand (273)

KIWIRAIL (408)

- 17 The KiwiRail submission requests a new rule including a standard framework to provide options for developers in achieving what KiwiRail consider an appropriate level of amenity from noise and vibration associated with the rail corridor, identified as “NOISE-SX” in the submission.

Noise

- 18 The proposed NOISE-SX rule sets maximum indoor railway noise levels for new habitable spaces constructed within 100m of the rail corridor. I consider the proposed indoor noise limits reasonable as they align with the design sound levels recommended in NZ Standard AS/NZS 2107:2016 Acoustics – Recommended design sound levels and reverberation times for building interiors. NOISE-SX requires that applicants undertake an acoustic assessment of rail noise - for which KiwiRail has provided basic train source noise levels at a distance, with no source spectrum. I note that no noise contours are provided, as are provided for similar noise generating activities for the same purpose, for the example the airport.
- 19 NOISE-SX also provides a noise barrier option, but this approach lacks acoustically important details. There is no clarity on terms such as what is meant by “completely blocks line of sight” or details of noise barrier

construction. Therefore, as written, this part of the standard could be seen as validating significant height barrier structures, even for single storey dwellings, which may not otherwise be permitted due to the Plan rules around height in relation to boundary. The submission also includes no provisions relating to the circumstances in which KiwiRail itself would employ barriers for noise mitigation of noise sensitive activities at least 50m of railway corridor (I note this, as acoustic barriers are most effective closest to the noise source).

- 20 Reverse sensitivity effects from all noise sources across Wellington are addressed in the Noise Chapter in Standards NOISE-S4 and NOISE-S5 through setting minimum sound insulation requirements for the building envelope. NOISE-S4 applies within 40m of the railway corridor, and NOISE-S5 applies from between 40m and 100m of the railway corridor.
- 21 KiwiRail's proposed use of indoor noise limits would therefore be inconsistent with rest of the Noise Chapter. I consider that maintaining consistency may allow for ease of application and compliance for developers and council across the district.
- 22 I agree that the use of an indoor noise limit can achieve similar reverse sensitivity management outcomes. However, this approach typically requires known and fixed upper external noise levels (for example permitted activity zone noise limits or airport noise contours) to achieve reliable outcomes. This means that subject to the noise generating activities meeting set noise emission limits, the building treatment to achieve an appropriate internal amenity level for habitable spaces can be relied upon.
- 23 The proposed KiwiRail approach does not include noise contours or provide a guarantee of noise generated by the rail network, so introduces a requirement for acoustic measurement and/or modelling

to identify external noise levels. It also assumes the same noise level for freight and passenger rail, which could potentially result in significant and unnecessary overdesign. Further, noise generated by rail movements changes with time (wheels and tracks degrade and generate higher levels of noise). Without a corresponding noise control and/or maintenance policy for the rail operator, there is no guarantee for applicants that go to the expense of designing sound insulation (or for the rail operator seeking to avoid reverse sensitivity effects), that the internal noise limit will not be exceeded at some future point.

- 24 Based on the basic KiwiRail railway noise levels in NOISE-SX, the approximate external noise level at a building façade with an unobstructed view 40m from the track would be 65 dB LAeq(1h). The sound insulation performance required under NOISE-S5 would result in internal noise levels of approximately 35 dB LAeq(1h), which aligns with the indoor noise limits in NOISE-SX for sleeping areas. Therefore, I consider that the outcome of the proposed plan standards NOISE-S5 and NOISE-S4 provide a similar level of acoustic amenity as that sought in the KiwiRail submission.
- 25 NOISE-S4.4 and NOISE-S5.4 provide for an assessment of the noise level incident on the most exposed part of the exterior of a habitable room. If this is less than 55 dB LAeq(1h) for rail noise, then sound insulation is not required. This provides a path to avoid the potential for “over design” by enabling applicants to identify sound insulation performance based on exposure to noise.
- 26 On this basis I consider the existing provision requiring NOISE-S4 within 40m of a railway corridor and NOISE-S5 between 40m and 100m of a railway corridor would achieve a similar outcome to that which KiwiRail are seeking to achieve.

- 27 I consider that there is scope to refine the rail noise provisions on the basis that passenger rail is quieter than freight rail, which may reduce the setback distances where rail noise needs to be considered along lines which only carry passenger trains. However, no source noise levels have been provided by KiwiRail for passenger rail movements and so it is not possible to identify reasonable distances. Further discussion on this topic would be required if this approach is desired.
- 28 For these reasons I do not agree that an individual standard for railway noise is required within the plan. Further, I believe that potential reverse sensitivity noise effects on rail are already sufficiently addressed by the existing provisions in the Noise Chapter.

Vibration

- 29 KiwiRail's proposed NOISE-SX seeks that internal indoor vibration levels not exceeding 0.3 mm/s $V_{w,95}$ be achieved for new habitable spaces (including via alteration to existing buildings) within 60 m of a rail corridor. The proposed limit is Class C as defined in Norwegian Standard NS 8176.E:2017 - Vibration and shock — Measurement of vibration in buildings from land-based transport, vibration classification and guidance to evaluation of effects on human beings. This would require measurement of vibration levels and design of mitigation measures, if necessary, to meet the proposed limits for all new habitable spaces within 60 m of a rail corridor.
- 30 KiwiRail's submission seeks the addition of specific construction options as a compliance pathway to avoid the need for measurement, however this is only provided for a single storey construction and so is likely to be limited in its use. It is also likely to be impractical in most instances for dwellings seeking to build extensions to isolate only the extended element of the dwelling.

- 31 I agree with the intent of including rail vibration limits in the Noise Chapter and the limits proposed by KiwiRail; however, I have concerns with how this is presented and proposed in the KiwiRail submission as I set out below.
- 32 As previously noted for noise, the proposed KiwiRail approach does not include vibration contours or provide a guarantee of vibration generated by the rail network. It also assumes the same set back distance for freight and passenger rail, which could result in potential unnecessary measurement and assessment for buildings not exposed to vibration.
- 33 The submission does not provide source vibration data (as is partially provided for noise) or other evidence to support a distance of 60m from the railway corridor being appropriate. Further, there is no differentiation given for the distance where this would apply for freight and passenger carrying lines, which generate different levels of vibration. If this requirement is to be considered, source vibration levels or other evidence for both freight and passenger rail should be provided to support proposed distance(s) at which it should apply. If a rail vibration standard was to be pursued in the district plan, in my opinion it would first require relevant ground vibration data be provided for freight and non-freight/passenger lines (for example, the Johnsonville line) to determine the relevant assessment distances.
- 34 Notwithstanding, even with vibration data provided there are potential issues relating to the longevity of the outcomes sought. As noted above in relation to noise, vibration levels generated by rail movements change with time (wheels and tracks degrade and generate higher levels of vibration). I am not aware of any (non-district plan) requirement for KiwiRail to maintain a certain level of track condition, which could result in increased rail vibration levels over time. Without a corresponding vibration control and/or maintenance policy for the rail

operator, there is no guarantee for applicants that go to the expense of vibration-isolation (or for the rail operator seeking to avoid reverse sensitivity effects), that the vibration level limit will not be exceeded at some future point.

35 Furthermore, I understand that the Council currently has limited expertise and/or equipment for the review of vibration. There are also a limited number of acoustic specialists in NZ who can undertake these reviews. The technical knowledge and limited availability in NZ of suppliers able to provide measurement of vibration, and design and installation of vibration isolation, may result in time and cost implications for applicants. I consider that in some cases these time and cost implications may be significant and a barrier to development.

36 Whilst potentially challenging in the New Zealand regulatory framework, I recommend that if a vibration control is adopted it would work best if there were a corresponding vibration control and/or maintenance policy for the rail operator.

37 In summary while I consider that vibration sensitive activities in proximity to the railway corridor are worthy of consideration as a potential reverse sensitivity effect, I do not consider that sufficient information has been submitted to support the proposed requirements of NOISE-SX as presented in the submission.

WAKA KOTAHI (370) (WITH REGARDS TO VIBRATION ONLY)

38 I have been asked to address the vibration elements of the Waka Kotahi submission.

39 The indoor vibration level limit sought by Waka Kotahi is the same as that sought in the KiwiRail submission, being 0.3 mm/s V_{w,95} which is Class C as defined in NS 8176.E:2017.

- 40 I agree with the intent of including rail vibration limits in the Noise Chapter and the limits proposed by Waka Kotahi; however, I have concerns with how this is presented and proposed in their submission as I set out below. I note that the Waka Kotahi issues are similar to those set out above related to the proposed KiwiRail vibration limits.
- 41 From my experience, a newly constructed and/or well-maintained road can generally meet the proposed limit at approximately 2 metres from the road side. In comparison, a road in a degraded state could be expected to meet the proposed limit approximately 20m from the roadside. This aligns with information as stated on the Waka Kotahi website¹, that significant vibration issues mostly occur where there is a defect in the road surface, or the road is in a deteriorated condition (i.e., a road with holes, abrupt changes in surface levels etc). Therefore, with well-maintained roads vibration should not become an issue of concern unless dwellings are very close (in the order of 2m) from the side of a state highway.
- 42 I am not aware of the specific road maintenance requirements which apply to the roads which Waka Kotahi is responsible for across Wellington. However, I would expect that typical maintenance of their assets to remedy defects and road deterioration would likely result in the avoidance of reverse sensitivity effects. Without a specific maintenance policy related to road conditions there is no guarantee for applicants that go to the expense of vibration-isolation (or for Waka Kotahi seeking to avoid reverse sensitivity effects) that the vibration level limit will not be exceeded at some future point.

¹ [Frequently asked questions about noise and vibration | Waka Kotahi NZ Transport Agency \(nzta.govt.nz\)](https://www.nzta.govt.nz/frequently-asked-questions-about-noise-and-vibration/)

- 43 As for rail, there may be significant time and cost implications in requiring the developers of noise sensitive buildings to meet the proposed requirements of Waka Kotahi.
- 44 For the reasons outlined above, I do not consider sufficient evidence has been provided to support the vibration standards sought by Waka Kotahi, given the low risk of vibration issues occurring.

SAVE OUR VENUES (445)

- 45 The Save Our Venues submission seeks to provide protection from reverse sensitivity issues related to noise for established and new live music venues in urban mixed-used areas. It seeks that NOISE-R3 be amended to require new noise sensitive activities constructed within 40m of a lawfully established live music venue and/or within the Central Area to meet the requirements of NOISE-S4 for high noise areas.
- 46 The “Central Area” as referred in the submission does not exist in the Proposed Plan. I have assumed that this refers to the City Centre Zone in response to this submission.
- 47 I am not aware of any definitions for a lawfully established live music venue or the application of this within the Plan. If NOISE-R3 was to apply to any new noise sensitive activities within 40m of a lawfully established live music venue, residents and developers would have to be made aware of this through the Plan. I consider that this may present an unworkable challenge, as it implies the Plan would need to be updated with each newly established live music venue. I note that there is no detail provided in the submission regarding the noise emission level limit from venues sought by the submitter, as received at noise sensitive spaces within 40m.

- 48 Based on the information provided by Save Our Venues, I do not agree with the requested amendment to NOISE-R3 to include new noise sensitive activities constructed within 40m of a lawfully established live music venue. Per the proposed plan, and per the submission as presented, venues must meet the noise emission level limits determined by the relevant receiving zone, set out in the Tables in APP4. Noise from venues is therefore effectively controlled by the operational noise emission limits within the receiving zone. NOISE-R3 within the proposed plan serves to identify zones and overlays that require increased sound insulation performance for new habitable spaces but does not increase the noise emission limits for permitted activities. The noise emission limits for permitted activities are determined by the receiving zone.
- 49 In the Proposed plan, new noise sensitive activities within the City Centre Zone, Mixed Use Zone, Local Centre Zone and Metropolitan Centre Zone and Neighbourhood Centre Zone are subject to NOISE-S5. New noise sensitive activities in these zones are required to provide an external to internal noise reduction for habitable rooms of not less than 30 dB $D_{tr,2m,nT,W} + C_{tr}$.
- 50 NOISE-S4, as sought by the submission to apply to new noise sensitive activities for the whole City Centre Zone, requires provision of an external to internal noise reduction for habitable rooms of not less than 35 dB $D_{tr,2m,nT,W} + C_{tr}$ – this being a 5 dB greater level of sound insulation than NOISE-S5.
- 51 The proposed district plan maps a Courtenay Place Noise Area, essentially covering an area of bars and venues between Tory Street and Cambridge Terrace. In the proposed plan, NOISE-S4 applies to the Courtenay Place Noise Area, and in the operative plan a similar level of performance of $D_{nT,w} + C_{tr} > 35$ dB applies in the Courtenay Place Area.

- 52 All noise emitting activities in the City Centre Zone, including those within the Courtenay Place Noise Area, are subject to the noise emission limits presented in Table 18 APP-4 of the Proposed Plan. Under the notified Proposed Plan, live music venues within the City Centre Zone, inclusive of the Courtenay Place Noise Area, must meet limits of 60 dB $L_{Aeq(15min)}$ and 85 dB L_{AFmax} as received in any other site in the City Centre Zone.
- 53 The NOISE-S5 requirements for new noise sensitive activities are based on achieving appropriate internal acoustic amenity considering the external noise limits which apply in these zones. NOISE-S5 and the limits in Table 18 APP-4 would result in internal noise levels of approximately 30 dB $L_{Aeq(15min)}$, which I consider to be appropriate as they fall below the recommended 35 – 40 L_{Aeq} internal noise levels for sleeping areas in inner city areas from AS/NZS 2107-2016 Acoustics – Recommended Design Sound Levels and Reverberation Sound Levels for Building Interiors.
- 54 I consider that increasing the sound insulation rating requirements across the entire City Centre Zone by 5 dB would provide limited further benefit to live music venues or new habitable spaces, as live music activity noise within the zone is primarily controlled by the operational noise emission limits of Table 18 APP-4, not by sound insulation performance requirements.
- 55 Noise generating activities such as venues are required to comply with any noise emission limits within the Plan and to take reasonable and practicable options to reduce noise emissions from their site under the requirements of Section 16 of the RMA. I consider that this can be achieved for venues through sound insulation design of the venue and basic administrative controls such as keeping windows and doors closed during events.

56 Statistical data gathered by WCC² over a period from 2000 - 2017 shows that since the introduction of sound insulation requirements within the Central Area (as per the Operative Plan) and Courtenay Place Noise Area, noise complaints regarding entertainment venues have decreased, even though the number of entertainment venues has stayed steady during that period. In 2017, 85% of complaints against entertainment venues were from dwellings that did not meet the insulation standards in the plan.

57 Furthermore, including the City Centre Zone in its entirety within NOISE-S4 would have potential cost implications on construction of new habitable spaces within the City Centre Zone. Implications of increasing the sound insulation performance from NOISE-S5 to NOISE-S4 are:

- Minimising glazed areas of façade;
- Specialised high-performance glazing;
- Excluding the use of sliding doors and windows; and
- Lightweight cladding constructions become less constructable, as such facades would require a minimum of two layers of plasterboard on resilient channel, or higher density external wall and roof constructions.

58 For the reasons stated above I do not agree that NOISE-S4 should be required for the entire City Centre Zone and within 40m of a lawfully established Live Music Venue.

² *Reverse Sensitivity issues between noise sensitive activities & commercial activities in inner city Wellington*, Matthew Borich & Ryan Cameron, 2019

59 The submission also seeks to establish a special entertainment precinct designation to protect existing and new venues.

60 I agree that live music venues should receive some consideration within the Plan. I consider that there may be scope to expand upon the existing Courtenay Place Noise Area, to create an “Entertainment Precinct” or otherwise, to allow for live music as a permitted activity within other city areas where there may be a higher concentration of activities of this nature (or a desire to increase the concentration of these activities in the future). However, I also note that increased numbers of noise emitting activities in close proximity to each other can lead to an overall increase in the ambient noise environment due to cumulative effects, despite each individual activity complying with the noise rules.

61 As noted above, I consider NOISE-S5 to be appropriate in the City Centre Zone. However, if a new or expanded precinct with the specific purpose of enabling the establishment of live venues was introduced, I recommend this be subject to NOISE-S4, similar to the Courtenay Place Noise Area, to consider the potential cumulative noise effects of a denser population of venues.

62 The Save Our Venues submission raises concerns with Council’s noise control enforcement process. I consider that this is not a matter the plan provides for and is a matter for the Council enforcement team outside of the District Plan Review Process.

NEW ZEALAND DEFENCE FORCE (423)

63 New Zealand Defence Force (NZDF) seeks amendments to policies and standards related to temporary military training activities (TMTA). These policies and standards are split across the Temporary Activities Chapter and the Noise Appendices. I note that the provisions relating to the Temporary Activities Chapter will be heard during a later hearing

stream. However, submissions on the TMTA noise provisions are being addressed in this hearing stream. These include allowing TMTA on Sundays and replacing the TMTA noise standards within the Proposed Plan in Table 26 APP6, Permitted Activity Standards for Temporary Military Training Activities, with bespoke noise standards as provided in Attachment 3 of the submission.

- 64 I agree that TMTA should be able to occur on a Sunday, provided that appropriate noise standards for TMTA are met.
- 65 NZDF has provided additional information to support the amendment sought for Table 26 APP6, Permitted Activity Standards for Temporary Military Training Activities in two memos: *NZDF – TMTA separation distances*; and *TMTA Mobile Noise*, both prepared by Tonkin+Taylor and dated 22 June 2023. I note that the further information by NZDF, provided in *TMTA Mobile Noise*, recommends some changes to the Permitted Activity Standards for Temporary Military Training Activities – Mobile noise levels. I recommend that this information be presented in evidence from NZDF.
- 66 The submission seeks an amendment for Weapons Firing and/or use of explosives, being that Notice is provided to Council at least 5 working days prior to the commencement of the activity. I note that this could create an inconsistency with TEMP-S6 criteria point 7 which requires the public to be notified no less than 14 working days prior to the temporary military training activities, including information about the proposed activity, its hours and duration. I recommend that this requirement for notice be clarified by the Council and recommend that this be clear in TEMP-S6 and not placed in APP-6 to avoid confusion.
- 67 The submission seeks to reduce the minimum separation distances to the notional boundary of any building housing a noise sensitive activity for weapons firing and/or the use of explosives. Further information

provided by NZDF states that this is based on 40/81 mm mortars, deemed the worst case for TMTA noise by NZDF, to comply with peak sound level limits of 95 dBC from 0700 hours to 1900 hours and 85 dBC to 0700 hours. It is stated that the separation distances in Table 26 of the Proposed Plan are based on howitzers as a worst case for TMTA, but that these are no longer in use by NZDF.

- 68 If the worst-case weapons used in TMTA have changed, I support the submission points Attachment 3 1.b) and 1.c) regarding weapons firing and/or the use of explosives, however NZDF must provide the supporting information as evidence. I do note that as the controls do not specifically list the types of weapons or activity, there is a potential for future weaponry changes which may impact the distances and peak noise levels in the control.
- 69 In the submission, it is sought that mobile noise sources comply with Table 2 and Table 3 of NZS 6803:1999 Acoustics – Construction Noise. In further information provided by NZDF, it is noted that the use of NZS 6803:1999 in this manner is inconsistent with the Noise and Vibration Metrics Standard (NVMS) - Chapter 15 of the National Planning Standards. Use and reference to New Zealand Standards in district plans is only deemed appropriate if the source of noise is within the scope of the relevant standard. NZDF mobile noise sources fall outside the scope of NZS 6803:1999. In further information, NZDF have presented tables for mobile noise sources to be included in APP6. These tables take the typical term duration noise levels from NZS 6803:1999 Table 2 and Table 3, where a typical duration is more than 14 calendar days but less than 20 weeks.
- 70 The submission seeks an amendment to TEMP-S6.1 to allow a duration of up to a period of 31 consecutive days (excluding set up and pack down activities), as opposed to up to 14 consecutive days as notified.

- 71 I consider that should this be implemented, the relevant noise limits for mobile noise sources when TMTA takes place for more than 14 days should be reduced by 5 dB, as these limits are based on the limits for construction activities in NZS 6803:1999 which has reduced noise limits for activities longer than 14 days. I recommend that a clear means of implementing such an approach would be to list distinct noise limits in the table displaying mobile noise limits for TMTA, based on the duration of activities, i.e., limits for TMTA of up to 14 days, and for greater than 14 days.
- 72 I consider that the fixed (stationary) noise sources in the submission are appropriate and align with the Proposed Plan with the exception of the addition of a 50 dB LAeq “evening” noise limit from 1900 to 2200 hours. This is more restrictive than what is shown in the Proposed Plan for these hours by 5 dB. I agree with this addition.
- 73 NZDF seek to apply NZS 6807:1994 – Noise Management and Land Use Planning for Helicopter Landing Areas to helicopter landing areas.
- 74 I note that NZS 6807:1994 is not intended to apply to infrequently used helicopter landing areas, or to emergency operations such as training for emergencies (Clauses 1.1, 1.1.2). At the discretion of the Council, this Standard may be applied in whole or in part to helicopter landing areas used for less than ten movements per month.
- 75 This would only apply to landing areas and would not consider the noise from helicopter operation as part of the TMTA. It is possible, or likely, that helicopter use when not landing or taking off would generate greater levels of noise, especially if training activity including helicopter flying at low altitudes.
- 76 It is unclear from the submission how noise from helicopters in use for TMTA when not taking off or landing would be addressed.

77 I agree that the noise measurement, assessment criteria and the recommended limits provided in Table 1 of NZS 6807:1994 are appropriate for TMTA Helicopter Landing Pad activity. I do not agree that the land use planning section of the standard should be applicable for TMTA, as I do not consider it appropriate to establish a helinoise boundary for a temporary activity.

BP OIL NEW ZEALAND, MOBIL OIL NEW ZEALAND LIMITED AND Z ENERGY LIMITED (THE FUEL COMPANIES) (372)

78 The Fuel Companies submission seeks to extend the applicability of NOISE-P4 (acoustic treatment for noise sensitive activities). The policy currently applies in specified zones and overlays. To minimise the risk of reverse sensitivity effects, The Fuel Companies seek that NOISE-P4 should also apply to noise sensitive activities which share a common boundary with the specified zones and overlays.

79 As per NOISE-S1 of the proposed plan, to be considered a permitted activity, any noise generating activity must meet the noise emission level limits within adjacent receiving sites as set out in APP4, with the relevant noise limit set by the zoning of the receiving site (or meet specific condition noise limits where applicable).

80 When noise emission limits from activities are met in the receiving zone, no additional sound insulation performance would be expected to be required for habitable spaces, as zone noise limits are set low enough to enable open windows whilst achieving internal noise levels of 35 – 40 dB L_{Aeq} , thereby aligning with internal noise levels recommended by AS/NZS 2107-2016.

81 In summary, I consider that new noise sensitive activities in zones not included in NOISE-P4 should not be expected to mitigate for noise from established activities in adjacent zones that are covered by NOISE-P4, as when noise emission limits are met in the receiving zone, no

additional sound insulation performance should be required. I consider that the direction provided by NOISE-P4, as given effect to by NOISE-R3, is to provide acoustic treatment for new habitable spaces in high-noise areas and moderate-noise areas. If there are reverse sensitivity issues for noise outside of the areas considered high and moderate noise areas as listed in NOISE-P4, I consider that this is a matter for zoning and planning.

82 For the reasons outlined above, I do not agree that this amendment should be included in the Proposed Plan.

WOOLWORTHS NEW ZEALAND LIMITED (359)

83 Woolworths' submission seeks clarity on the terminology of zones used in APP4 – permitted Noise Standards, specifically the use of "*the Commercial and Mixed-Use Zones*" within Table 15 – APP4, Table 16 – APP4, Table 17 – APP4, Table 18 – APP4.

84 I note that "*Commercial and Mixed-Use Zones*" is used as a major zone group heading for the Proposed Plan in the ePlan, Part 3 – Area Specific Matters - Zones, under which sits the Neighbourhood Centre, Local Centre, Commercial, Mixed Use, Metropolitan Centre, and City Centre zones.

85 I agree with Woolworths submission, that it is unclear whether "*the Commercial and Mixed-Use Zones*" as used in these tables is encompassing of all of the "Centres" zones (the City Centre Zone, Metropolitan Centre Zone, Local Centre Zone and Neighbourhood Centre Zones) as well as the Commercial Zone and the Mixed-Use Zone. Table 18 could lead to further confusion as it refers to "*Commercial and Mixed-Use Zones*" and also refers to the City Centre Zone and Mixed Use Zone, two zones that would be assumed to be already inclusive in that grouping.

- 86 I agree that the tables in APP4 need to be clear with no room for ambiguity in the interpretation of the applicable noise emission limits, as their purpose is to define permitted activity noise levels. I also have concerns with the application of these tables (and other elements of the plan including policies, rules and standards) that could lead to significant misunderstanding for users of the plan and for Council. These concerns are outlined in Section 3.9.2 of the Section 42A Officers Report for Hearing Stream 5 – Noise.
- 87 Within the Section 42A Officers Report for Hearing Stream 5 – Noise, Appendix A, revised tables for APP4 and APP5 have been provided with the intent to capture errors and omissions, and to provide clarity and simplification around zonings. I consider that this will resolve the submission from Woolworths. Revision of the tables for permitted activity noise limits will have significantly wider benefits in terms of understanding and administering the district plan noise provisions. At the time of issuing my evidence I consider the revised tables to be in draft form and I may recommend further revisions in response to statements of evidence received from other parties.

LIVING STREETS AOTEAROA (482)

- 88 Living Streets seeks general clarity on the use of L_{AFmax} noise level descriptors in the Proposed Plan.
- 89 I consider the noise level limits for residential receiving environments in APP4 appropriate, as they align with the guidance in NZS6802:2008 Acoustics – Environmental Noise. For nighttime periods, a maximum noise level (L_{AFmax}) is applied as well as the equivalent continuous sound pressure level over a 15 minute duration ($L_{Aeq(15min)}$). The L_{AFmax} limit relates to transient events such as car door slams, or individual bangs and crashes.

- 90 Living Streets seeks specific clarification of the appropriateness of a noise limit of 85 dB L_{Amax} in public spaces.
- 91 The maximum noise limit of 85 dBA L_{AFmax} corresponds to transient events such as car door slams, or individual bangs and crashes. For assessments of health and safety, the continuous noise level $L_{Aeq(15min)}$ applies.

FIRE AND EMERGENCY NEW ZEALAND (273)

- 92 Fire and Emergency New Zealand (FENZ) seeks the addition of new objectives and policies to the Plan to provide a whole or partial exemption for activities that are of importance to the community from meeting noise standards, such as the operation of emergency services and temporary military training activities³.
- 93 I do not agree that new objectives and policies are required for emergency services, as the Proposed Plan in its introduction states that these activities are exempt from the rules and standards contained in this chapter, specifically in point (5) for warning devices and sirens, and point (6) for the use of generators and mobile equipment (including vehicles) when used solely for civil defence or emergency purposes. These clauses both contain provision for testing and maintenance.
- 94 The submission seeks to add a new standard (“NOISE-S13” per the submission) for noise emitted from emergency services facilities and temporary emergency services training activity within all zones, as received in all zones. The proposed noise limits provided are those set

³ Noise from Temporary Military Training Activities (TMTA) is addressed in the Temporary Activities Chapter of the Proposed Plan.

out in Table 3 of NZS 6802:2008 which represent the upper noise limits for residential receivers.

95 FENZ do not note issues with current noise rules impinging on their ability to operate, and I note that the noise emission level limits within the Proposed Plan have not changed from what presently applies in the Operative Plan. I consider that unless evidence is provided to suggest that the operation of emergency facilities has been compromised, constrained, or curtailed by these limits, there is no reason to increase the permitted noise from these activities. Therefore, I do not agree that a new standard for noise emitted from emergency services facilities and temporary emergency services training activity is required.

Date: 3/07/2023



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