

Before the Independent Commissioner
Appointed by the Selwyn District Council

Under the Resource Management Act 1991

In the matter of a hearing on submissions to the Partially Operative Selwyn
District Plan, Variation 2: Levi Road rezoning

Foodstuffs (South Island) Properties Limited

Statement of evidence of Rob Lachlan Hay

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Qualifications and experience

- 1 My name is Rob Lachlan Hay. I am an Associate, and currently a Director, of the international acoustical consulting firm, Marshall Day Acoustics (**Marshall Day**).
- 2 I hold Bachelor of Science and Masters of Science degrees from the University of Canterbury.
- 3 I have worked in the field of acoustics for over 20 years. I joined Marshall Day in 2006 and have been involved in a wide range of environmental noise assessment projects throughout New Zealand, including retailing, residential, transportation and manufacturing activities. Since 2011 a significant percentage of my professional practice has involved the interface between residential activities and commercial, industrial, or infrastructure activities. This has involved resource consents, private plan changes, and the review of district plans. I have worked for both noise producers and at times noise receivers. I am familiar with the methods by which noise can be controlled at source or mitigated via treatments in the transmission path or at the receivers.
- 4 My previous work experience relevant to this matter includes the prediction, assessment, and monitoring of noise from a wide range of big box retail, supermarket, and residential subdivision developments. Relevant to the current matter, I have worked on numerous projects where the interface between a supermarket or building supply companies and residential activities has been the focus of discussion, particularly back of house and logistics activities. These have been both brown and green field developments; in some cases where the supermarket activity was pre-existing, and in others the residential activity was pre-existing.
- 5 This evidence is provided in support of Foodstuffs (South Island) Properties Limited (**Foodstuffs**) request to rezone 157 Levi Road, Rolleston (the **Site**) from Medium Density Residential Zone (**MDZ**) to Large Format Retail Zone (**LFRZ**) and insert a new Outline Development Plan (**ODP**) replacing DEV-RO1 – Variation 2 to the Partially Operative Selwyn District Plan (**PDP-V2**). My role has been to provide advice in relation to noise.
- 6 I have visited the Site and I am familiar with the Site and area.
- 7 In preparing this statement of evidence I have considered the following documents:
 - (a) Evidence of Andrew Metherell (Transport);
 - (b) Evidence of Murray Smith (Mitre10);
 - (c) Evidence of Bernard Johnston (Architecture);

- (d) Planning provisions relevant to my area of expertise;
 - (e) Section 42A Report, prepared by Craig Friedel, dated 28 February 2025;
 - (f) The Partially Operative District Plan (**PODP**) provisions relevant to my area of expertise; and
 - (g) Submissions relevant to my area of expertise.
- 8 I have previously prepared an assessment of noise effects for the Rolleston PAK'nSAVE resource consent application at this Site (RC216016), a separate noise assessment for large format retail on the south of the Site (the proposed Mitre 10) as part of the rezoning request, and RFI response related to that assessment.

Code of Conduct for Expert Witnesses

- 9 While this is not a hearing before the Environment Court, I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court of New Zealand Practice Note 2023 and that I have complied with it when preparing my evidence. Other than when I state I am relying on the advice of another person, this evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Scope of evidence

- 10 I have prepared evidence in relation to:
- (a) The Site and existing environment;
 - (b) The proposed rezoning and amendments to the PODP to achieve the relief sought (the **Proposal**);
 - (c) Noise levels and effects that may arise from the interface between the MDZ and LFRZ that would be created if the Site is rezoned LFRZ;
 - (d) The means and methods by which noise arising from activities in the LFRZ may be controlled to levels that are both compliant and acceptable at this interface; and
 - (e) The s42A Report and planning framework, as relevant to the noise related aspects of the Proposal.

Executive Summary

- 11 I have considered the acoustic implications of an interface between LFRZ and MDZ zones specific to the Site at 157 Levi Road.

- 12 I have considered a worst-case scenario in which three storey dwellings are constructed on the adjoining land to the east 1m from the Site boundary, and in which the heavy goods access and loading bay for a large format retailer such as a trade supply store is established adjacent to these dwellings. My approach has been conservative in that I have increased the number of expected deliveries and I have also not accounted for any ambient noise.
- 13 Consideration of the worst-case scenario demonstrates that it is feasible for LFRZ-enabled activity to comply with the NOISE-REQ1 permitted activity standards during the daytime with mitigation measures such as noise barriers and buffer areas applied. Only the daytime permitted activity standards have been considered because there are no night-time (2200 to 0700) or weekend deliveries expected for a trade supply activity such as the proposed Mitre 10. Specifics of mitigation measures are most appropriate for assessment at the resource consenting stage, however I have applied common mitigation measures utilised at residential interfaces to undertake my noise prediction assessment.

Noise Provisions of the PODP

- 14 The Proposal does not seek to amend the noise limits that currently apply under the PODP which are defined in NOISE-REQ1 Table 5. The noise limits applicable to the receiving site apply. Thus, for the LFRZ and MDZ interface zone where noise is generated within the LFRZ, the noise limits that apply are the residential zone rules which can be summarised as:
- (a) 50 dB L_{Aeq} 0700 to 2200; and
 - (b) 40 dB L_{Aeq} /70 dB L_{Amax} 2200 to 0700.
- 15 Noise is to be measured and assessed using the 2008 versions of NZS 6801 and 6802 respectively.
- 16 Where compliance with the noise limits above cannot be achieved, the activity status reverts to restricted discretionary with the matters of discretion confined to those listed in NOISE-MAT1, which can be summarised as:
- (a) Noise level, duration, and character, including ambient noise levels.
 - (b) Nature and location of nearby activities and the adverse effects they may experience.
 - (c) Whether the noise is likely to detract from the receiver's amenity values or general environmental quality.
 - (d) Whether sleep disturbance or adverse health or well-being effects are likely.

- (e) Mitigation or attenuation measures proposed.
 - (f) The extent to which alternative locations and methods have been considered to avoid, remedy, or mitigate any adverse effects recognizing any technical, operational, and practical constraints.
- 17 I am confident that the permitted noise levels are appropriate for a commercial site adjoining residential activities because the same permitted noise standard is maintained. The PODP provides appropriate mechanisms and controls to manage and address the Site activity and any breach of the noise limits should this occur in the future.

157 Levi Road LFRZ Noise Emissions to MDZ Neighbours

- 18 A PAK'nSAVE supermarket is already consented on the northern portion of the Site (RC216016) and is currently under construction. The supermarket and its associated activities therefore form part of the existing environment. The interface between the supermarket goods vehicle accessway, the loading zone, and the MDZ proposed by PC71¹ was considered at that time.
- 19 The activity of primary concern during the consent hearing was night-time deliveries to the loading zone which required heavy goods vehicles to use the accessway that ran along the common boundary between the PAK'nSAVE supermarket and the PC71 site.
- 20 To accommodate this interface a solution was reached that included a 2 m-high noise control fence on the boundary between the sites, and a 10 m-wide buffer zone and 2.4 m-high noise control fence within the supermarket site.
- 21 Because this noise mitigation now forms a part of the consented environment, I do not intend to discuss it further, other than to note that this is an appropriate solution to accommodate limited night-time activity at the zone interface.
- 22 While I expect the PAK'nSAVE to comply with the PODP noise limits, should this prove not to be the case in the future, a new consent as a restricted discretionary activity would be required.
- 23 I understand that Mitre10 intend to purchase the balance of the Site to the south of the supermarket. I have considered the ODP and associated provisions included

¹ PC71 (Four Stars Development Ltd and Gould Developments Ltd) sought to rezone approximately 53ha of rural land adjoining the Site's eastern boundary to residential land. Council's decision (19 August 2023) on Variation 1 to PC71 approved the rezoning request, with the exception of land under CIAL's 50 dBA Ldn Noise Contour

as part of this plan change and have used this as a basis for my assessment of interface effects.

- 24 Based on previous experience with trade supply companies and information provided to me by Mitre 10 and included in the Integrated Transport Assessment (ITA) for delivery vehicles and customer vehicles, I anticipate that the noise level at the Site boundary during the daytime would be between 50-65 dB L_{Aeq} depending on a range of factors and in the absence of any noise control or mitigation.
- 25 In this case the site layout drawings show that the dominant noise generating activities at the Site interface will be goods deliveries using an accessway running between the eastern Site boundary and the proposed building, and (un)loading activity at the loading bay. There is also some potential for activity in the open-air yard to generate noise similar in nature to the loading bay, although at lesser intensity and further removed from the Site boundary and therefore lower in noise level.
- 26 I understand from Mitre10 that the operation of the deliveries and loading bay will only occur during the PODP daytime hours. Specifically, although deliveries may occur from 0730 until 1600 hours, it is more likely that deliveries will occur from 0800 until 1600 hours Monday to Friday. I note that the Proposal includes a new requirement (LFRZ-R8 3.c.) for any trade retail and trade supply activity on the Site that *"the use of any service access or loading bay adjacent to the eastern boundary is restricted to 0700 to 1900 hours"*. Failure to comply with this requirement would result in non-complying activity status.
- 27 I have been supplied with the results of a delivery movement schedule for a comparable Mitre10 store in Christchurch. This indicated that there was one truck and trailer delivery per week, along with a variable number of smaller delivery trucks ranging from 9 and 11m rigid trucks, smaller trucks, and courier vans.
- 28 For the purposes of my assessment, I have taken the busiest day for general deliveries (a Thursday with 23 deliveries), rounded this up to 24 deliveries, and added two truck and trailer deliveries.
- 29 I have assumed that all deliveries enter the Site off Lincoln Rolleston Road at the internal access that divides the supermarket and Mitre10 portions of the Site. Vehicles will proceed to the end of this internal access adjacent to the MDZ interface, before turning right onto the Mitre10 goods vehicle access. A limited number of deliveries may be made to the garden centre back of house, but most deliveries will occur at the loading bay area or in the open yard itself.

Mitigation of Noise by LFRZ Activities

- 30 Typical noise mitigation measures which would be required to ensure a trade supply activity achieves an acceptable noise environment at the residential interface are given below. In addition to these controls, the business activities would require general good practice in noise control design to meet the permitted activity standard (e.g. heating and ventilation design, etc).
- 31 Typically, measures such as setbacks, barriers or screening are addressed during the consenting process for a particular activity. For mechanical plant noise, in my view detailed design is most appropriately addressed after resource consent for a particular activity has been obtained. In such cases I normally suggest to clients that a condition is offered at resource consent stage, that a report detailing mechanical plant acoustic design and performance will be received by Council before issuing building consent.
- 32 In the current situation where the suitability of the LFRZ/MDZ interface needs to be established, I consider the critical point is to demonstrate that a satisfactory noise level can be achieved within the respective zone frameworks.
- 33 For dwellings within the MDZ I have assumed that these could be three storeys in height and constructed within 1 m of the site boundary. This may not occur, but I understand this to be the worst case in terms of sensitive receivers on this interface.
- 34 I have considered the existing consented boundary treatment between the supermarket site and adjacent MDZ land to the east as a starting point. This situation is very similar to the Mitre10/MDZ interface in the nature of the activities, with the following key differences:
- (a) The proposed Mitre10 loading area is slightly closer to the boundary.
 - (b) The Mitre10 Site will generate a greater number of deliveries on the busiest day of the week.
 - (c) The Mitre10 only receives deliveries during the daytime.
- 35 The first of these is a 2 m-high noise control fence on the Site boundary, which begins at the southern end of the similarly constructed and situated 'supermarket' fence and will extend the length of the eastern boundary to the southern end of the Site.
- 36 The second treatment is a 2.5m-high noise control fence approximately 6m inside the boundary, which will also connect with the similarly constructed and situated 'supermarket' fence. The indicative Mitre10 layout shows this fence transition near its midpoint to a noise control wall rising from ground level to the height of the

loading bay canopy and along its full width. The wall is specifically positioned at this location and extent to control the noise levels associated with unloading and loading of delivery vehicles, including the use of forklifts, pallet trolleys, communication etc. Such a wall would need to be constructed in a manner much like a noise control fence (although the materiality and appearance can differ), i.e. a surface mass of at least 10 kg/m² and be free from gaps, cracks, and holes and durable in nature. I consider this combination of internal noise control fence and wall, together with the abovementioned boundary fence, will achieve a high degree of noise mitigation at the ground level of dwellings, with the level of attenuation decreasing, but remaining effective, at first and second storey levels.

- 37 The third feature is the 10 m-wide landscaping buffer extending from the matching 'supermarket' buffer southwards along the Site boundary to the southern end of the Site. This physical setback and buffer allows noise passing over the noise control fence and around the noise control wall to attenuate before reaching the receiving sites. The additional separation and eventual visual screening will reduce perception of noise through psychoacoustic effects.
- 38 Finally, the boundary fence between the LFRZ (Mitre10) and MDZ zoned sites could be constructed to noise control standards, although this is not strictly necessary to meet daytime noise limits and the greatest benefit would be to the ground level of dwellings. I note that the PAK'nSAVE consent requires both fences to be constructed to noise control standards and this is also noted on the ODP.
- 39 After assessing the predicted noise levels in accordance with NZS 6802:2008, I estimate interface noise levels ranging from 42 to 50 dB L_{Aeq} 1 m inside the MDZ zone at the façade line. The noise level depends on factors such as height above ground, proximity to loading activities, and the amount of screening arising from the abovementioned noise control measures. These predictions include no allowance for special audible character or residual noise level, and the maximum permitted 5dB reduction for averaging permitted under the Standard.
- 40 These noise levels demonstrate that with appropriate site layout, building design, and noise control barriers, noise levels that achieve the permitted activity standards of NOISE-REQ1 can be achieved.
- 41 I said at paragraph 33 that I had assumed that dwellings would be constructed just 1 m from the site boundary and to three storeys in height. Because of the small separation between the boundary and future dwellings of just 1 m in this scenario, I have not assessed the potential amenity effect on outdoor living spaces (as there essentially are none). However, as noted in paragraph 39, the noise levels would meet the permitted activity daytime noise standard.
- 42 I also note that even if upper-level bedrooms or living rooms had their Site-facing windows ajar for ventilation, interior noise levels arising from trade supply-related

activity would be suitable for normal day to day activities such as conversation, listening to music, radio or watching TV, or even sleep.

- 43 Should future LFRZ-enabled activity ultimately result in noise levels that are greater than the permitted activity noise standards due to elevated daytime noise or night-time activity (noting the latter would be a non-complying activity), a resource consent application and assessment of noise effects taking matters described in paragraph 16 into account would be required.

Matters raised by submitters

- 44 I have reviewed the submissions related to the Proposal. Most submissions make general points in favour or opposed to the Proposal without specific reference to noise. A small number do specifically mention noise or a closely related matter. I address these below.
- 45 Other than submission 14, the remaining submissions all raise substantially the same point – increased traffic on Levi Road and Lincoln Rolleston Road².
- 46 **Submission 14** expresses a number of non-noise related concerns but refers to the proposed noise control wall associated with the Mitre 10 (and the consented PAK'nSAVE), and queries how this will protect his property interests.
- 47 As the submitter's property is approximately 900 m from the nearest point of the proposed LFRZ, with existing suburban development in between, I consider neither noise generated on Site or the indicative noise control wall of relevance to their specific situation.
- 48 Based on information provided in paragraph 45 of Mr Metherell's evidence, I have previously predicted an increase in traffic noise of less than 1 dB at MDZ properties immediately opposite the main shared access point, when compared to the already consented PAK'nSAVE scenario. This level of increase in noise would not be perceptible to residents in an A-B comparison. I also note that the peak traffic periods for the supermarket, Mitre 10, and commuter peak are not expected to have any significant overlap, reducing the potential for any cumulative effect to occur.
- 49 As noted by submitter 4, there has been significant residential development in this area of Rolleston. Both Levi Road and Lincoln Rolleston Road are arterial roads and accordingly these carry substantial traffic volumes generated by that development. While the under-construction supermarket and proposed Mitre 10 will generate additional traffic, including goods deliveries and service vehicles,

² Submissions 3, 4, 5, 15, and 21.

based on the ITA assessment the noise effects are minimal, and the character of the noise generated will be identical to the existing environment.

- 50 Submitter 5 also raised concern regarding the LFRZ allowing greater noise than the MDZ. This is a misunderstanding of the noise rules. Because noise is assessed in the receiving zone, the MDZ noise limits that I outline above apply within the MDZ, and no changes are proposed to these limits or method of measurement and assessment.

Matters raised by the Officer

- 51 I have considered those parts of the s42A report relevant to noise and I agree with Mr Friedel's conclusion that the consented elements of the Site's boundary treatments at the interface with the MRZ to the northeast are sufficient to ensure compliance with the PODP noise standards (paragraph 7.80).
- 52 I also agree with Mr Friedel that the PODP should avoid needless repetition of district wide matters within zone-based activity rules (paragraphs 7.82 and 7.83); and that the proposal will not enable more noise than the alternative of allowing the zoning to remain MRZ (paragraph 7.86).
- 53 At paragraph 7.84 Mr Friedel encourages further evidence be provided on the matter of certain assumptions in the MDA noise assessment identified by Dr Trevathan (Council's acoustic expert) that may be relevant to future compliance with proposed rule LFRZ-R8.3. I understand from review of Dr Trevathan's evidence Paragraphs 12 to 14) that he is referring to the following assumptions:
- (a) Deliveries will occur only during the PODP daytime.
 - (b) The proposed acoustic treatment (barriers and buffer strip) will be effective.
 - (c) Delivery vehicle noise will be as predicted and not attract SAC penalty.
- 54 A specific rule (LFRZ-R8.3.c) has been proposed to control deliveries to daytime only.
- 55 I have acknowledged that the combination of 2m and 2.5 m-high noise barriers are less effective at reducing noise level for upper stories of dwellings than at the lower level. However, some effective noise reduction is predicted based on standard calculation methods. This will result in an appropriate noise level, particularly considering the transitory nature of the delivery vehicle movements. The additional barrier I have assumed in close proximity to the loading bay – or similarly effective alternatives that may be considered in the future - will provide further noise reduction at this locality to take into account the greater level of activity in the loading bay.

- 56 Finally, I have relied on data from multiple recent measurements at similar loading bay and delivery accessways for delivery vehicle noise. In my experience these do not attract SAC penalty. Should assessment of deliveries in the future demonstrate that either the representative noise level or character differs markedly from my predictions, the trade activity operator would have to consider the best practicable options for reducing or mitigating the level or character to ensure compliance or alternatively seek restricted discretionary consent.
- 57 At paragraph 7.85 Mr Friedel requests additional evidence regarding provision of additional (pedestrian/cycle) connections through the northeastern boundary treatments (two noise control walls and a landscaped buffer).
- 58 Such connections would require breaks in the two noise control barriers, as well as the connections crossing the dedicated heavy vehicle access for either or both of the PAK'nSAVE and Mitre10. I understand that both organisations oppose this on the grounds of operational efficiency and safety, as does Mr Metherell.
- 59 I do not support the creation of gaps in these barriers. Any form of gap that creates a substantially open space will degrade the efficacy of the barriers and in turn render one or potentially both operations on the site in breach of the permitted noise standards.
- 60 While it may be possible to design interleaving or overlapped barriers to largely maintain the efficacy of the barriers; these create visual dead zones which in my previous experience have been ruled out for CPTED related reasons.

Conclusion

- 61 In my view, the generation of noise associated with LFRZ-enabled development of the Site in accordance with the Proposal can be appropriately managed to achieve the permitted activity standards applying to the adjacent MDZ.
- 62 In particular, the provisions of the LFRZ and ODP are restrictive, effectively limiting the development to the consented and under construction PAK'nSAVE and a single trade supply store. Further the northeastern boundary treatment will be the same as the already consented treatment applying to the PAK'nSAVE. The proposed rule LFRZ-R8.3.c limiting the hours of deliveries to the trade supplier significantly reduces the potential for noise affecting the sleep or evening amenity of future neighbours to the northeast across the buffer strip.

Rob Hay