Our Ref: 20569P
11th November 2021

To Owner/Occupier;

PHASE ONE BALANCE: WALLARA WATERS ESTATE, WALLAN – STAGE 16
SUMMARY OF ACOUSTIC MEASURES

We refer to the above matter and provide below advice on acoustic measures that are required for some dwellings within proximity of the Hume Freeway.

Phase 1 of the Wallara Waters development includes an acoustic fence along the interface of the development site and the Hume Highway to reduce noise from traffic to the development. The noise barrier was designed in accordance with the VicRoads' Traffic Noise Reduction Policy, with the aim to reduce traffic noise to 63dB LA10(18hr) at lots within the development. It was not possible to achieve this external noise level at all lots, due to limitations on the height of the noise barrier. Where this external noise level was exceeded, the VicRoads policy approach requires dwellings to be constructed in a manner that will appropriately attenuate traffic noise inside the dwelling.

Specifically, noise levels inside dwellings at affected lots will need to comply with the levels outlined in Australian Standard AS2107:2016 Recommended design sound levels and reverberation times for building interiors. Traffic noise inside dwellings is a function of the sound insulation performance of individual building elements (for example; the size, materials and positioning of windows, walls, roofs and doors etc) and also where the dwelling itself is positioned (for example; some dwellings may receive screening from intervening dwellings, resulting in reduced external levels of traffic noise, and others may not). For this reason, there is no 'one size fits all' construction approach to enable compliance with AS2107:2016, and expert opinion from an acoustic consultant or other expert will likely need to be sought to confirm a dwelling design achieves the requirements of the standard.

For reference, the relevant internal noise levels that are required to be met are detailed in Table 1.

Table 1: AS2107:2016 Recommended internal noise levels for houses and apartments near major roads

Area	Recommended internal noise level, L_{Aeq} dB
Living areas	35 - 45
Sleeping areas	35 - 40
Work/utility areas	35 - 45
Apartment common areas (eg, lobbies)	45 - 50

If you have purchased a lot for which all, or a portion of the lot sits within an 'orange zone' as shown in the image (refer to **ATTACHMENT A**), then you may require acoustic treatment in the form of one or more of the items listed below, in order to meet the Department of Transport's requirements.

If in the 'orange zone' please provide your builder with a copy of this letter so as they can assist in determining the additional acoustic treatment required for your lot.

p (03) 8660 3000
ACN 079 642 818 ABN 17 251 075 871
www.reedsconsulting.com.au
survey@reedsconsulting.com.au
engineering@reedsconsulting.com.au
planning@reedsconsulting.com.au
Lvl 6, 440 Elizabeth Street
Melbourne Victoria 3000
GPO Box 2240
Melbourne Victoria 3001

For context, generic construction types are provided in the *Marshall Day Acoustics Consolidated Noise Report* dated 16 June 2017 for the site. Dwelling constructions will need to be confirmed by an appropriate expert, but may include:

- Brick veneer or lightweight walls achieving an appropriate density
- 6.76mm laminated glass windows with good seals
- Acoustic insulation in ceiling
- Two (2) layers of plasterboard on bedroom ceilings
- Solid core external doors with foam seals
- Mechanical or low-noise passive ventilation, so that the windows can be kept closed if desired.

The enclosed plan contained in **ATTACHMENT A** illustrates the predicted noise levels with barriers constructed. A full copy of the *Marshall Day Acoustics Consolidated Noise Report* dated 16 June 2017, can be viewed at:

https://www.fraserspropertyaustralia.com.au/VIC/Wallara-Waters/Design-Portal

If you have any queries regarding the above acoustic measures, please contact:

Gillian Lee
Marshall Day Acoustics
Email: glee@marshallday.com

Yours faithfully,
for REEDS CONSULTING PTY LTD

SARAH NORTH
Planning Manager
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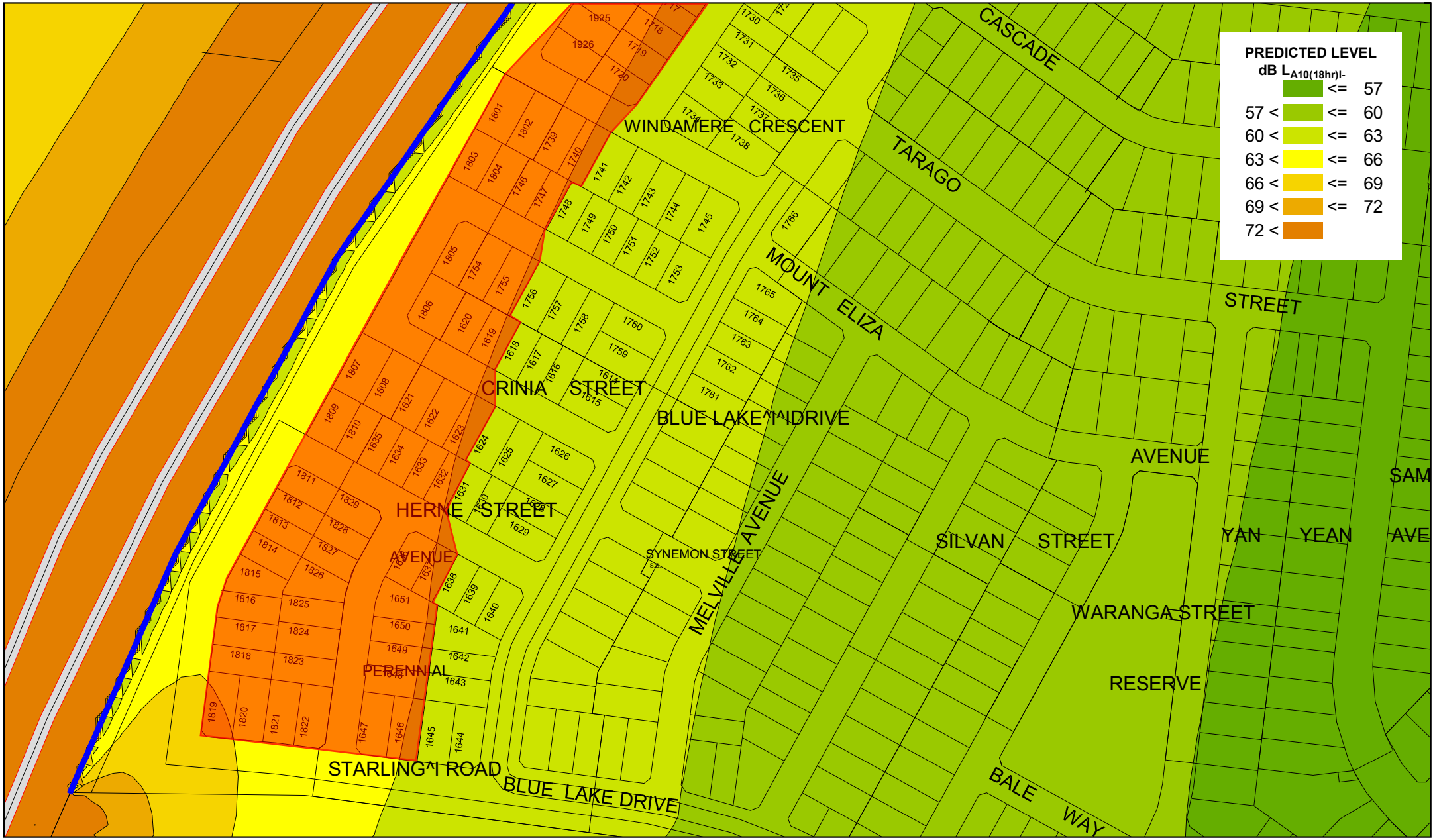
ATTACHMENT A: Wallara Waters Phase 1 Balance Predicated Noise Level 2035 with Barriers



LEGEND

- Road axis
- Emission line
- Overpass
- Building
- Wall

Version: SoundPLAN 7.4
Prediction method: CoRTN
Model number: 1
Run No & Title: 0/GMN69:1 + 0.5;
File: 20181131 2035 no bdgs barriers D_balance pha
Prediction Height: 1.5m

Project: Wallara Waters noise barrier extension
Project number: 20181131
Client name: Frasers Property

SCALE

0 10 20 40 60 80 m

N

Wallara Waters Phase 1 balance

Predicted noise level 2035 with barriers

MARSHALL DAY Acoustics