

Craig,

Please see attached.

I have set the threshold for noise mitigation at LAeq(24hr) 57 dB and above. This is because lower traffic volumes at night usually result in an hourly Leq of around 10 dB less than the 24 hr value, (i.e. 47 dB).

The outdoor sound is typically reduced by 15 to 17 dB entering a habitable room via a partially open window.

This means the indoor WHO sleep criteria of LAeq 30 dB at night is achieved (just) when the outdoor LAeq(24 hr) traffic noise level is 57 dB or less.

The attached diagram (based on the NZTA traffic noise calculator) indicates this level of traffic noise occurs at a distance of 75 m from the nearside edge of the traffic lane.

This location would equate to 70 m inside the property boundary (allowing 5 m for the cycleway).

On this basis I think the following adjustments to the Lyndhurst rule can be justified:

(b)(i) rule should be changed from 80m to 75 m.

(b)(ii) rule should be changed from 55 dB to 57 dB

plse let me know if there are any matters arising.

Regards,
malcolm Hunt

At 12:11 p.m. 8/06/2016, Craig Scott wrote:

Hi Malcolm

Thanks again for the help.

- The setback from Havelock Rd is 5m (entire length).
- The speed limit along Havelock Road is 70km, though it changes to 50km approximately 100m from the North Western (Hastings End) of the Zone.
- Havelock Road is a busy two lane road, with an AADT of approximately 19,000 vehicles per day (vpd), which connects Hastings with Havelock North. The traffic flows are very tidal, with the AM flow driving towards Hastings and the PM flow driving away from Hastings. The traffic consists of 15% light commercial and 4% heavy commercial vehicles (HCV).

There was also one thing that wasn't mentioned originally, and that's there is a 5m wide cycleway between Havelock Rd and the front boundaries of adjacent properties in the structure plan area.

These are the existing rules in the plan which were done for the Lyndhurst development near the expressway:

25.1.7D NOISE SENSITIVE ACTIVITIES WITHIN THE MAJOR ARTERIAL ROAD NOISE BOUNDARIES

- (a) The following Minimum External Sound Insulation Level Standards shall apply to all habitable spaces within any noise sensitive activity within the Major Arterial Road

Noise Boundary as shown in Appendices 11 and 14 (including the addition or alteration of a habitable space which exceeds 10% of the existing gross floor area):

i) The habitable space within the noise sensitive activity shall achieve a Minimum External Sound Insulation Level of the building envelope of $D_{tr, 2m, nTw} + C_{tr} > 30$ dB for outside walls of any habitable spaces.

ii) Where it is necessary to have windows closed to achieve the acoustic design requirements, an alternative ventilation system shall be provided. Any such ventilation system shall be designed to satisfy the requirements of the Building Code and achieve a level of no more than NC30 in any habitable space.

(b) The Standard in (a) above does not apply to noise sensitive activities which can comply with the following:

(i) The habitable space within the noise sensitive activity is greater than 80 metres from the edge of the road carriageway; or

(ii) Noise screening (such as a noise barrier fence) is constructed so that noise levels measured at the location of the building housing the noise sensitive activity, in accordance with NZS6806:2010, do not exceed 55 dB $L_{Aeq(24hour)}$ outdoors.

(c) An Acoustic Design Report must be provided to the Council prior to any Building Consent being granted or where no Building Consent is required, prior to the commencement of the use. The Acoustic Design Report must be prepared by a person qualified and experienced in acoustics. The Report is to indicate the means by which the noise limits specified in this Standard will be complied with and is to contain a certificate by its author that the means given therein will be adequate to ensure compliance with the acoustic design requirements specified in this Standard.

(d) Prior to any person requesting a Certificate of Compliance, an acoustic design certificate prepared by a person qualified and experienced in acoustics must be supplied, verifying compliance with the Standard in 25.1.7C(a) above.

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Outcome

Noise Sensitive Activities will be insulated to mitigate the effects of high background noise levels.

Basically we would look at amending the structure plan to have an area off Havelock Road where development cannot occur without an acoustic assessment.

Regards



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From: Malcolm Hunt [<mailto:mha@noise.co.nz>]

Sent: Thursday, 2 June 2016 5:33 p.m.

To: Craig Scott

Subject: Re: Havelock Rd Acoustic Assessment for Howard St Structure Plan

Hi Craig,

Plse see my attached diagram which signals a 2.4 m roadside earth barrier would mean all the land on the leeward side would have an outdoor traffic noise level suitable for residential uses without acoustic insulation of dwellings. NZTA accept 57 dBA as an acceptable standard as this ties in with the noise levels at which they fund noise mitigation where noise from a new road affects existing dwellings. I have seen 55 dBA in some planning provisions, but the current best practice around the country uses LAeq (24 hr) 57 dB as a threshold for requiring additional mitigation.

I am back next in the office next week if you wish to discuss further.

Regards,
Malcolm Hunt

At 03:50 p.m. 1/06/2016, Craig Scott wrote:

Hi Malcolm

Thanks heaps for your help.

I have attached the draft structure plan (please note that the landscape strip will extend all the way to the drain, and is 2m in width)

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If you need anything else let me know

Regards



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