

14 March 2019

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Dear Julie

WHAKATAKAPOKAI and KOROWAI MANAAKI

Thank you for a copy of the s92 request from Council on acoustic reports I prepared for both the Whakatakapokai and Korowai Manaaki projects. I have addressed the specific issues below.

Whakatakapokai

- 2a. *In section 3, the acoustic report states that vehicle movements at night time (when the L_{Aeq} 40dB limit applies) to the south-western car parking area would need to be controlled in order to ensure the noise levels are compliant with the noise limits. The acoustic report states that “[f]or night times, the car parking could be managed to control noise levels by either using the main car park or limiting the number of vehicles using the accessway car parks”. Could you please describe whether these measures are practicable, and if so the detail of the controls that would need to be put in place to ensure compliance.*

The acoustic report was based on a complete turnover of vehicles within the car parks. There is a 10 space and a 14 space car park on the southern boundary meaning that up to 24 vehicles would depart and then arrive, all of which was assumed to occur over a 15 minute period. The resulting levels complied with the day time limit of the Auckland Unitary Plan – Operative in Part (AUP), which are suggested as designation conditions. Those same levels exceeded the night time limit resulting in the comment that management of parking would be needed.

Since the s92, further work has been undertaken on the vehicle movements on site. It is understood that there is half an hour cross over between shifts to allow for a handover meeting. This means during the night time, 11 staff would arrive at 10.30pm followed by 12 departing at 11.00pm. The analysis has been updated for 12 staff leaving over a 15 minute period, assuming that all use the southwestern car park as this would result in the highest levels to the neighboring properties. Section 3 of the noise report has been updated to reflect this change and reports a night time level of 39dB L_{Aeq} and 61dB L_{AFmax} , which comply with the criteria of both the AUP and those recommended as designation conditions.

- 2b. *In respect of the generation of noise from outdoor spaces, the acoustic report does not mention whether or not a +5dB adjustment for special audible character has been applied. Could the reasons for not applying the adjustment be explained?*

The first paragraph of section 3 concludes with the comment that noise levels have been neither averaged nor assessed as having a special audible characteristic.

NZS 6802 notes that some sounds have a distinctive character which may affect its subjective acceptability (for example, it is noticeably impulsive or tonal) and which is likely to cause adverse community response at lower sound levels than sound without such characteristics. As measurements of children playing shows neither a strong tonal nor impulsive nature, a subjective assessment is required. It was considered that children playing, particularly in a residential neighborhood is not out of character and should not result in undue community reaction. As such, it is considered that the sound from children playing does not contain a special audible characteristic in the same way that children playing at childcares and schools are not considered to have a special audible characteristic.

No changes have been made to the acoustic report to address this query.

- 2c. *Similarly, the acoustic report does not discuss whether or not a Duration Adjustment has been applied to the predicted noise levels. Could it be confirmed whether or not a Duration Adjustment has been applied, and if so what assumptions have been used.*

The first paragraph of section 3 concludes with the comment that noise levels have been neither averaged nor assessed as having a special audible characteristic.

It is noted that in reality, the children will not be playing outside continuously from 7am to 10pm (reducing to 9am to 6pm on Sundays) meaning that the full 5dB averaging could be applied to the reported levels. That it has not reflects a conservative assessment.

No changes have been made to the acoustic report to address this query.

- 2d. *Although not detailed in the acoustic report, we expect that the noise predictions are restricted to day time only (except for vehicle movements) because there is a curfew in place. Could the details of any curfew and their effect on the noise level predictions be described.*

While a curfew would undoubtedly result in no external play at night time, the approach taken by the noise report was on the basis of the proposal being residential in nature meaning it was considered unlikely that outdoor play at night time would occur. As such, reliance on a curfew was not considered necessary. Regardless, it understood that management typically have the children inside by 5.30pm in the winter, after which it is too dark outside for play, extending to 7.00pm in the summer. In the mornings, children are free to go outside from approximately 8.00am onwards.

No changes have been made to the acoustic report to address this query.

Korowai Manaaki

- 2e. *Section 4 of the acoustic report discusses the reasons for adopting a single-figure A-weighted internal noise level requirement, and deleting the reference to the low frequency controls as set out in E25.6.10. The Council's acoustic consultants, Styles Group, agree that deleting the low frequency requirements is sensible in this case, but consider that a spectrum of noise still needs to be provided for the design of any new building. Could a frequency spectrum for the design (and designation condition) be provided, along with details of its origin or basis.*

Consideration was given to supplying an incident noise spectrum as a condition of consent at the time the assessment was prepared. While doing so would provide certainty to the conditions, the downside was that it would provide little scope to consider specific noise sources that may occur in the future. Regardless, in response to the s92 request, section 4 of the acoustic report, and the subsequent suggested condition, have been updated to include the incident noise spectrum shown in the following Table. These levels represent the spectrum of noise from heavy diesel plant, such as trucks, forklifts and excavators.

	Incident Noise Level, dB							L_{Aeq}
	L_{eq}							
Frequency	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	
Noise Level	76	75	70	66	64	62	60	70

2f. *The acoustic report states that the new proposed designation condition (requiring insulation against external noise intrusion) would only apply to new buildings constructed on the site, or to the existing buildings if modifications were undertaken that required any building consent. Is there any condition proposed that requires the existing buildings to be maintained in a state that would ensure compliance with the previous designation condition in the event that no works requiring building consent were undertaken?*

In consultation with the planner, the proposed condition on the control of external noise has been amended to require the existing facility to remain compliant with the current designation conditions. For completeness, it is noted that should the existing buildings be modified to the point that they require building consent, the proposed new condition would apply. The existing designation condition requires the permitted external level of 65dBA L_{10} to be controlled to an internal level of 45dB L_{dn} . Strictly speaking, the two metrics cannot be directly compared, making approximations necessary. Rather than leave those approximations to future design teams, they have been incorporated into the recommended condition which, while not identical to that of the existing designation, is as close to its intent as possible and will, to all intents and purposes, result in the same outcome.

The Legacy District Plan permitted the neighboring Business sites to generate 65dBA L_{10} at or within the Korowai Manaaki boundary. This has been converted to 63dB L_{Aeq} . Internally, the designation required 45dB L_{dn} , which approximates to 43dB L_{Aeq} on the assumption that the external noise source is constant, as permitted by the Legacy District Plan. The suggested conditions within the acoustic report has been updated to reflect these changes.

2g. *Have the existing buildings been designed and constructed to meet the original designation condition 4? If so, what external noise levels were assumed (noting that the design work would have pre-dated the Auckland Unitary Plan (AUP))?*

The Council file on the Korowai Manaaki does not include a noise report detailing the construction requirements for the residential buildings. Regardless, those buildings gained building consent, a process that would have required the various designation conditions to be satisfied. The assumption therefore is that the existing residential buildings were designed to meet existing condition 4.

No changes have been made to the acoustic report to address this query.

Should you have any questions regarding the above please do not hesitate to contact me.

Yours sincerely
Hegley Acoustic Consultants

Rhys Hegley