Attachment D

Noise and Demolition Management Plan Review

Memorandum

Absolutely Positively Wellington City Council
Me Heke Ki Pōneke

Date: 29 October 2015

To: **Daniel Batley, Senior Advisor, Planning**

From: **Matthew Borich, Manager, Compliance and Advice**

Cc:

Subject: **Plan Change 81: Noise Report : The Potential Effects from increased permitted noise limits from Rezoning**

Dear Daniel

Introduction

The Council recently notified a private plan change to rezone a site at 320 The Terrace from Inner Residential to Institutional Precinct.

The current block of flats will be demolished and development associated with Victoria University may occur on the site in the future.

This report will discuss the noise limits that apply currently (what is currently allowed as of right) between the Inner Residential sites and the potential difference in effects from noise that would be permitted if 320 The Terrace is rezoned Institutional Precinct.

Noise levels emanating from activities associated with a rezoned 320 The Terrace would be highest at immediately adjacent sites, with noise levels reducing with distance and potential screening at the other residential sites. Therefore this report concentrates on the possible effects from the proposed rezoning at the immediately adjoining Inner Residential sites.

Discussion:

The following permitted noise limits apply between inner residential sites to activities that can readily be controlled by performance standards. Other day to day activities which may cause a nuisance, for example stereos and parties, are controlled by the excessive noise provisions specified in section 326 of the Resource Management Act.

The following performance standards apply between Inner residential sites.

Inner Residential Area and Medium Density Residential Areas

Monday to Sunday	*7am to 10pm*	*50dB* $L_{Aeq\ (15\ min)}$
Monday to Sunday	*10pm to 7am*	*40dB* $L_{Aeq\ (15\ min)}$
Monday to Sunday	*10pm to 7am*	*70dB* L_{AFmax}

Inner Residential Area and Medium Density Residential Areas

Monday to Sunday	*7 am to 10 pm*	*45dB* $L_{Aeq\ (15\ min)}$
Monday to Sunday	*10pm to 7am*	*40dB* $L_{Aeq\ (15\ min)}$
Monday to Sunday	*10pm to 7am*	*65dB* L_{AFmax}

The following performance standards apply for noise emanating from an Institutional Precinct when received in the Inner Residential Area:

Activities must comply with the following noise limits.

Residential (Inner)

Noise emission levels when measured on any residential site in the Inner Residential Area must not exceed:

Monday to Saturday 7am to 7pm	*55dB ($L_{AEQ(15min)}$)*
Monday to Saturday 7pm to 10pm	*50dB ($L_{AEQ(15min)}$)*
At all other times	*40dB ($L_{AEQ(15min)}$)*
All days 10pm to 7am	*70dB (L_{AFmax})*

There is no potential increase in effects from permitted levels of noise emanating from activities that cannot be readily controlled by performance standards, such as student parties or stereo use on a residential basis. This type of noise will continue to be controlled by the excessive noise provisions specified in section 326 of the Resource Management Act.

If the site is rezoned, the night-time noise limits that apply to activities that can be readily controlled by performance standards would remain the same as currently specified for Inner Residential Areas, namely 40 dB LAeq (15 min). Therefore there is no potential increase in effects from permitted levels of noise at night.

The only potential increase in effects from permitted levels of noise, is from noise emanating from daytime activities where the noise is readily controlled by performance standards. Daytime noise limits are increased from 50 dB LAeq (15 min) to 55 dB LAeq (15 min) for noise emanating from general activities and from 45 dB LAeq (15 min) to 55 dB LAeq (15 min) for noise emanating from mechanical plant. An increase of 5 dB is a noticeable increase to the human ear and an increase of 10 dB sounds twice as loud.

A noise limit of 55dBA is the upper recommended noise limit specified in the New Zealand Standards, NZS 6802:2008 for acceptable levels of daytime noise received in the residential areas. To determine whether it is a suitable daytime noise limit in this area we must consider it in the context of the existing noise environment.

Noise measurements taken between 10:35am and 11:35am (outside peak traffic times) on 28th October 2015 showed that ambient noise levels in the immediate area are dictated by traffic moving along The Terrace and the nearby motorway and the level of noise is very high.

Measurement 1 at Location 1 –
66.3dB LAeq (15min)
56.2dB LAF90

Measurement 2 at Location 2 – .
70.2dB LAeq (15min)
49.7dB LAF90

Summary

There is no potential increase in effects from permitted levels of noise emanating from activities that cannot be readily controlled by performance standards, such as student parties or stereo use on a residential basis. This type of noise will continue to be controlled by the excessive noise provisions specified in section 326 of the Resource Management Act. Similarly the night-time noise limits that apply to activities that can be readily controlled by performance standards would remain the same as currently specified for Inner Residential Areas, therefore there is no potential increase in effects from permitted levels of noise at night.

The only potential increase in effects from permitted levels of noise, is from noise emanating from daytime activities where the noise is readily controlled by performance standards. Daytime noise limits are increased from 50 dB LAeq (15 min) to 55 dB LAeq (15 min) for noise emanating from general activities and from 45 dB LAeq (15 min) to 55 dB LAeq (15 min) for noise emanating from mechanical plant.

A noise limit of 55dBA is the upper recommended noise limit specified in the New Zealand Standards, NZS 6802:2008 for acceptable levels of daytime noise received in the residential areas. The ambient noise levels in the area are very high because of the traffic flows a long the Terrace and motorway exit. Considering this the potential effects from the increase in permitted daytime Activity Limits associated with the rezoning of the site to Institutional Precinct will be negligible.

In conclusion the potential increase in noise effects associated with the change in noise performance standards associated with any rezoning of 320 The Terrace to Institutional Precinct is negligible.

Matthew Borich
Manager, Compliance and Advice
04 803 8152

Memorandum

Date: 27 October 2015

To: **Daniel Batley, Senior Advisor, Planning**

From: **Matthew Borich, Manager, Compliance and Advice**

Cc:

Subject: **NOISE REPORT: PC81 - 320 The Terrace (Gordon Wilson Flats)**

Dear Daniel

Introduction:

The demolition of a large block of flats that adjoin residential houses is proposed.

The applicant has provided a draft Demolition Management Plan (DMP) and an assessment by Marshal Day Acoustics (MDA), titled Gordon Wilson Flats Demolition Plan Noise review, dated 18th June 2015. The MDA report provides an estimation of noise effects based on the proposed methodology. The draft DMP included a demolition methodology, noise mitigations measures, demolition equipment to be used, communication plan and complaint procedures.

Discussion:

The MDA report estimates that generally noise emanating from the demolition work will comply with the recommended upper levels for long term construction work (70 dB LAeq) received in residential areas specified in the New Zealand Standard , NZS 6803:1999,Acoustics – Construction Noise. However for short periods of time the levels may be exceeded at some residential sites directly adjacent to the block of flats, particularly with regards to breaking work within 30 metres of residents. It is not uncommon for the upper noise levels recommended in the standard to be periodically exceeded during demolition of large buildings adjoining residential sites. Where this occurs the noise affects can still be deemed acceptable providing the appropriate noise mitigation is undertaken to ensure the best practicable option is adopted to reduce noise to a reasonable level.

Noise emanating from the internal demolition of floors, internal walls and ceilings will be mitigated by leaving the external walls intact and windows closed during the demolition. The noisiest work will occur during the demolition of the external façade. Mitigation is based around minimising the use of the noisiest equipment such as rock breakers to demolish the façade and instead, where possible, use quieter breakout methods such as the use of hydraulic jaws and uplifting of slabs . Other mitigation measures proposed involve the use of mufflers, screening, communication with affected parties, a complaints procedure and utilising distance were possible.

The following working hours are proposed:

Monday to Friday

6:30 am - 7;30am Quiet setup.
7:30am – 6.00 pm Normal work activity

Saturday

7:30am – 6.00 pm Normal work activity

No work permitted on Sundays or Public holidays.

The applicant suggests a final demolition plan be provided when the demolition contractor has been appointed.

Conclusion:

A draft DMP has been provided based on expert advice from an acoustic engineer. Providing the demolition is undertaken in accordance with an approved DMP that is in general accordance with draft DMP, the noise effects from the demolition of the Gordon Wilson Flats at 320 The Terrace will be reasonable.

Recommendations:

The following conditions are recommended.

1. Demolition shall be undertaken in accordance with an approved Demolition Management Plan.

2. A Demolition Management Plan (the Plan) must be submitted to and approved by the Compliance Monitoring Officer (CMO) prior to the commencement of all works on site. The Plan must be amended , where directed by the CMO to address proven deficiencies in its operation. The plan shall be inforce for the duration of the demolition works.

The Demolition Management Plan shall be:

- In general accordance with the draft Demolition Management Plan provided with the application for Plan Change 81.
- Drafted by a suitable expert
- Include a section on the management of demolition noise which shall:

a. Specify the hours of operation, a description of the stages of work proposed, the equipment to be used and the stages of work where predicted noise levels may exceed the recommended upper limits for construction noise specified in NZS 6803:1999, Acoustics - Construction Noise.

b. Include specific details relating to methods for control of noise associated with construction works, which shall adopt the best practical option to reduce noise to a reasonable level in accordance with Section 16 of the Resource Management Act 1991 at all times and be formulated to as far as practicable to comply with the recommended upper noise levels for construction noise specified in NZS 6803:1999, Acoustics - Construction Noise when assessed in accordance with this standard.

c. Specify any necessary monitoring, complaint handling and communication procedures with affected parties.

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