

13 May 2010

WM Project Number: 10132
Our Ref: SSH170510 CM eltr
Email: sarah_kelly@optusnet.com.au

Salamander Shores Hotel
C/- SAKE Development
Suite 11, 340 Darling Street
BALMAIN NSW 2041

Dear Sarah

Re: Traffic Noise

INTRODUCTION

The traffic noise ingress to the residential component of the proposed redevelopment of the site at 147 Soldiers Point Road has been assessed in line with the Director General's Environmental Assessment Requirements for the project. Article 8.1 of this document states,

"Address potential noise impacts in particular road traffic noise for future residents and appropriate mitigation measures."

A number of different documents deal with traffic noise for external and internal areas.

The Environmental Protection Agency set out in their document *Environmental Criteria for Road Traffic Noise (ECRTN)* (1999) non-mandatory limits for external noise arising from road traffic noise for different types of development. The proposed development at 147 Soldiers Point falls under Type 5, "new residential developments affected by collector traffic noise." The external noise limits for this type of development is detailed in Table 1.

Table 1 Noise Limits for New Residential Developments Affected by Collector Traffic Noise

Time Period	Criteria $L_{Aeq,(1hr)}$ (dBA)
Daytime (0700-2200)	60
Night (2200-0700)	55

Australian Standard 2107:2000 sets out satisfactory and maximum internal noise levels for different areas of occupancy in buildings. The relevant noise levels are presented in Table 2 below.

Table 2 Internal Noise Levels for Residential Buildings from AS 2107:2000

Type of Occupancy	Recommended Sound Design Level L_{Aeq} (dBA)	
	Satisfactory	Maximum
Residential		
Living	30	40
Sleeping	30	35
Work	40	40
Common (such as lobbies)	45	55

Wilkinson Murray consider the upper end of this range is the most appropriate design aim, remembering this value needs to be achieved by a combination of traffic and any mechanical services noise.

The NSW State Environmental Planning Policy (Infrastructure), (SEPP) states for roads with much higher traffic volumes in Clause 102 – *“Impact of road noise or vibration on non-road development”* that if the development is for residential use,

“ L_{Aeq} levels are not exceeded:

(a) in any bedroom in the building — 35 dB(A) at any time between 10 pm and 7 am,

(b) anywhere else in the building (other than a garage, kitchen, bathroom or hallway) — 40 dB(A) at any time.”

These two documents, therefore, provide indicative internal noise levels so that any ingress of noise into the building should be mindful of these requirements.

NOISE ASSESSMENT

The assessment is concerned with the permanent residences located in the southern part of the site as shown in Figure 1.

A receiver location was selected at a position where it would receive the most noise and therefore it is assumed that all other positions fall below the calculated levels at this location. The location was in the south-west corner of the permanent residential building as indicated in Figure 1.

The prediction method used existing peak hour traffic volume data from Soldiers Point Road in the vicinity of the site and then used the Tomago road permanent traffic monitoring site and applied a scaling factor of 0.17 for Soldiers Point Road as instructed by traffic consultant for the client. The daytime traffic volume data was taken from a peak hours traffic survey on Soldiers Point Road.

Figure 1 Site Drawing with Assessment Building and Location Indicated

Hours of highest traffic activity were selected as representative of the maximum noise levels for the time period which are presented in Table 3.

Table 3 Predicted Highest External Noise Levels at Permanent Residences

Time Period	Noise Level $L_{Aeq,(1hr)}$ (dBA)	10 Years Hence Predicted
		Noise Level $L_{Aeq,(1hr)}$ (dBA)
Daytime (1645 – 1745)	55	56
Night (2200 – 2300)	46	47
Night (0600 – 0700)	53	54

As the external noise levels do not exceed the limits set out by the EPA for this type of development it can be recommended that no additional design considerations be considered for the purpose of attenuating external road traffic noise for the permanent residences.

The expected rise in noise levels arising from future traffic volume increases is shown in Table 3. It is estimated that they will not increase by more than 1dB in this period and therefore it is expected that they will not exceed current external noise regulations.

In the case of road traffic noise being the only dominant noise source present, then in order to comply with AS 2107:2000 and SEPP (Infrastructure) maximum levels, it is recommended, as a minimum that 6mm float glass be used for glazing. This calculation is based on typical sound absorption values and reverberation times for a bedroom located at the position where external noise is highest.

We trust this information is sufficient. Please contact us if you have any further queries.

Yours faithfully

WILKINSON MURRAY

A handwritten signature in black ink, appearing to read 'N.L. Gross', with a large, stylized loop at the bottom.

Neil Gross

Director