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12 October 2021

SINSW  
c/- Currie & Brown  
Suite 2, Level 10, 3 Spring Street  
Sydney NSW 2000

Attention: Mr. M. Havdahl

Dear Martin,

**RE: Hastings SC | Acoustic Responses to DPIE**

**JOB NO.: 200360**

**REVISION NO.: [G]**

This acoustic letter has been prepared to respond RFI's issued by DPIE regarding the Acoustic Report for SSDA (ref. 200360-AC-SSDA [F]).

**Comment 1.a:** *Page Page 7, Section 4.1.3, Issue 1 of the RtS does not adequately address the information requested by the Department in relation to operational noise criteria compliance for evening activities (6pm-10pm) at the PCYC, namely:*

*"The RtS should confirm that this comment relates to the closure of windows and doors in the multi-purpose sports court and that this is feasible. In addition, recommendations are made in relation to sound insulation of openings to achieve required noise levels at receivers. The RtS should provide further details in relation to these measures and confirm that they are feasible and would be implemented."*

*A response that clearly addresses the Department's request is required.*

**Response:** A noise assessment for the operation of the PCYC building has been conducted and presented in the Acoustic Report for SSDA Section 5.3. The results of the assessment show that the predicted noise level to the nearest most affected residential receiver will be 23dB(A) during the evening time, as per the assessment table below. It shall be noted that the evening time criteria is 44dB(A), therefore the predicted noise levels are significantly below the criteria (by more than 20dB). This is based on a building fabric sound reduction of 30dB which was used in the assessment, which is equivalent to 6mm thick glass, and standard façade construction.

Calculation	Sound Pressure Level
Reverberant Internal Noise Level of indoor sport games $L_{Aeq,15min}$ , dB(A)	84
Building fabric sound reduction, dB	-30
Distance attenuation, dB	-31
Predicted noise level at nearest receiver, $L_{Aeq,15min}$ dB(A)	23
Noise Level Criteria (Evening-time), $L_{Aeq,15min}$ dB(A)	44 / Yes

**Table 1:** Predicted noise levels from Multipurpose Sporting Courts during indoor games with spectators.

We confirm that there will be no issues in regards to the construction of the façade to achieve the typical sound reduction value of 30dB, and therefore the acoustic requirement of 30dB is feasible and will be implemented such that the acoustic criteria is achieved. All windows and glazing on the Western facade will not be openable.

**Comment 1.b:** *Part of the response provided in the RtS stated that "Mechanical ventilation openings are not expected to result in an exceedance of the noise criteria." Further details to support this statement are required.*

**Response:** Openings for mechanical ventilation will be provided only on the North and East façades, with none located on the West façade which faces residential receivers, as an acoustic control measure but additional noise controls – i.e. internally lined ductwork – will be confirmed during the design stage and they will have a similar sound insulation performance than the façade. Requirements imposed under standard DPIE conditions of consent relating to the design of mechanical plant and equipment will ensure that the required outcome is achieved.

**Comment 1.c:** *The response also refers to "Acoustic Addendum provided by JHA, Ref: 200360 Revision F, dated 17 August 2021". No material was included in the addendum to support the above statement. Further details to support the statement are required.*

**Response:** Refer to response for Comment 1.b.

**Comment 1.d:** *Further information is required to confirm that the operations of the PCYC as described in Section 5.3 of the Noise & Vibration Impact Assessment are expected to meet the required criteria during the evening time (6pm – 10pm) at residential receivers if windows and doors are closed at the PCYC.*

**Response:** Refer to response for Comment 1.a.

**Comment 1.e:** *Confirm whether the noise and vibration assessment considered the potential for the prevailing north-east winds to further transmit operational evening noise from the PCYC towards residential receivers on Owen Street.*

**Response:** By itself, wind has very limited effects on noise propagation, other than to increase or decrease the speed of sound. At short distances, up to 50m, the wind has minor influence on the measured sound level. For longer distances, the wind effects become appreciably greater. The effect of wind on the noise level is negligible at the distances between the source and the receiver for the PCYC building. Wind noise propagation is considered in assessments with longer distances, for example there can be a 5dB increase in noise level due to wind if the receiver is over 100m from the source. Note that the predicted noise level is more than 20dB below the criteria. Therefore, there will not be adverse effects due to the North-east winds. Further information about this topic can be found in the CONCAWE noise prediction methodology.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Jorge Reverter', with a stylized, cursive script.

Jorge Reverter

Acoustic Group Manager