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HBMS NSW Pty Ltd
C/-Welsh + Major Architects
Level 4, 69 Reservoir Street
SURRY HILLS NSW 2010

Attention: Camille Dauty-Denis

Dear Camille

25-27 George Street, The Mercantile Hotel
SSDA Noise Assessment
Response to Submissions

SLR Consulting Australia Pty Ltd (SLR) provides the following responses to the comments/feedback received from the NSW Department of Planning and Environment (DPE) and the public relating to the noise assessment prepared by SLR (SLR ref: 610.17382-R02, dated 7 February 2018, "the SLR report").

The SLR report forms part of the State Significant Development Application (SSDA) and considers noise from a proposed new rooftop bar and mechanical plant at the Mercantile Hotel. The SLR report addresses the Secretary's Environmental Assessment Requirements (SEARs) issued by the NSW Department of Planning and Environment SSD 8665.

DPE Comment 1:

Provide details of mechanical rooftop plant and confirm an allowance has been made in the Noise Assessment.

SLR Response 1:

At the time of assessment, the specific details regarding the rooftop mechanical plant that are required for a detailed noise assessment were not available. That is not uncommon for DA-type assessments and the level of detailed information that is needed for a complete assessment does not usually become available until the detailed design stage of the project.

In this instance and based on the likely location of the mechanical plant, SLR has provided a robust assessment that would inform the project mechanical engineer of the possible constraints relating to the noise emissions from the mechanical plant. This will assist in the plant selection process by providing a maximum total Sound Power Level (SWL) allowable whilst achieving compliance with the applicable project noise limits.

It is common to undertake a subsequent noise assessment prior to Construction Certificate based on the detailed plant information following selection during the detailed design stage to confirm compliance with the project noise limits.

DPE Comment 2:

Provide further justification for the measurement of noise from the rooftop bar against Liquor and Gaming NSW criteria, given that these have been withdrawn.

SLR Response 2:

The SLR report acknowledges the status of the Liquor and Gaming NSW (L&G) criteria. To the best of our knowledge, the status of the criteria remains unchanged however such criteria is commonly used in such assessments by this firm and others for similar projects in NSW.

It is understood that the City of Sydney (CoS) maintains a “standard conditions of consent” for Entertainment Noise from venues within its boundary, however these are not formally published and did not form part of the input requirements for the (SEARs) provided within the SSDA. The most recent version of these conditions received by SLR is included in **Appendix A**.

For residential buildings, the L&G criteria are essentially analogous to the CoS Entertainment Noise conditions for this project, meaning that compliance with the L&G criteria would result in compliance with the CoS conditions.

There are however two areas of distinction. The CoS conditions also require:

- consideration of “internal to internal” transmissions paths between a venue and a residence; and
- consideration of commercial use receptors.

As the rooftop venue is not directly connected to a residential use not related to the Hotel, there is no need to consider “internal to internal” noise transfer paths.

It is noted that there is a common party wall between the Hotel and the adjoining building, however that building is a commercial premises and is only two storeys high while the rooftop bar is on the fourth floor level of the Hotel. Therefore, the risk of noise transfer and annoyance would be low.

With regard to commercial uses, the CoS Entertainment Noise conditions would state that noise from the hotel must not exceed the background noise level in any Octave Band Centre Frequency (31.5Hz to 8kHz inclusive) by more than 3 dB when assessed indoors at any affected commercial premises.

The most-exposed receptors would be within the buildings to the east (ie on the opposite side of George Street). Predictions of rooftop bar noise prior to midnight (ie the most likely time for occupancy for the commercial property) indicate compliance with the “background + 3 dB” criteria when assessed outside the uppermost windows.

It is reasonable to conclude compliance would occur when assessed indoors as any reduction in background noise achieved by the building facade due to being inside the building would be matched by an equivalent reduction of the rooftop bar noise. It is common to assess noise this way, particularly where establishing the noise reduction due to the facade is problematic, which is the case in this instance as the receptor is located on the third floor and there is no balcony. It is also considered a “worst-case” assessment as it assumes that the background noise inside the building is dominated by the same noise sources as outside the building. In practice however, it may be that internal ambient sources (eg office equipment, mechanical services, etc) are greater than the outside noise sources when observed inside the building.

Therefore, notwithstanding the lack of direct reference to the CoS conditions, compliance with the L&G criteria would also satisfy the intent of the CoS conditions and subsequently would not be expected to result in noise-related complaints.

DPE Comment 3:

Give consideration to provision of screening at the northern end of the rooftop terrace (in addition to the proposed landscaping), in order to limit noise impacts.

SLR Response 3:

When operated in accordance with the conditions listed in SLR report, impacts would not be expected. Screening in addition to that already proposed would therefore not be specifically required, but still may provide further acoustic benefit. Care would need to be taken if introducing screening to the north end of the rooftop as this may in fact result in reflected noise towards other receptors.

DPE Comment 4:

Give consideration to commercial receivers in the operational noise assessment.

SLR Response 4:

An assessment has been undertaken as described in SLR Response 2 above, which indicates that compliance would be achieved at the commercial receivers on George Street east of the Hotel which are the most exposed commercial receivers to rooftop bar noise emissions.

DPE Comment 5:

Confirm that cumulative noise impacts have been considered, including the operation of the Rocks Market.

SLR Response 5:

Cumulative impacts have been considered to the extent that the operation of the Rocks Market and other sources are captured in the existing measured noise levels which inform the baseline (Rated Background Levels) used in the assessment. The SLR activity noise emissions assessment relates only to the rooftop bar area subject to this SSDA and as such has not included activity noise from other noise sources in emission calculations.

Note that the SLR assessment has been based on noise limits established for sensitive time later in the pre-midnight periods when the markets would not normally be in operation (ie after 10:00 pm). These more noise sensitive periods are the 'driving factor' in the assessment. Noise limits during the day period, ie when the markets would normally operate (ie 10:00 am – 5:00 pm), would be higher. By adopting the more stringent late evening noise limits for the entire pre-midnight period, the SLR assessment inherently would capture any cumulative impact as a result noise from the Rocks Markets.

There are other venues with entertainment noise in The Rocks area, however they are not particularly close to the Hotel and noise from those venues would be required to comply with noise limits at other receptors much closer than those used in the SLR assessment.

DPE Comment 6:

Give consideration to acoustic treatment of the ground floor elevation of the hotel facing George Street, including the doors to the footpath. In addition, consider noise impacts from amplified music played on the George Street footpath.

SLR Response 6:

The SLR assessment relates only to the rooftop bar area and as such has not considered noise emission from the ground floor area. It is understood that the capacity and operations of the ground floor area would not be changing and any management measures in place to control noise emissions from that area would be maintained.

Public Submissions (Comment 7):

- (a) No amplified music in external areas of the hotel, including the proposed open roof top terrace and the George Street footpath with the exception of 'Big Days'.*
- (b) Use of external areas including the roof terrace and George St footpath cease at 10:00pm.*
- (c) Doors between the open roof terrace and the enclosed roof bar be kept closed after 10:00pm.*
- (d) The main entrance be located as far from residential building as possible.*
- (e) Ground floor doors at the northern end of the hotel between the public bar and the George St be kept closed after 10:00pm.*
- (f) Ground floor elevation of the hotel, facing George St., including the doors to the footpath be acoustically treated so as to contain noise to within the hotel building.*
- (g) In all areas of the hotel where speakers are used for the transmission of music, or other purposes.*
- (h) The roof terrace needs to have some form of screening to limit noise at the northern end of the building and onto George St.*
- (i) Where speakers are used internal, there should be a larger number of smaller speakers rather than a smaller number of larger speakers.*
- (j) No external areas should be used for private functions. 'Big Day' celebrations – e.g. New Years Eve, Australia Day, St Patricks Day, Anzac Day and perhaps one sport-related event should be limited to five days per year and theses should be identified and listed an annual calendar.*

SLR Response 7:

For clarity in response, SLR has labelled each statement in the comment and responded to each item -

- (a) The SLR report outcomes do not include speakers to external areas at any time. The footpath area requires a subsequent assessment to confirm the suitability, or otherwise, of amplified music outside the building.*

- (b) In order to comply with the project noise limits, the number of patrons must not exceed 100 in the outdoor terrace area at any time up to midnight, in conjunction with maximum numbers of patrons in the total rooftop area. Therefore it will be a matter for management to decide if limiting use of the rooftop external area to earlier than midnight is appropriate. It is not required for compliance with the established noise criteria.

The footpath area requires a subsequent assessment to confirm the suitability, or otherwise, for use by patrons.

- (c) As per the outcomes of the SLR report, the east-facing doors between the external and enclosed areas must be closed at midnight in order to reduce noise emissions to compliant levels. It will be a matter for management to decide if closing the doors to the rooftop external area earlier than midnight is appropriate. It is not required for compliance with the established noise criteria.
- (d) The entrance to the rooftop area is located within the enclosed bar area. Consequently, this would be the best location for the entrance door as patrons arriving at or exiting the rooftop area would not result in noise escaping towards sensitive receptors.
- (e) The SLR assessment relates only to the rooftop bar area and as such has not considered noise emission from the ground floor area. It is understood that the capacity and operations of the ground floor area would not be changing and any management measures in place to control noise emissions from that area would be maintained.
- (f) Refer to **SLR response 7(e)** above.
- (g) The speaker design for the rooftop area, including maximum allowable levels, is discussed in **Section 5.1.2** of the SLR report.
- (h) Refer to **SLR Response 3** above for the discussion regarding screening to the northern end of the rooftop terrace area.
- (i) The speaker design for the rooftop area, including maximum allowable levels, is discussed in **Section 5.1.2** of the SLR report.
- (j) When used in accordance with the maximum number of patrons (behaving reasonably) as stipulated in the SLR Report, compliance would be expected regardless of the event/function/activity. It is understood that the venue may apply for exemptions from the noise limits as required.

Public Submissions (Comment 8):

Locate the mechanical exhaust systems to the far left of the building when viewed from George Street, which would place the exhaust as far away as possible from our building. Odours could be further mitigated by incorporating the latest filtration treatment.

SLR Response 8:

SLR was not engaged to assess odour on this project however from an acoustic perspective, it is recommended to located exhaust systems as far as practicable from sensitive receptors. The suitability of the proposed locations would be determined during the detailed design process and acoustic mitigation by way of acoustic screening, duct attenuation and judicious plant selection would be implemented where required to achieve the applicable project noise limits.

I trust this information will suffice for your needs. Please contact me if you have any queries or require anything further on 0417 628 730 or mbryce@slrconsulting.com.

Yours sincerely



MATTHEW BRYCE
Associate - Acoustics

Checked/ Authorised by: AMC

APPENDIX A

(2) NOISE – ENTERTAINMENT VENUES

- (a) The $L_{A10,15\text{minute}}$ noise level emitted from the use must not exceed the background noise level ($L_{A90,15\text{minute}}$) in any Octave Band Centre Frequency (31.5Hz to 8kHz inclusive) by more than 5dB between the hours of 7:00am and 12:00 midnight when assessed at the boundary of any affected residence.
- (b) The $L_{A10,15\text{minute}}$ noise level emitted from the use must not exceed the background noise level ($L_{A90,15\text{minute}}$) in any Octave Band Centre Frequency (31.5Hz to 8kHz inclusive) between the hours of 12:00 midnight and 7:00am when assessed at the boundary of any affected residence.
- (c) Notwithstanding compliance with (a) and (b) above, noise from the use when assessed as an $L_{A10,15\text{minute}}$ enters any residential use through an internal to internal transmission path is not to exceed the existing internal $L_{A90,15\text{minute}}$ (from external sources excluding the use) in any Octave Band Centre Frequency (31.5Hz to 8kHz inclusive) when assessed within a habitable room at any affected residential use between the hours of 7am and 12 midnight.

Where the $L_{A10,15\text{minute}}$ noise level is below the threshold of hearing, T_f at any Octave Band Centre Frequency as defined in Table 1 of International Standard ISO 226 : 2003 – Normal Equal Loudness Level Contours then the value of T_f corresponding to that Octave Band Centre Frequency shall be used instead.

- (d) Notwithstanding compliance with (a), (b) and (c) above, the noise from the use must not be audible within any habitable room in any residential use between the hours of 12:00 midnight and 7:00am.
- (e) The $L_{A10,15\text{minute}}$ noise level emitted from the use must not exceed the background noise level ($L_{A90,15\text{minute}}$) in any Octave Band Centre Frequency (31.5Hz to 8kHz inclusive) by more than 3dB when assessed indoors at any affected commercial premises

Note: The $L_{A10,15\text{minute}}$ noise level emitted from the use is as per the definition in the Australian Standard AS 1055-1997 *Acoustics – Description and measurement of environmental noise*. The background noise level $L_{A90,15\text{minute}}$ is to be determined in the absence of noise emitted by the use and be representative of the noise receiver. It is to be determined from the assessment L_{A90} / rating L_{A90} methodology in complete accordance with the process listed in the NSW EPA Industrial Noise Policy and the relevant requirements of AS1055.1997.