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14/10/2022

Royal Far West
14-18 Wentworth Street
MANLY NSW 2095

Attn: To Whom It May Concern

14-22 Wentworth Street & 19-21 South Steyne, Manly - Response to Design Panel - Acoustic Amenity & Natural Cross Ventilation

This letter has been prepared to address potential acoustic privacy concerns relating to the proposed mixed-use development at Royal Far West, 14-22 Wentworth Street & 19-21 South Steyne, Manly, in particular, a request for additional information by the Northern Beaches Council Design and Sustainability Advisory Panel as detailed in their meeting report (Ref: DA2022/1000, dated 28th July 2022). The following documents have been considered in this letter:

- Northern Beaches Council Design and Sustainability Advisory Panel Meeting Report (dated 28th July 2022)
- NSW Environmental Protection Authority (EPA) *Noise Policy for Industry* 2017 (**NPI**)
- NSW Department of Planning *Development Near Rail Corridors and Busy Roads (Interim Guideline)* 2008 (**DNRCBR**)
- NSW Department of Planning *State Environmental Planning Policy* 65, and
- NSW Department of Planning *Apartment Design Guide* 2015 (**ADG**).

PANEL COMMENT AND RECOMMENDATIONS***Sustainability***

...Acoustic privacy for Buildings C and D requires further consideration and/or additional information to ensure achieving adequate levels of acoustic comfort/privacy does not impact on the ability to naturally cross ventilate units in close proximity, and directly opposite each other. This will need to demonstrate how the solution achieves SEPP 65 objectives noting a variation to measurable performance target is sought.

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Recommendations

9. *Additional information to demonstrate how acoustic amenity is achieved without impacting on natural cross ventilation for units in close proximity Buildings C and D.*

With regard to SEPP 65 objectives, the following extract notes acoustic and cross ventilation comments from the document.

Principle 4: Sustainability

Good design combines positive environmental, social and economic outcomes.

Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of residents and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling and reuse of materials and waste, use of sustainable materials and deep soil zones for groundwater recharge and vegetation.

Principle 6: Amenity

Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well being.

Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas and ease of access for all age groups and degrees of mobility.

Furthermore, with regard to natural cross ventilation, the glossary of the ADG states the following definition of natural cross ventilation:

Natural Cross Ventilation

Natural ventilation which allows air to flow between positive pressure on the windward side of the building to the negative pressure on the leeward side of the building providing a greater degree of comfort and amenity for occupants. The connection between these windows must provide a clear, unobstructed air flow path. For an apartment to be considered cross ventilated, the majority of the primary living space and n-1 bedrooms (where n is the number of bedrooms) should be on a ventilation path.

We note that there are no specific noise emission criteria for use of residential private open space, and guidelines such as the commonly adopted NSW EPA NPI are not appropriate for assessment of this noise type. An argument can be made for an internal noise level + 10dB(A) noise criteria per the DNRCBR for natural ventilation, however, is not the intended use for the criteria in the guideline.

A useful comparison is to examine the level of acoustic separation between:

- Adjacent backyards in a typical free-standing residential development scenario, and
- The separation achieved by the proposed development between buildings C & D at its most affected point (Unit C4.9 Balcony and D4.4 bedroom) within the development.

In a typical backyard scenario, the two properties will commonly be separated by only a dividing fence, and that fence itself may be effectively acoustically transparent (it offers no effective noise mitigation). Assuming a typical 10m by 10m backyard, the acoustic separation between backyards will be approximately 20-25dB(A). In the event that there is a solid 1.8m high fencing dividing the properties, this separation is likely to increase to approximately 27-32dB(A), excluding any second-floor windows of the property which may be overlooking.

When considering the roof-top private open spaces (including balconies) a distance of 6-8m can be approximated between a person speaking on the Unit C4.9 balcony and the window of D4.4 bedroom. Considering distance separation alone, this would result in an acoustic separation of approximately 24-25dB(A) noise reduction. When accounting for noise traveling through an open window (5% of room area for natural ventilation per BCA definitions) and a room correction, the noise reduction increases to 32-33dB(A). Additionally, due to the size of these balconies and typical management controls, it is most likely that these spaces would be used primarily for passive recreation activities. A raised voice at the edge of Unit C4.9's balcony is predicted to achieve an internal noise level of 44-45dB(A) in the bedroom of Unit D4.4, therefore being compliant with the DNRCBR. This is taking into account a direct transmission path (no directivity) with the worst affected window of the bedroom being utilised for natural ventilation. A normal vocal noise level would be 10dB(A) lower, therefore correlating to an internal noise level of 34-35dB(A).

It is noted that noise disturbances that may be caused by a party using a balcony would be an atypical event. Loud music and a private open space filled to capacity, regardless of size and/or position, can have the ability to generate noise disturbance. This risk applies to backyards/terraces of any size and position. Antisocial/unreasonable behaviour would be addressed by police complaint, as is the case for any residential development.

Antisocial/ unreasonable behaviour will be minimised through the introduction of specific by-laws to regulate behaviour in strata developments. An extract of the draft by-law for this development is shown below:

Owners and occupiers must not make noise or behave in a way that might unreasonably interfere with the use and enjoyment of a Lot or Common Property by another Owner or Occupier within the building.

Given that a backyard is considered inherently reasonable with respect to acoustics in typical residential development design, the acoustic amenity provided between the worst affected units of Buildings C & D must also be considered reasonable. Notwithstanding the above, any resident can choose to open any other window further away from the noise source for natural cross ventilation given the design of these units. As such, it is of the opinion of this office that acoustic amenity is readily achieved and is not unduly impacted.

Please contact us should you have any further queries.

Yours faithfully,

A handwritten signature in blue ink, appearing to read 'Weber Yeh', is positioned below the 'Yours faithfully,' text.

Acoustic Logic Pty Ltd
Weber Yeh