

SANDY BROWN

Consultants in Acoustics, Noise & Vibration

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Patron noise egress assessment

This memo provides an assessment of operational noise levels from patrons within the outdoor seating area, and from customers within the Caravan restaurant with the retractable windows open to discharge Planning Condition 8 under 139384/FO/2024.

Summary

This memo provides a noise egress assessment based on 90 patrons in the outdoor seating area and also breakout from patrons within the Caravan unit with the proposed retractable windows open.

Manchester City Council do not stipulate any specific criteria in relation to noise egress associated with operational noise from the occupants of external amenity spaces. However the *Noise and Planning Guidance* document dated October 2022 refers to the *WHO Guidelines for Community Noise 1999*.

On the basis of the above and similar projects in Manchester, it is considered that an external noise level of $L_{Aeq,1hr}$ 55 dB between 07:00 – 23:00 hrs would be appropriate outside nearby noise sensitive receptors.

The noise egress predictions are below the recommended criteria at the nearest noise sensitive premises, on this basis no mitigation measures are required.

The proposed hours of operation of the Caravan unit are between 07:00 – 02:30 Monday to Sunday. In order to minimise risk of noise disturbance to nearby noise sensitive receptors, outdoor seating areas and retractable windows should be closed at 23:00 hrs.

It is recommended that signs be displayed in the outdoor seating areas requesting patrons to keep noise to a minimum with particular reference to any late-night occasional smokers.

Based on the above, Planning Condition 8 under 139384/FO/2024 can be discharged.

Basis

This memo is based on the following information:

- 90 patrons in the outdoor seating areas as a worst-case
- 240 customers within the unit as a worst-case
- Information publicly available in planning portal for planning application 139384/FO/2024 downloaded on 29 April 2024.
- Noise egress criteria set out in *Noise and Planning Guidance* document dated October 2022.

Acoustic criteria

Patron noise egress

MCC do not stipulate any specific criteria in relation to noise egress associated with operational noise from the occupants of external amenity spaces. However the *Noise and Planning Guidance* document dated October 2022 refers to the WHO *Guidelines for Community Noise* 1999.

The guideline values provided in the WHO guidelines for the impact of community noise on residential premises is given in Table 1.

Table 1 WHO guidelines for impact from community noise

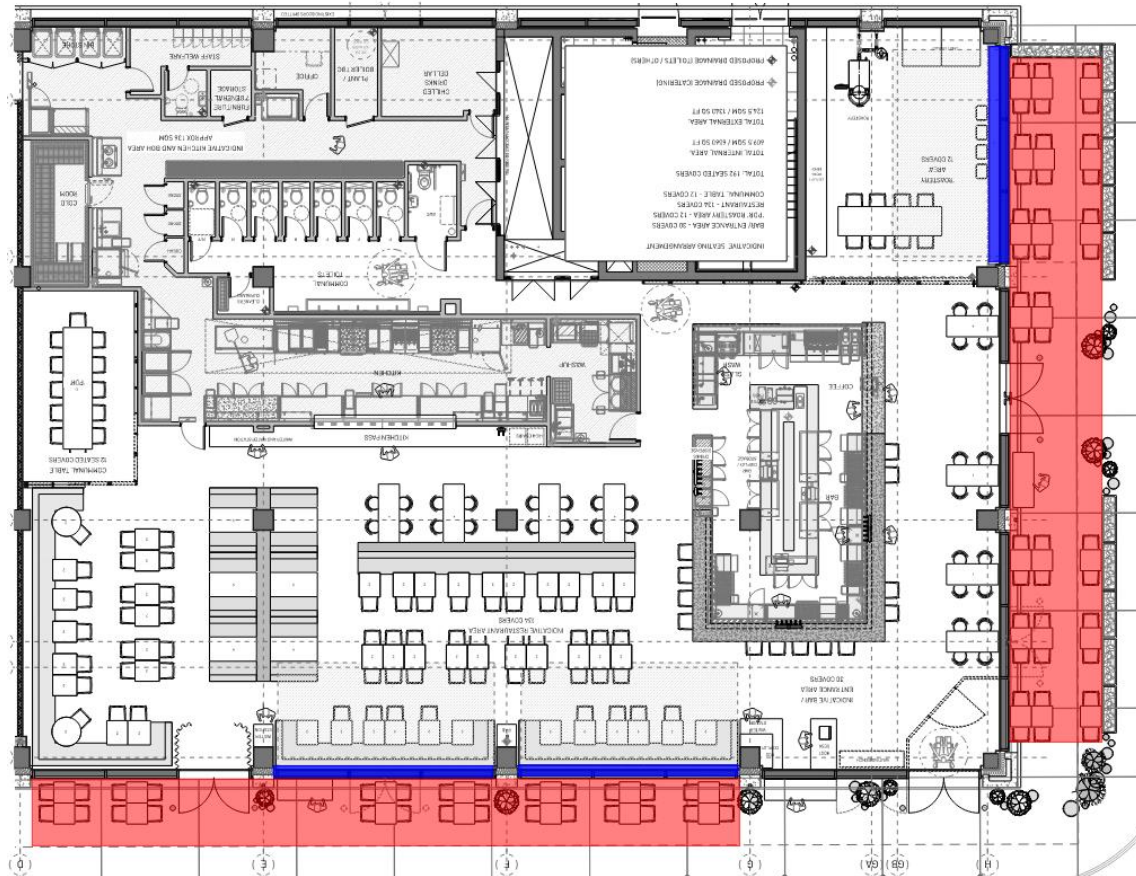
Specific environment	Health effect	Noise level
Outdoor living areas	Serious annoyance, daytime and evening	$L_{Aeq,16hr}$ 55 dB
	Moderate annoyance, daytime and evening	$L_{Aeq,16hr}$ 50 dB
Outside bedrooms	Sleep disturbance, window open	$L_{Aeq,8hr}$ 45 dB

Given that noise associated with the outdoor seating areas is only likely to occur during peak periods and not for the whole 16-hour time base given during the daytime (07:00 to 23:00), and that the existing ambient noise levels exceed those provided in the WHO guidelines, the health effects are likely to be less severe than those stated. On the basis of the above, it is considered that an external noise level of $L_{Aeq,1hr}$ 55 dB between 07:00 – 23:00 hrs would be appropriate.

Proposals

The proposals include external seating areas which could accommodate up to 90 patrons as a worst-case.

The proposed maximum typical occupancy of the Caravan unit is 240 patrons.

Hours of operation

Manchester City Council do not typically permit any external amplified sound on the external terraces.

Noise sensitive premises

The nearest noise sensitive premises to the proposed Caravan restaurant are summarised below. The proposed caravan restaurant is outlined in yellow in Figure 2. The nearest noise sensitive premises are summarised below:

- Union Co-living apartments approximately 30 m to the west, highlighted in red in Figure 2.
- Bonded warehouse approximately 34 m to the south, highlighted in green in Figure 2.
- Old Granada studios Hotel Development highlighted in green and office building highlighted in orange approximately 58 m to the east in Figure 2.



Figure 2 Aerial view of the site (Courtesy of Google Earth Pro)

The Manchester Goods Yard building (which houses the Caravan Unit and includes offices on the upper floors) is constructed of a fully sealed facade and has got a canopy extending out from the facade at level 1 to approximately 1.8 m. Based on this, Manchester Goods Yard itself is not considered a noise sensitive receptor within this assessment.

The Old Granada Studios studio block immediately adjacent to the site is constructed from a solid masonry box-in-box construction which provides a high sound insulation performance. This receptor has therefore been excluded from the assessment as a noise sensitive receptor.

Assessment

A 3D environmental noise model was created using CadnaA by Datakustik to assess noise egress from the proposed outdoor terrace and break out via retractable windows when open.

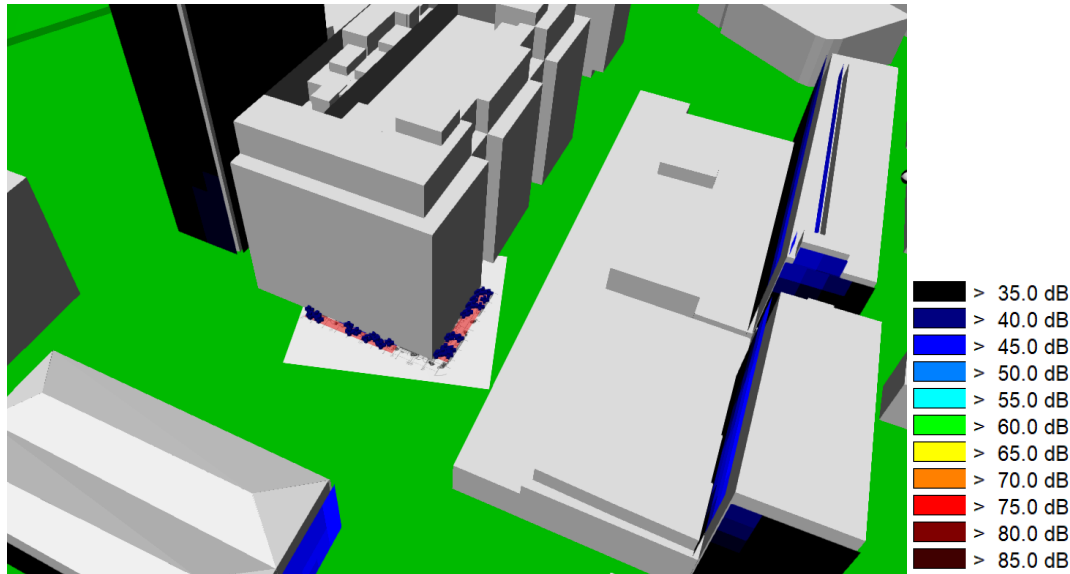


Figure 3 Screenshot of the 3D acoustic model

Patrons in outdoor seating areas

Noise calculations have been carried out with a total of 90 patrons in the proposed outdoor seating areas. The model assumes that 1 in 3 people are talking simultaneously (30 people talking). Calculations have been based on point sources with a sound pressure level of L_{Aeq} 60 dB at 1 m (based on normal vocal effort levels), in line with arrangement shown in Figure 1 and seating height of 1.1 m above local ground level.

In addition, the assessment assumes that noise egress from amplified sound is suitably controlled as set out in Sandy Brown 023622 M001-B operational noise break out assessment.

The predicted noise levels at the nearest noise sensitive premises are summarised in Table 2.

Table 2 Predicted noise levels at noise sensitive premises (from Caravan outdoor seating areas)

Nearest noise sensitive premises	Predicted sound pressure level at 1 m from noise sensitive premises, $L_{Aeq,15min}$ (dB)
Union Co-living apartment	36
Bonded Warehouse	49
Old Granada studios Hotel/ Office	45

The predicted noise levels are at least 6 dB lower than the criterion applicable during the day and indicates a low risk of noise disturbance.

In addition, to minimise the risk of disturbance occurring in practice due to use of external seating areas, the following good practice mitigation measures are recommended:

- Use of external seating areas be limited to be daytime only (0700-2300 hrs)
- There be no amplified music in the external seating areas.

If the external terraces are to be used for occasional late-night smoking (post 23:00 hrs), it is recommended that signs be clearly displayed requesting customers keep noise to a minimum, with particular reference to late night. Use of the areas be limited and carefully managed by site security staff to minimise the risk of noise disturbance.

Break out via retractable windows

This assessment account for patrons seated in the outdoor seating area and internal noise break out from the caravan restaurant.

The assessment considers the following:

- Patrons seated in outdoor seating areas as stated in above assessment
- 240 customers in the restaurant in which 80 people talking simultaneously, each with a sound pressure level of L_{Aeq} 60 dB at 1 m (based on normal vocal effort levels)
- Low background music only when windows are open (people talking dominating the noise egress levels)
- Operational hours limited to be daytime only (0700-2300 hrs)
- Typical reverberation time in restaurant T_{mf} 1.0 seconds

The predicted noise levels at the nearest noise sensitive premises are summarised in Table 3.

Table 3 Predicted noise levels at noise sensitive premises (from external seating and including breakout)

Nearest noise sensitive premises	Predicted sound pressure level at 1 m from noise sensitive premises, $L_{Aeq,15min}$ (dB)
Union Co-living apartment	45
Bonded Warehouse	54
Old Granada studios Hotel/ Office	49

The predicted noise levels are lower than the criterion applicable during the day which indicates a low risk of noise disturbance.

The retractable windows should be closed during the night (by 23:00 hrs at the latest).

Based on the above, Planning Condition 8 under 139384/FO/2024 can be discharged.