CUPRA Manchester

14-16 St Ann Street
Manchester
M2 7LP

Noise Impact Assessment

On behalf of

Northmill Associates Ltd

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T: 01252 519881
W: noisesolutions.co.uk
E: hello@noisesolutions.co.uk
Noise Solutions Ltd, Unit 5, Oriel Court, Omega Park, Alton, GU34 2YT Reg no. 3483481

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	Name	Qualifications	Initials	Date
Prepared by:	Nigel Chandler	BSc(Hons), MIOA	NAC	12th June 2024
Reviewed and approved by:	Jon Stump	BSc(Hons), MIOA	JS	13th June 2024
For and on behalf of Noise Solutions Ltd				

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Reg no. 3483481 Trading office Unit 5, Oriel Court, Omega Park, Alton, Hampshire, GU34 2YT

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1.0 Introduction

1.1. Noise Solutions Ltd (NSL) has been commissioned to provide a noise impact assessment of plant and activities at the proposed CUPRA Manchester premises at 14-16 St Ann Street, Manchester.

1.2. An environmental sound survey has been undertaken to establish the prevailing background sound pressure levels at a location representative of the sound levels outside the noise sensitive receptors nearest to the site.

1.3. Assessments have been made of operational noise to the nearest residential properties and to commercial premises in the immediate vicinity of the site.

1.4. Guidance has been provided for plant noise levels complying with the local authority's usual criteria.

1.5. A glossary of acoustic terminology is given in **Appendix A**. An in-depth glossary of acoustic terms can be viewed online at www.acoustic-glossary.co.uk.

2.0 Details of development proposals

2.1. It is proposed to refurbish the existing property at 14-16 St Ann Street in Manchester for use as a CUPRA showroom space, including hospitality areas in the basement and on the ground and an external seating area. Plan and elevation drawings showing the proposed development are given in **Appendix D**.

2.2. In addition to a car showroom on the ground floor, provision is made for a café on the ground floor and a bar, afterwork and exhibition space in the basement.

2.3. The café would operate only during normal business hours, and there is no intention to play amplified music at higher than "background" levels typical of such premises, rather than higher levels that would be associated with a dedicated entertainment venue.

2.4. The envisaged use of the basement is as a hospitality space for CUPRA-related publicity events, likely to be monthly, and for privately hired events on some evenings each week. In all cases guests would be by invitation only and therefore would not have issues with noise from arrivals and departures of the type associated with nightclubs and similar venues. Events would typically take place during the early evening, e.g. between 17.00 and 21.00hours, and would not extend later into the evening/night-time. While some events may include short live music performances noise levels would typically be significantly below those usually experienced in dedicated entertainment venues.

2.5. Plant will be installed internally, with a plant ventilation louvre on the west elevation at ground floor level. Plant is to be selected. Guidance has been provided on plant sound levels that would permit the local authority's usual requirements to be met.

3.0 Nearest noise sensitive receptors

3.1. The site is in a predominantly commercial district in Manchester city centre, though there are apartments on the upper floors of nearby buildings.

3.2. The nearest non-residential premises are immediately above and adjacent to the site (Receptor R1), being occupied by Waterstones and a coffee shop. The windows nearest to the plant louvre are on the first floor overlooking Police Street, though these are screened from the louvre by the cornice at first floor level.

3.3. The nearest residential properties are apartments at OCTO1 (Receptor R2), above retail premises on the east side of Police Street, approximately 8m from the louvre.

3.4. **Appendix B** contains an aerial photograph showing the site and surrounding area, including the locations of the receptors identified above.

4.0 Existing noise climate

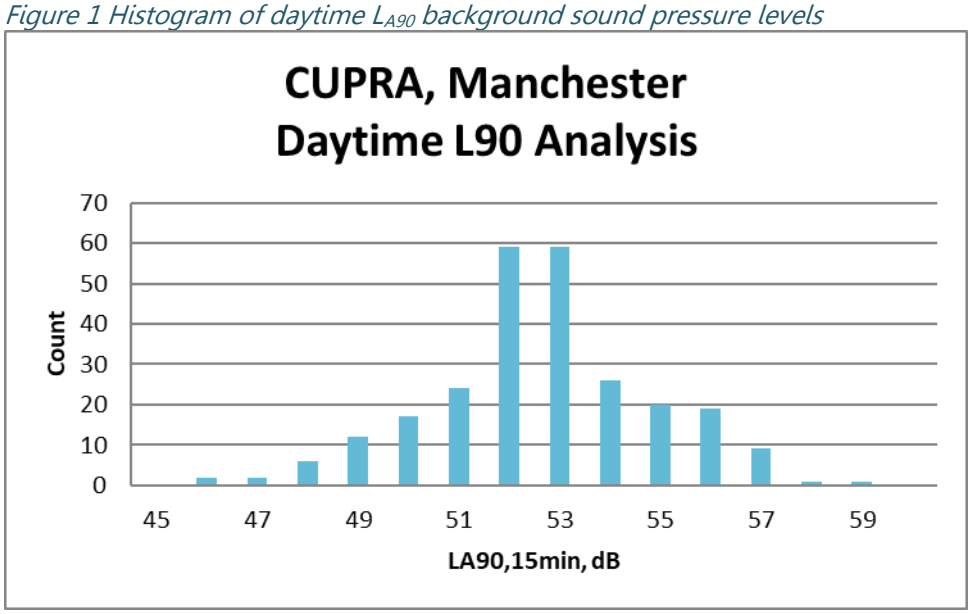
4.1. An environmental noise survey was undertaken to establish the typical background sound levels at a location representative of the noise climate outside the façades of the nearest noise sensitive receptors to the proposed plant area during the quietest times at which the plant will operate.

4.2. The results of the environmental sound survey are summarised in Table 1 below. The full set of measurement results and details of the survey methodology are presented in **Appendix C**.

Table 1 Summary of survey results

Measurement period	Range of recorded sound pressure levels (dB)			
	$L_{Aeq(5mins)}$	$L_{Amax(5mins)}$	$L_{A10(5mins)}$	$L_{A90(5mins)}$
Daytime (07.00 – 23.00 hours)	49-67	66-91	50-67	46-59
Typical operating hours (09.00 – 21.00 hours)	52-67	67-91	54-67	49-59
Night-time (23.00 – 07.00 hours)	49-69	60-97	50-70	46-57

Figure 1 Histogram of daytime L_{A90} background sound pressure levels

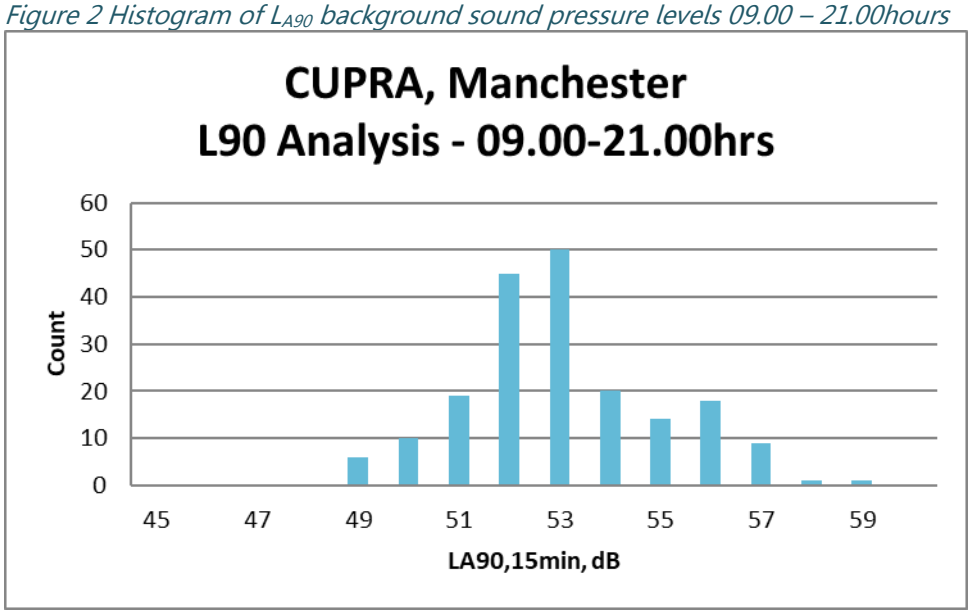


4.3. Further statistical analysis has been carried out on the data; the mean, modal and median values are shown in Table 2 below.

Table 2 Statistical analysis of $L_{A90,15min}$ levels during the daytime period

dB, L_{A90} daytime period	
mean	53
modal	52
median	53

Figure 2 Histogram of L_{A90} background sound pressure levels 09.00 – 21.00hours

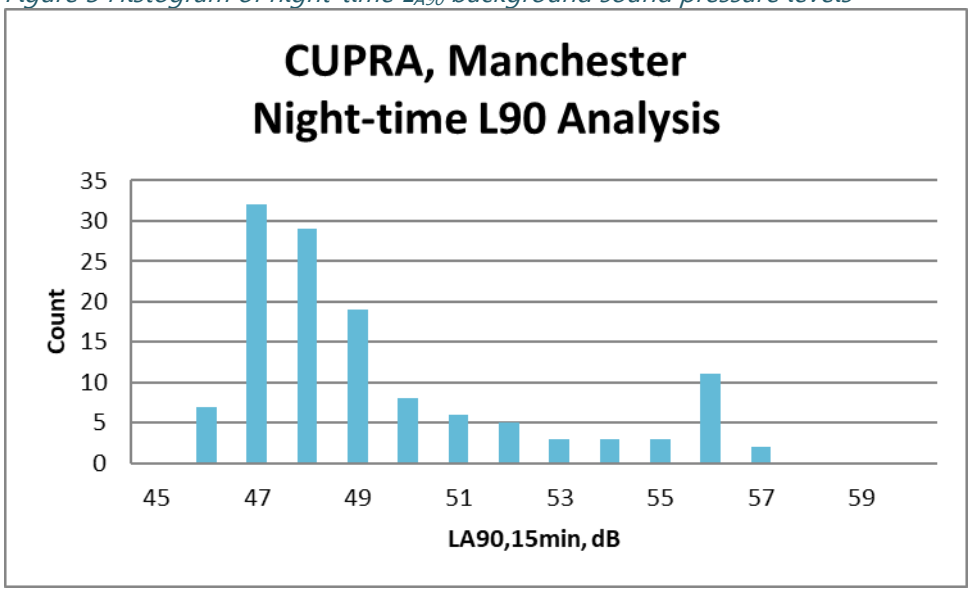


4.4. Further statistical analysis has been carried out on the data; the mean, modal and median values are shown in Table 4 below.

Table 3 Statistical analysis of $L_{A90,15min}$ levels, 09.00-21.00 hours

dB, L_{A90} night-time period	
mean	53
modal	53
median	53

Figure 3 Histogram of night-time L_{A90} background sound pressure levels



4.5. Further statistical analysis has been carried out on the data; the mean, modal and median values are shown in Table 4 below.

Table 4 Statistical analysis of $L_{A90,15min}$ levels during the night-time period

dB, L_{A90} night-time period	
mean	49
modal	47
median	48

4.6. From the histograms, the following values represent the representative background sound pressure levels at nearby noise sensitive premises:

- 49dB L_{A90} during the daytime period;
- 51dB L_{A90} between 09.00 and 21.00 hours; and
- 47dB L_{A90} during the night-time period.

5.0 Planning context

National Planning Policy Framework

5.1. A new edition of the NPPF was published in December 2023 and came into effect immediately. The original National Planning Policy Framework (NPPF[1]) was published in March 2012, with subsequent revisions made periodically - this document replaced the existing Planning Policy Guidance Note 24 (PPG 24) "Planning and Noise." The December 2023 revised edition contains no new directions or guidance with respect to noise. The paragraph references quoted below relate to the December 2023 edition.

5.2. Paragraph 180 of the NPPF states that the planning system should contribute to and enhance the natural and local environment by, (amongst others) *"preventing new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, water or noise pollution or land instability."*

5.3. The NPPF goes on to state in Paragraph 191:

" planning policies and decisions should ...

a) Mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development, - and avoid noise giving rise to significant adverse impacts on health and quality of life;

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason ...

5.4. The NPPF document does not refer to any other documents or British Standards regarding noise other than the Noise Policy Statement for England (NPSE[2]).

5.5. Paragraph 2 of the NPPF states that *"planning law requires that applications for planning permission must be determined in accordance with the development plan unless material considerations indicate otherwise."*

5.6. Paragraph 12 of the NPPF states that *"The presumption in favour of sustainable development does not change the statutory status of the development plan as the starting point for decision making. Where a planning application conflicts with an up-to-date development plan (including any neighbourhood plans that form part of the development plan), permission should not usually be granted. Local planning authorities may take decisions that depart from an up-to-date development plan, but only if material considerations in a particular case indicate that the plan should not be followed".*

[1] National Planning Policy Framework, DCLG, March 2012

[2] Noise Policy Statement for England, DEFRA, March 2010

5.7. Paragraph 123 states that *"Planning policies and decisions should promote an effective use of land in meeting the need for homes and other uses, while safeguarding and improving the environment and ensuring safe and healthy living conditions. Strategic policies should set out a clear strategy for accommodating objectively assessed needs, in a way that makes as much use as possible of previously-developed or 'brownfield' land"*.

Noise Policy Statement for England

5.8. The Noise Policy Statement for England (NPSE[3]), published in March 2010, sets out the long-term vision of Government noise policy. The Noise Policy aims, as presented in this document, are: "*Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:*

- *avoid significant adverse effects on health and quality of life;*
- *mitigate and minimise adverse effects on health and quality of life; and*
- *where possible, contribute to the improvement of health and quality of life."*

5.9. The NPSE makes reference to the concepts of NOEL (No Observed Effect Level) and LOAEL (Lowest Observed Adverse Effect Level) as used in toxicology but applied to noise impacts. It also introduces the concept of SOAEL (Significant Observed Adverse Effect Level) which is described as the level above which significant adverse effects on health and quality of life occur.

5.10. The first aim of the NPSE is to avoid significant adverse effects, taking into account the guiding principles of sustainable development (as referenced in Section 1.8 of the NPSE). The second aim seeks to provide guidance on the situation that exists when the potential noise impact falls between the LOAEL and the SOAEL, in which case: *"...all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development."*

5.11. Importantly, the NPSE goes on to state that: "This does not mean that such adverse effects cannot occur."

5.12. The NPSE does not provide a noise-based measure to define SOAEL, acknowledging that the SOAEL is likely to vary depending on the noise source, the receptor and the time in question. NPSE advises that: *"Not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available."*

[3] Noise Policy Statement for England, Defra, March 2010

5.13. It is therefore likely that other guidance will need to be referenced when applying objective standards for the assessment of noise, particularly in reference to the SOAEL, whilst also taking into account the specific circumstances of a proposed development.

Planning Practice Guidance – Noise

5.14. An updated Planning Practice Guidance (PPG[4]) for noise was published on 22 July 2019 and provides additional guidance and elaboration on the NPPF. It advises that when plan-making and decision-taking, the Local Planning Authority should consider the acoustic environment in relation to:

- Whether or not a significant adverse effect is occurring or likely to occur;
- Whether or not an adverse effect is occurring or likely to occur; and
- Whether or not a good standard of amenity can be achieved.

5.15. This guidance introduced the concepts of NOAEL (No Observed Adverse Effect Level), and UAEL (Unacceptable Adverse Effect Level). NOAEL differs from NOEL in that it represents a situation where the acoustic character of an area can be slightly affected (but not such that there is a perceived change in the quality of life). UAEL represents a situation where noise is 'very disruptive' and should be 'prevented' (as opposed to SOAEL, which represents a situation where noise is 'disruptive', and should be 'avoided').

5.16. As exposure increases above the LOAEL, the noise begins to have an adverse effect and consideration needs to be given to mitigating and minimising those effects, taking account of the economic and social benefits being derived from the activity causing the noise. As the noise exposure increases, it will then at some point cross the SOAEL boundary.

5.17. The LOAEL is described in PPG[5] as the level above which *"noise starts to cause small changes in behaviour and attitude, for example, having to turn up the volume on the television or needing to speak more loudly to be heard"*.

5.18. PPG identifies the SOAEL as the level above which *"noise causes a material change in behaviour such as keeping windows closed for most of the time or avoiding certain activities during periods when the noise is present."*

[4] Planning Practice Guidance – Noise, https://www.gov.uk/guidance/noise--2, 22 July 2019
[5] Paragraph: 005 Reference ID: 30-005-20190722

5.19. In line with the Explanatory Note of the NPSE, the PPG goes on to reference the LOAEL and SOAEL in relation to noise impact. It also provides examples of outcomes that could be expected for a given perception level of noise, plus actions that may be required to bring about a desired outcome. However, in line with the NPSE, no objective noise levels are provided for LOAEL or SOAEL although the PPG[6] acknowledges that *"…the subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation."*

5.20. The relevant guidance in the PPG in relation to the adverse effect levels is summarized in Table 5.

Table 5 PPG Noise categorisation

Response	Examples of Outcomes	Increasing Effect Level	Action
No Observed Effect Level			
Not Present	No Effect	No Observed Effect	No specific measures required
No Observed Adverse Effect Level			
Present and not Intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Present and Intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a small actual or perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum

[6] Paragraph: 006 Reference ID: 30-006-20190722

Response	Examples of Outcomes	Increasing Effect Level	Action
Significant Observed Adverse Effect Level			
Present and Disruptive	The noise causes a material change in behaviour, attitude or other physiological response, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Present and very Disruptive	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

5.21. In addition, the Guide notes that it may also be relevant to consider[7]:

> *"... whether any adverse internal effects can be completely removed by closing windows and, in the case of new residential development, if the proposed mitigation relies on windows being kept closed most of the time (and the effect this may have on living conditions). In both cases a suitable alternative means of ventilation is likely to be necessary. Further information on ventilation can be found in the Building Regulations".*

Manchester City Council

5.22. Manchester City Council's requirements in relation to noise are set out their **Planning and Noise Technical Guidance** document, published in October 2022.

5.23. Section 3.5 Local Policy states:

> *The Core Strategy Development Plan Document 2012 -2027 (the Core Strategy) was adopted by the City Council in July 2012. It is the key document in Manchester's Local Development Framework. The Core Strategy replaces significant elements of the Unitary Development Plan*

[7] Paragraph: 006 Reference ID: 30-006-20190722

(UDP) as the document that sets out the long-term strategic planning policies for Manchester's future development.

5.24. Policy **DM1 – Development Management** notes that:

All development should have regard to the following specific issues for which more detailed guidance may be given within a supplementary planning document:

...

• Effects on amenity, including privacy, light, noise, vibration, air quality, odours, litter, vermin, birds, road safety and traffic generation. This could also include proposals which would be sensitive to existing environmental conditions,

...

6.0 Activity noise criteria

Manchester City Council criteria

6.1. Noise from "entertainment venues" is discussed in section 3.7.1.2 in the Technical Guidance document referenced in paragraph 5.22. This includes the following notes:

Noise from entertainment venues, e.g. noise from recorded music, live bands, or karaoke, can be particularly annoying for local residents and businesses if not adequately contained within the venue.

...

Applicants and consultants should note that, although a particular business model may require a 'chilled out' or 'acoustic' venue, planning approval for an entertainment venue will remain in place as long as the development exists. Subsequent owners or tenants may wish to provide louder entertainment in the future. For this reason, applicants and consultants should predict the noise impact of a proposed entertainment venue using noise levels representative of those found in 'typical' venues of the kind being applied for. Consultants should provide their rationale for using particular noise levels and reference the source of the noise levels used during their predictions.

...

A lively city centre bar can operate around 95dB LAeq and nightclubs can be even higher at 105dB LAeq. The range of levels at 63Hz and 125Hz octave bands is wider than the Aweighted levels and can be up to 115dB Leq and 110dB Leq respectively (Davies et al 2005).

There is a lack of consensus on an assessment method for noise levels within habitable rooms with regard to entertainment noise. The design aim, however, should be to design to 'inaudible'. The building structure is therefore key and will usually involve a high performing solution in loud music venues.

Proposed criteria

6.2. It should be noted that it is not sought to use the premises as an "entertainment venue" and the above narrative is included for context only. Furthermore, the premises are not adjoined to the nearest residential premises and the adjoined premises are retail use. These are therefore less noise-sensitive than dwellings during trading hours and not noise-sensitive outside those times.

6.3. We understand that in response to the application Manchester City Council have requested the following:

"An acoustic study identifying ambient noise levels during daytime, night time and weekends along with details of the noise levels that are currently achieved within the accommodation at various times during operating hours. The study should identify the acoustic treatment and measures necessary to limit the breakout of noise in accordance with a noise study of the premises and a scheme of acoustic treatment. The scheme proposed shall include measures such as acoustic lobbies at access and egress points of the premises, acoustic treatment of the building structure, sound limiters linked to sound amplification equipment, details of the acoustic glazing and acoustically treated ventilation you have installed/propose to use and specified maximum internal noise levels. In your cases, the acoustic study is mainly going to relate to the air conditioning/ventilation."

6.4. It is not clear how much of their response is generic and how much is specific to this application. The site is in a predominantly commercial area, and while there are no adjoined residential properties some of the adjacent premises may be noise-sensitive (albeit to a lesser degree than dwellings).

Commercial premises

BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings

6.5. Typical design noise levels for non-residential properties are included within BS 8233:2014. Table 6 in that document is included as Figure 4. 40dBA is considered to be a reasonable but robust criterion for a shop with included offices.

Figure 4 BS 8233:2014 table 6

Table 6 **Typical noise levels in non-domestic buildings**

Activity	Location	Design range dB $L_{Aeq,\ T}$
Speech or telephone communications	Department store Cafeteria, canteen, kitchen	50 – 55
	Concourse Corridor, circulation space	45 – 55
Study and work requiring concentration	Library, gallery, museum	40 – 50
	Staff/meeting room, training room	35 – 45
	Executive office	35 – 40
Listening	Place of worship, counselling, meditation, relaxation	30 – 35

6.6. No criteria for maximum ($L_{Af,max}$) noise levels are given within BS 8233:2014. The British Council for Offices[8] suggests that for a cellular office 50dB L_{AfMax} is acceptable.

6.7. In addition, BS 8233 provides general guidance on the expected sound insulation performance of a given building façade, with details of how various elements can affect the overall performance. Concerning windows, it states that:

> *If partially open windows were relied upon for background ventilation, the insulation would be reduced to approximately 15dB.*

6.8. This implies that should windows on a noise affected façade be openable, a sound insulation value of 15dB should be applied to the whole façade to an internal room being assessed. It should be noted that a sound insulation performance of much greater than 15dB is expected for non-openable standard double-glazed windows. However, in order to assess the worst-case scenario, this report assumes that windows may be opened if desired.

7.0 Likely activity noise levels

7.1. As noted in Section 2.0, the ground floor of the premises will be a café and the basement will be a bar.

7.2. From previous noise measurements in cafés and bars of a similar size, reverberant sound level are expected to be approximately as shown in Table 6.

[8] BCO Guide, 2014

Table 6 Typical reverberant sound levels in CUPRA spaces

	Reverberant sound pressure level (dB re 20μPa) at octave band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Café – $L_{eq\ 5min}$	61	65	68	67	64	61	56	49
Café - L_{fMax}	66	70	73	72	69	66	61	54
Bar – $L_{eq\ 5min}$	93	85	86	81	72	74	69	69
Bar - L_{fMax}	98	90	91	86	77	79	74	74

Noise transmission to adjacent premises

7.3. The existing separating walls at ground floor level are understood to be cavity-masonry construction and are likely to provide a sound insulation of approximately 51dB $D_{nT,w}$ and 45dB $D_{nT,w}$ + C_{tr}. The separating floor between the café and the premises above is likely to have a similar sound insulation.

7.4. The brickwork within the café is to remain exposed.

7.5. The internal surface of the basement walls will be dry-lined for cosmetic and damp-proofing purposes, and this will also provide a degree of control of flanking noise transmission. The existing floor between the basement and the ground floor will be replaced by a 130-150mm thick concrete floor. As a result, the principal noise transmission path from the basement to the adjoining premises will be via the open stairwell to above and thence from the café through the walls and floor.

7.6. Table 7 gives a summary of predicted noise levels in the adjacent spaces and an assessment against the criteria proposed in Section 6.0. Full calculations are given in **Appendix E**.

Table 7 Noise transmission to adjacent premises

Source	Parameter	Predicted sound pressure level in receptor premises	Proposed criterion in receptor premises	Excess, dB
Café (ground floor)	L_{Aeq}, dB	23	40	-17
	L_{Amax}, dB	28	50	-22
Bar (basement)	L_{Aeq}, dB	36	40	-4
	L_{Amax}, dB	41	50	-9

7.7. The predicted noise levels within the adjoining commercial premises, due to activities within CUPRA Manchester, are below the proposed criteria and therefore not likely to lead to an adverse noise impact.

7.8. It should be noted that noise levels within the bar are likely to be highest between 17.00 and 21.00 hours and therefore outside the time when the adjacent spaces are most noise-sensitive.

Noise breakout

7.9. The existing glazed shopfront will be retained. This is understood to comprise double glazed units within an aluminium frame and the existing apertures at the head of the windows will be closed-off during the installation of the awnings etc.

7.10. During the daytime the main noise transmission path from the café to outside will be through opened entrance doors. After café trading hours the doors will be closed and noise transmission will be through the windows themselves.

7.11. As noted previously, noise from the basement will enter the café through the adjoining stairwell; other noise transmission paths may safely be disregarded.

7.12. Resulting noise levels at the nearest residential and commercial windows due to breakout from the premises have been predicted, taking distance and other propagation factors into consideration. The results of the calculations are shown in Table 8 and Table 9. Full calculations are given in **Appendix F**.

Table 8 Noise breakout to nearby premises - commercial

Source	Parameter	Predicted sound pressure level outside window	Typical intrusive sound level*	Proposed criterion in receptor premises	Excess
Café (ground floor)	L_{Aeq}, dB	43	28	40	-12
	L_{Amax}, dB	48	33	50	-17
Bar (basement)	L_{Aeq}, dB	28	13	40	-27
	L_{Amax}, dB	33	18	50	-32

**15dB reduction through a partially-opened window*

Table 9 Noise breakout to nearby premises - residential

Source	Parameter	Predicted sound pressure level outside window	Representative background sound level (09.00 to 21.00hrs)	Excess
Café (ground floor)	L_{Aeq}, dB	35	51	-16
	L_{Amax}, dB	40	51	-11
Bar (basement)	L_{Aeq}, dB	29	51	-22
	L_{Amax}, dB	34	51	-17

7.13. Operational noise levels outside the nearest commercial windows are such that resulting internal sound levels will be significantly below the guidance values set out in BS 8233:2014, as noted in Section 6.0.

7.14. Operational noise levels outside the nearest residential windows are more than 10dBA below the existing background sound level. Noise breakout from the premises is therefore unlikely to be audible within the nearest residential properties.

8.0 Plant noise emission criteria

Manchester City Council

8.1. Noise from fixed plant is discussed in section 3.7.1.5 in the Technical Guidance document referenced in paragraph 5.22. This includes the following:

> *Noise from fixed plant, equipment or machinery can be very annoying and disruptive to people living nearby particularly where that item involved emits a noise with impulsive or tonal characteristics.*
>
> *Many of the complaints Environmental Health receive about noise from plant, equipment and machinery specifically concern the character of the noise emitted. Any noise assessment needs to consider not only the overall level of noise emitted, but also its particular characteristics. The noise assessment should be based on BS 4142, and any application for fixed plant, equipment or machinery must demonstrate that:*
>
> ***'Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (L_{Aeq}) below the typical background (LA90) level at the nearest noise sensitive location'.***

Proposed criteria

8.2. In accordance with Manchester City Council's requirements, the rating level of plant must be at least 5dBA below the representative background sound level, at the nearest noise-sensitive premises and must therefore not exceed the limits shown in Table 10.

Table 10 Proposed plant noise emissions level limits at nearest residential receptors

Period	Plant rating level (dB $L_{Ar,Tr}$)
Daytime (07.00 – 23.00 hours)	44
Night-time (23.00 – 07.00 hours)	42

Commercial premises and pedestrian areas

8.3. Typically, local authorities do not consider non-residential premises to be as sensitive to noise as residential properties and, therefore, emissions criteria are generally relaxed at these locations.

8.4. As noted previously, BS 8233:2014 '*Guidance on sound insulation and noise reduction for buildings*' includes suggested noise levels in non-residential spaces. Based on typical internal noise criteria and assuming a 15dB reduction through a partially-opened window as described previously, cumulative plant noise levels at the office windows should not exceed 45dB L_{Aeq}.

8.5. In addition, in order that passersby are not exposed to excessive noise levels it is proposed that noise levels do not exceed 50dB L_{Aeq} at 1m from the louvre. In practice this is likely to be the determining factor for noise emissions, in this case.

8.6. The above limits have not been approved by the local authority at this stage.

9.0 Plant noise guidance

9.1. Plant selections are to be finalised.

9.2. Since plant noise data is not available at this stage a penalty of 3dB as described in BS 4142:2014 has been applied for the possible presence of "*...characteristics that are neither tonal nor impulsive, though otherwise are readily distinctive against the residual acoustic environment...*".

9.3. Taking account of the distance between the plantroom and the nearest receptors, noise levels from the proposed plant should not exceed the following limits in order to demonstrate compliance with the criteria detailed above:

Table 11 Guidance on maximum plant sound emission limits

Plant	Period	Maximum plant sound level (L_{Aeq})
Plantroom louvre	Daytime (07.00 – 23.00 hours)	50dB at 1m (30dB at 10m)
	Night-time (23.00 – 07.00 hours)	50dB at 1m (30dB at 10m)

Vibration isolation

9.4. To minimise the risk of structural vibration transmission through the building and affecting other premises, all plant and any rigidly-connected ducts or pipes must be isolated from the structure by suitable anti-vibration mounts.

10.0 Summary

10.1. Noise Solutions Ltd (NSL) has been commissioned to provide a Noise Impact Assessment for the proposed CUPRA Manchester premises at 14-16 St Ann Street.

10.2. An environmental noise survey has been undertaken to establish the existing prevailing noise levels at locations representative of the noise climate outside the nearest noise sensitive receptors to the proposed plant.

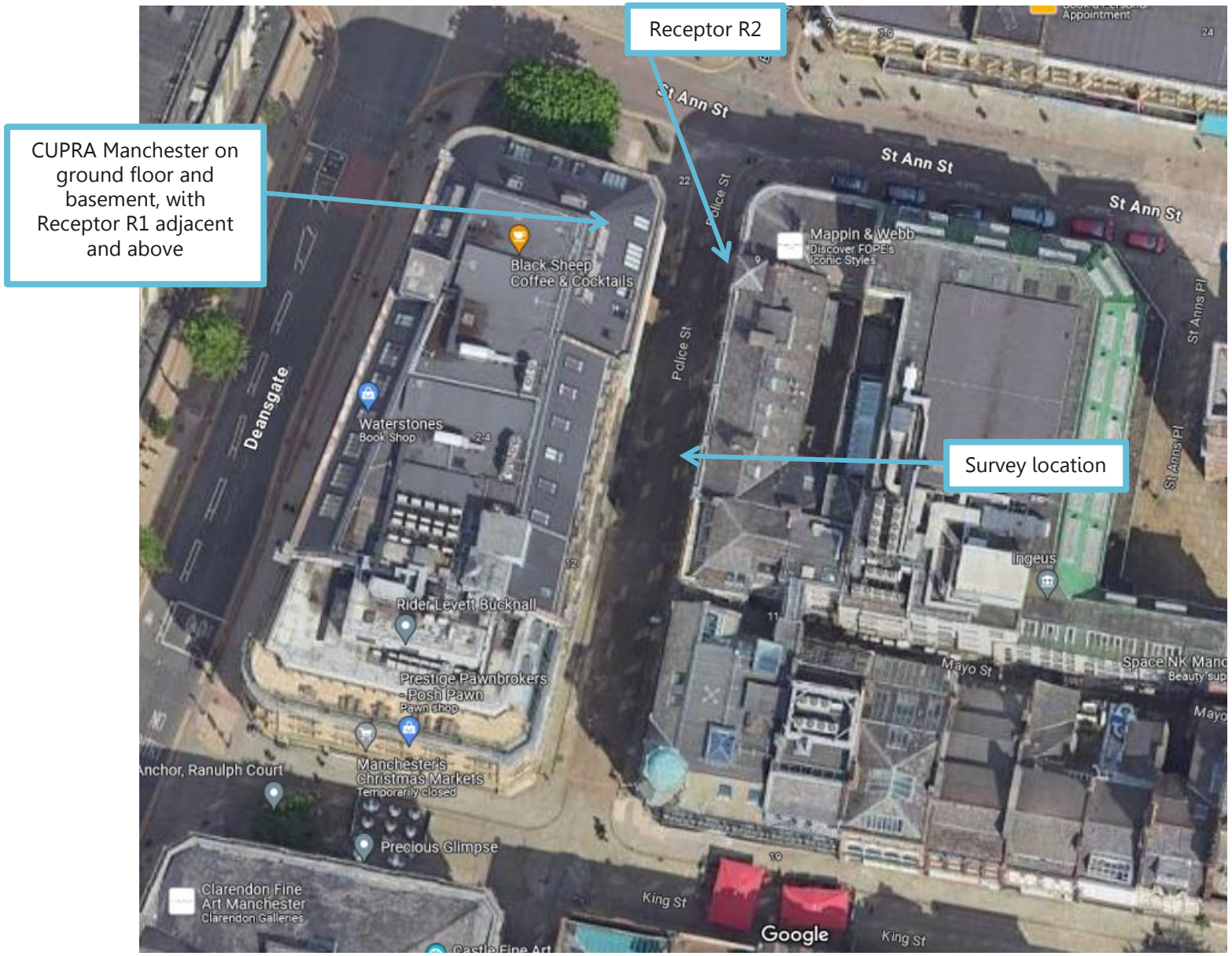
10.3. Assessments have been made of noise breakout from the premises and noise transmission to other demises within the building. These assessments show that noise from events within CUPRA Manchester are not likely to lead to a significant noise impact on neighbouring commercial or residential premises.

10.4. Guidance has been given on maximum permissible plant noise levels that would comply with Manchester City Council's usual requirements. Compliance with these requirements may be secured through a suitably-worded planning condition, if necessary.

Appendix A Acoustic terminology

Parameter	Description
Ambient Noise Level	The totally encompassing sound in a given situation at a given time, usually composed of a sound from many sources both distant and near ($L_{Aeq,T}$).
Decibel (dB)	A scale for comparing the ratios of two quantities, including sound pressure and sound power. The difference in level between two sounds s1 and s2 is given by 20 $\log_{10}$ (s1/s2). The decibel can also be used to measure absolute quantities by specifying a reference value that fixes one point on the scale. For sound pressure, the reference value is 20μPa. The threshold of normal hearing is in the region of 0 dB and 140 dB is the threshold of pain. A change of 1 dB is only perceptible under controlled conditions.
dB(A), L_{Ax}	Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB(A) broadly agree with people's assessment of loudness. A change of 3 dB(A) is the minimum perceptible under normal conditions, and a change of 10 dB(A) corresponds roughly to halving or doubling the loudness of a sound. The background noise in a living room may be about 30 dB(A); normal conversation about 60 dB(A) at 1 metre; heavy road traffic about 80 dB(A) at 10 metres; the level near a pneumatic drill about 100 dB(A).
Fast Time Weighting	Setting on sound level meter, denoted by a subscript F, that determines the speed at which the instrument responds to changes in the amplitude of any measured signal. The fast time weighting can lead to higher values than the slow time weighting when rapidly changing signals are measured. The average time constant for the fast response setting is 0.125 (1/8) seconds.
Free-field	Sound pressure level measured outside, far away from reflecting surfaces (except the ground), usually taken to mean at least 3.5 metres
Façade	Sound pressure level measured at a distance of 1 metre in front of a large sound reflecting object such as a building façade.
$L_{Aeq,T}$	A noise level index called the equivalent continuous noise level over the time period T. This is the level of a notional steady sound that would contain the same amount of sound energy as the actual, possibly fluctuating, sound that was recorded.
$L_{max,T}$	A noise level index defined as the maximum noise level recorded during a noise event with a period T. L_{max} is sometimes used for the assessment of occasional loud noises, which may have little effect on the overall L_{eq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.
$L_{10,T}$	A noise level index. The noise level exceeded for 10% of the time over the period T. L_{10} can be considered to be the "average maximum" noise level. Generally used to describe road traffic noise. $L_{A10,18h}$ is the A –weighted arithmetic average of the 18 hourly $L_{A10,1h}$ values from 06:00-24:00.
$L_{90,T}$	A noise level index. The noise level that is exceeded for 90% of the measurement time interval, T. It gives an indication of the lower levels of fluctuating noise. It is often used to describe the background noise level and can be considered to be the "average minimum" noise level and is a term used to describe the level to which non-specific noise falls during quiet spells, when there is lull in passing traffic for example.

Appendix B Photographs of site showing areas of interest




Receptor R1
Receptor R2
Plant ventilation louvre
Google

Appendix C Environmental sound survey

Details of environmental sound survey

C.1 Measurements of the existing environmental sound levels were undertaken between 09.30 hours on Thursday 6th June and 09.45 hours on Monday 10th June 2024.

C.2 The sound level meter was programmed to record the A-weighted L_{eq}, L_{90}, L_{10} and L_{max} noise indices for consecutive five-minute sample periods for the duration of the survey.

Measurement position

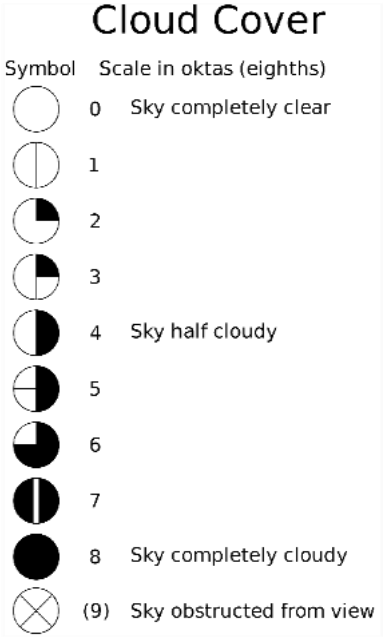
C.3 The representative measurement position was located on a lamp post on Police Street (location indicated on the site plan in **Appendix B**). In accordance with BS 7445-2:21991 *'Description and measurement of environmental noise – Part 2: Guide to the acquisition of data pertinent to land use'*, the measurements were undertaken under free-field conditions.

Equipment

C.4 Details of the equipment used during the survey are provided in the table below. The sound level meter was calibrated before and after the survey; no significant change (+/-0.2 dB) in the calibration level was noted.

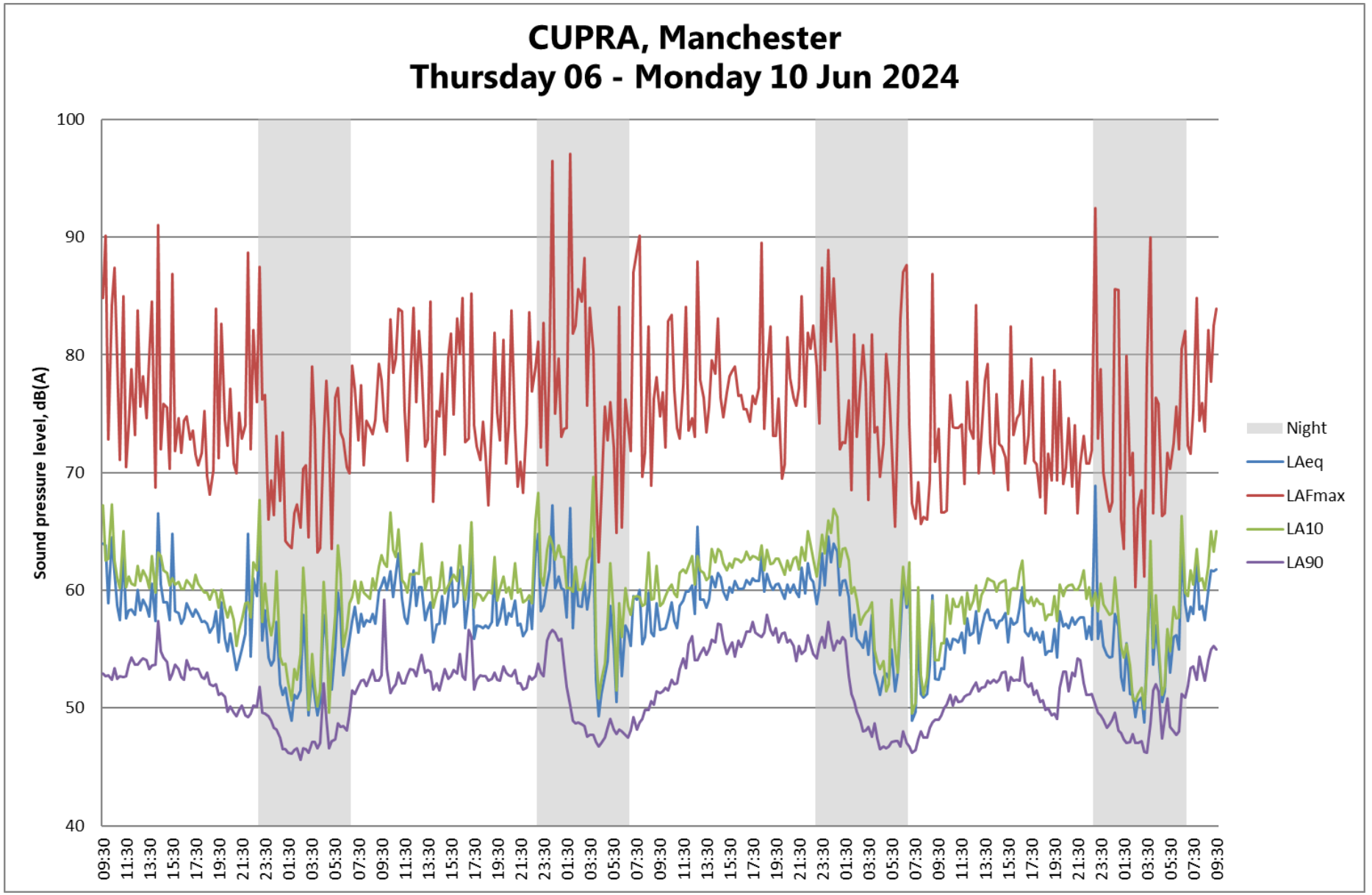
Description	Model / serial no.	Calibration date	Calibration certificate no.
Class 1 Sound level meter	Svantek 977/ 69747	01/08/2022	1503080-1
Condenser microphone	ACO Pacific 7052E / 70829		
Preamplifier	Svantek SV12L / 73687		
Calibrator	Svantek SV30A / 10843	30/10/2023	1506985-1

C.5 Weather conditions were determined both at the start and on completion of the survey. It is considered that the meteorological conditions were appropriate for environmental noise measurements. The table below presents the weather conditions recorded on site at the installation and removal of the meter.

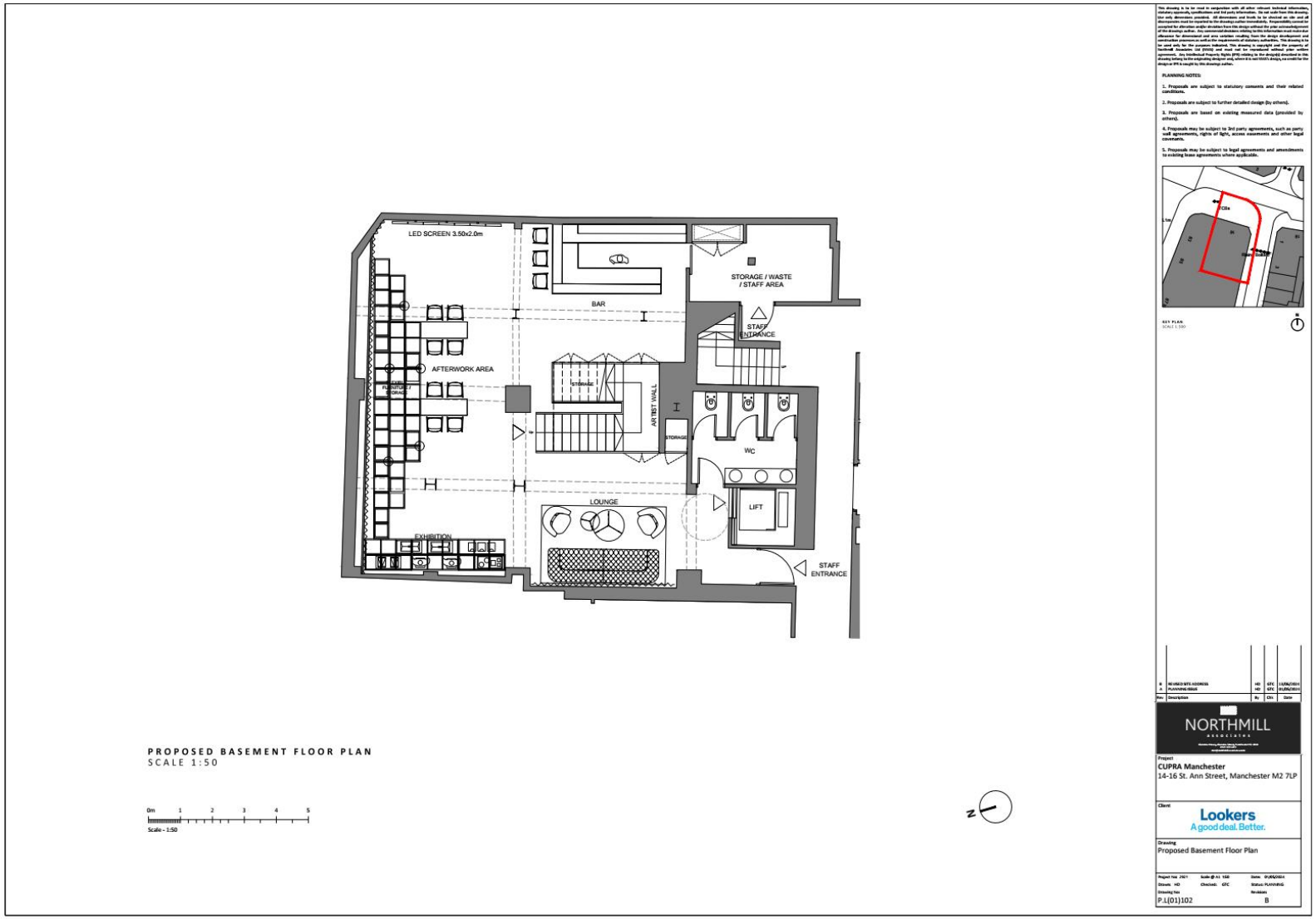
Weather Conditions				
Measurement Location	**Time/Date**	**Description**	**Beginning of Survey**	**End of Survey**
As indicated on Appendix B	09.30 6 Jun - 09.45 10 Jun 2024	Temperature (°C)	12	12
		Precipitation:	No	No
		Cloud cover (oktas – see guide)	7	5
		Presence of fog/snow/ice	No	No
		Presence of damp roads/wet ground	Dry	Wet
		Wind Speed (m/s)	3	2
		Wind Direction	NW	NW
		Conditions that may cause temperature inversion (i.e. calm nights with no cloud)	No	No

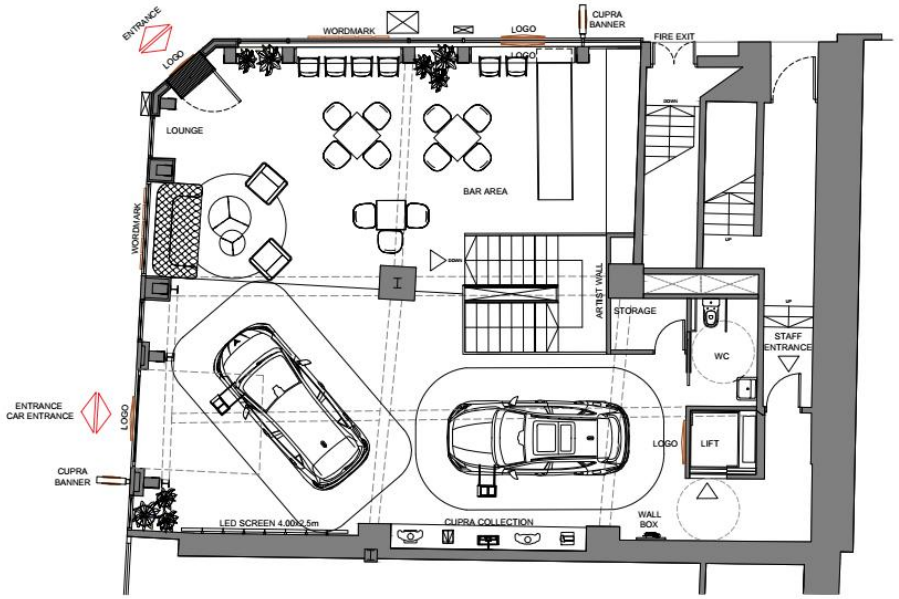
Results

C.6 The results of the survey are considered to be representative of the background sound pressure levels at the façades of the residential noise sensitive receptors closest to the application site. During installation and removal of the meter, the noise climate at the measurement position was dominated by local road traffic. The results of the survey are presented in a time history graph overleaf.


CUPRA, Manchester
Thursday 06 - Monday 10 Jun 2024
Sound pressure level, dB(A)
100
90
80
70
60
50
40
09:30
11:30
13:30
15:30
17:30
19:30
21:30
23:30
01:30
03:30
05:30
07:30
09:30
11:30
13:30
15:30
17:30
19:30
21:30
23:30
01:30
03:30
05:30
07:30
09:30
11:30
13:30
15:30
17:30
19:30
21:30
23:30
01:30
03:30
05:30
07:30
09:30
Night
LAeq
LAFmax
LA10
LA90

Appendix D Proposed development



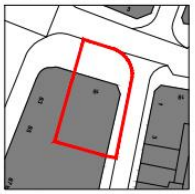


PROPOSED GROUND FLOOR PLAN
SCALE 1:50

0m 1 2 3 4 5
Scale - 1:50

PLANNING NOTES:

1. Proposals are subject to statutory consents and their related conditions.
2. Proposals are subject to further detailed design (by others).
3. Proposals are based on existing measured data (provided by others).
4. Proposals may be subject to 3rd party agreements, such as party wall agreements, rights of light, access easements and other legal covenants.
5. Proposals may be subject to legal agreements and amendments to existing lease agreements where applicable.



KEY PLAN
SCALE 1:500

Rev	Description	By	Chk	Date
B	REVISED SITE ADDRESS, NEW ENTRANCE AND SECTIONAL DOORS ADDED	HD	GFC	11/04/2024
A	PLANNING ISSUE	HD	GFC	01/04/2024

NORTHMILL associates

Project
CUPRA Manchester
14-16 St. Ann Street, Manchester M2 7LP

Client
Lookers
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Drawing
Proposed Ground Floor Plan

Project No: 2321	Scale @ A1: 1:50	Date: 01/04/2024	
Drawn: HD	Checked: GFC	Status: PLANNING	
Drawing No: P.L(01)101		Revision: B	


POLICESTREET
ENTRANCE
LOGO
WORDMARK
LOGO
CUPRA BANNER
FIRE EXIT
TERRACE / EXTERNAL SEATING AREA
WORDMARK
14-16 ST. ANN STREET
CUPRA MANCHESTER
ST. ANN STREET
EXISTING BT BOX
ENTRANCE CAR ENTRANCE
LOGO
CUPRA BANNER
RELOCATED BICYCLE PARKING AREA
EXISTING PHONE BOXES
EXISTING BIN
2-4 ST. ANN STREET
BLACK SHEEP COFFEE
PROPOSED SITE PLAN
SCALE 1:50
0m 1 2 3 4 5
Scale - 1:50
N
PLANNING NOTES:
1. Proposals are subject to statutory consents and their related conditions.
2. Proposals are subject to further detailed design (by others).
3. Proposals are based on existing measured data (provided by others).
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KEY PLAN
SCALE 1:500
NORTHMILL
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CUPRA Manchester
14-16 St. Ann Street, Manchester M2 7LP
Client
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Drawing
Proposed Site Plan
P.L(00)101
B



ELEVATION A - POLICE STREET

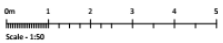


ELEVATION B - CORNER



ELEVATION C - ST. ANN STREET

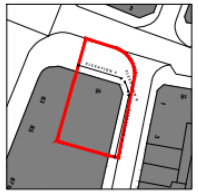
PROPOSED ELEVATIONS
SCALE 1:50



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PLANNING NOTES:

1. Proposals are subject to statutory consents and their related conditions.
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4. Proposals may be subject to 3rd party agreements, such as party wall agreements, rights of light, access easements and other legal covenants.
5. Proposals may be subject to legal agreements and amendments to existing lease agreements where applicable.



KEY PLAN
SCALE 1:500

MATERIALS KEY:

A - Walls & Masonry

PA1: Painted Pilasters; refurbished and repainted
Colour: Black / Dark Grey

PA2: Painted Stall Riser; refurbished
Colour: Black / Dark Grey (to match PA1)

B - Windows and Doors

PB1: Metal framed fully glazed shop front windows with internal security shutters; refurbished
Frame Colour: Black / Dark Grey

PB2: New glazed entrance door with glazed top light
Frame Colour: Black / Dark Grey

PB3: Louvres; refurbished
Colour: Black / Dark Grey

PB4: New Fascia
Colour: Dark Grey

PB5: Fire Escape Door; refurbished
Colour: Black / Dark Grey

PB6: New metal framed, glazed sectional door
Frame Colour: Black / Dark Grey

C - Accessories

PC1: Retractable awning; refurbished and rebranded
Frame Colour: Black / Dark Grey

PC2: New Cupra banner signage

PC3: New Cupra fascia signage

PC4: New Cupra window signage

Rev.	Description	By	Chk	Date
B	REVISED SITE ADDRESS, NEW ENTRANCE, LOUVRES AND SECTIONAL DOORS ADDED	HD	GTC	13/06/2024
A	PLANNING ISSUE	HD	GTC	01/05/2024

NORTHMILL associates

Project
CUPRA Manchester
14-16 St. Ann Street, Manchester M2 7LP

Client
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Drawing
Proposed Elevations

Project No: 2321 | Scale @ A1: 1:50 | Date: 01/05/2024
Drawn: HD | Checked: GTC | Status: PLANNING
Drawing No: P.L(02)101 | Revision: B

Appendix E Noise transmission to adjacent premises

		Octave band centre frequency, Hz								
		63	125	250	500	1000	2000	4000	8000	dB(A)
Café	Reverberant L_{eq}, dB	61	65	68	67	64	61	56	49	69
	SRI of partition, dB	33	38	42	50	55	60	60	60	
Typical	Area of partition, m2	10								
	Area correction, dB	10	10	10	10	10	10	10	10	
Typical	Rev Time in Receive Room, sec	1.2	1	1	0.8	0.8	0.8	0.8	0.8	
Typical	Volume of receive room, m3	30								
	RT and volume correction, dB	-6	-7	-7	-8	-8	-8	-8	-8	
	SPL in receive room, dB	**32**	**30**	**29**	**19**	**11**	**3**	**-2**	**-9**	**23**
	Café – L_{fMax} dB	66	70	73	72	69	66	61	54	
	Transmission losses (see above)	29	35	39	48	53	58	58	58	
	$L_{f,max}$, dB	**37**	**35**	**34**	**24**	**16**	**8**	**3**	**-4**	**28**

		Octave band centre frequency, Hz								
		63	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**dB(A)**
Bar	Reverberant L_{eq}, dB	93	85	86	81	72	74	69	69	83
	Noise transmission into café									
Stairway	Area of aperture, m^2	10.2								
	Area correction, dB	10	10	10	10	10	10	10	10	
	Sound power level into café, dB	103	95	96	91	82	84	79	79	
	Rev Time in Cafe, sec	2	1.7	1.5	1.3	1.3	1.3	1.3	1.3	
	Volume of receive room, m^3	462								
	RT and volume correction, dB	-16	-16	-17	-18	-18	-18	-18	-18	
	SPL in café due to noise in bar	87	79	79	73	64	66	61	61	
	SRI of partition, dB	33	38	42	50	55	60	60	60	
Typical	Area of partition, m^2	10								
	Area correction, dB	10	10	10	10	10	10	10	10	
Typical	Rev Time in Receive Room, sec	1.2	1	1	0.8	0.8	0.8	0.8	0.8	
Typical	Volume of receive room, m^3	30								
	RT and volume correction, dB	-6	-7	-7	-8	-8	-8	-8	-8	
	SPL in receive room, dB	**58**	**44**	**40**	**25**	**11**	**8**	**3**	**3**	**36**
	Bar - L_{fMax} dB	98	90	91	86	77	79	74	74	
	Transmission losses (see above)	35	41	46	56	61	66	66	66	
	L_{max}, dB	**63**	**49**	**45**	**30**	**16**	**13**	**8**	**8**	**41**

Appendix F Noise breakout

Noise breakout - café

		Octave band centre frequency, Hz								
		63	125	250	500	1000	2000	4000	8000	dB(A)
Café	Reverberant L_{eq}, dB	61	65	68	67	64	61	56	49	69
Open Door	SRI of external fabric	0	0	0	0	0	0	0	0	
	Area of element, m^2	4.62								
	Area correction, dB	7	7	7	7	7	7	7	7	
To commercial windows above										
	Distance to receptor, m	5								
	Distance correction, dB	-28	-28	-28	-28	-28	-28	-28	-28	
	Screening (cornice)	-5	-5	-5	-5	-5	-5	-5	-5	
	SPL at Receptor, dB	**35**	**39**	**42**	**41**	**38**	**35**	**30**	**23**	**43**
	Café – L_{fMax} dB	66	70	73	72	69	66	61	54	
	Transmission losses (see above)	26	26	26	26	26	26	26	26	
	L_{fmax}, dB	**40**	**44**	**47**	**46**	**43**	**40**	**35**	**28**	**48**

		Octave band centre frequency, Hz								
		63	125	250	500	1000	2000	4000	8000	dB(A)
To residential windows across Police Street										
	Distance to receptor, m	12								
	Distance correction, dB	-36	-36	-36	-36	-36	-36	-36	-36	
	Screening (corner of building), dB	-5	-5	-5	-5	-5	-5	-5	-5	
	SPL at Receptor, dB	**27**	**31**	**34**	**33**	**30**	**27**	**22**	**15**	**35**
	Café - L_{fMax} dB	98	90	91	86	77	79	74	74	
	Transmission losses (see above)	34	34	34	34	34	34	34	34	
	L_{fmax}, dB	**32**	**36**	**39**	**38**	**35**	**32**	**27**	**20**	**40**

Noise breakout – bar

		Octave band centre frequency, Hz								
		63	125	250	500	1000	2000	4000	8000	dB(A)
	Reverberant L_{eq}, dB	**93**	**85**	**86**	**81**	**72**	**74**	**69**	**69**	**83**
	Noise transmission into café									
Stairway	Area of aperture, m^2	10.2								
	Area correction, dB	10	10	10	10	10	10	10	10	
	Sound power level into café, dB	103	95	96	91	82	84	79	79	
	Rev Time in Cafe, sec	2	1.7	1.5	1.3	1.3	1.3	1.3	1.3	
	Volume of receive room, m^3	462								
	RT and volume correction, dB	-16	-16	-17	-18	-18	-18	-18	-18	
	SPL in café due to noise in bar, dB	87	79	79	73	64	66	61	61	
	SRI of external fabric	21	25	28	31	29	30	37	39	
	Area of element, m^2	22.41								
	Area correction, dB	14	14	14	14	14	14	14	14	

		Octave band centre frequency, Hz								
		63	125	250	500	1000	2000	4000	8000	dB(A)
To commercial windows above										
	Distance to receptor, m	5								
	Distance correction, dB	-28	-28	-28	-28	-28	-28	-28	-28	
	Screening (cornice)	-5	-5	-5	-5	-5	-5	-5	-5	
	SPL at Receptor, dB	**47**	**35**	**32**	**23**	**16**	**17**	**5**	**3**	**28**
	Bar – L_{fMax} dB	98	90	91	86	77	79	74	74	
	Transmission losses (see above)	46	50	54	58	56	57	64	66	
	L_{fmax}, dB	**52**	**40**	**37**	**28**	**21**	**22**	**10**	**8**	**33**
To residential windows across Police Street										
	Distance to receptor, m	8								
	Distance correction, dB	-32	-32	-32	-32	-32	-32	-32	-32	
	SPL at Receptor, dB	**48**	**36**	**33**	**24**	**17**	**18**	**6**	**4**	**29**
	Bar - L_{fMax} dB	98	90	91	86	77	79	74	74	
	Transmission losses (see above)	45	49	53	57	55	56	63	65	
	L_{fmax}, dB	**53**	**41**	**38**	**29**	**22**	**23**	**11**	**9**	**34**