New Century External Screen
NOMA
Manchester

Noise Impact Assessment Report

33130/NIA1

15 May 2026

For:
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Hann Tucker Associates

Noise Impact Assessment Report 33130/NIA1

Document Control

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Noise Impact Assessment Report 33130/NIA1

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1.0 Introduction

Hann Tucker Associates Limited (Hann Tucker) has been commissioned to undertake a noise assessment for a temporary installation on Sadler's Yard, NOMA, Manchester.

It is proposed to install a temporary external screen on the site on which a number of different events are proposed to be shown. Some examples of the proposed events are as follows:

- Football
- Tennis
- Cricket
- Golf
- Rugby Union.

Baseline noise conditions have been established by means of a detailed noise survey, presented herein. The findings have subsequently been used to assess the suitability of the site for its intended use. Measures required to mitigate noise impacts for the proposed development (when operational) have been discussed in context with relevant national & local planning policies, design standards and good practice guides.

2.0 Objectives

To undertake an environmental noise survey to establish the existing L_{Amax}, L_{Aeq} and L_{A90} environmental road, rail, and air traffic noise levels at selected accessible positions.

To undertake additional attended noise level measurements to establish surrounding daytime noise levels.

To establish suitable noise limits to achieve acceptable levels of noise egress at nearby noise sensitive receptors.

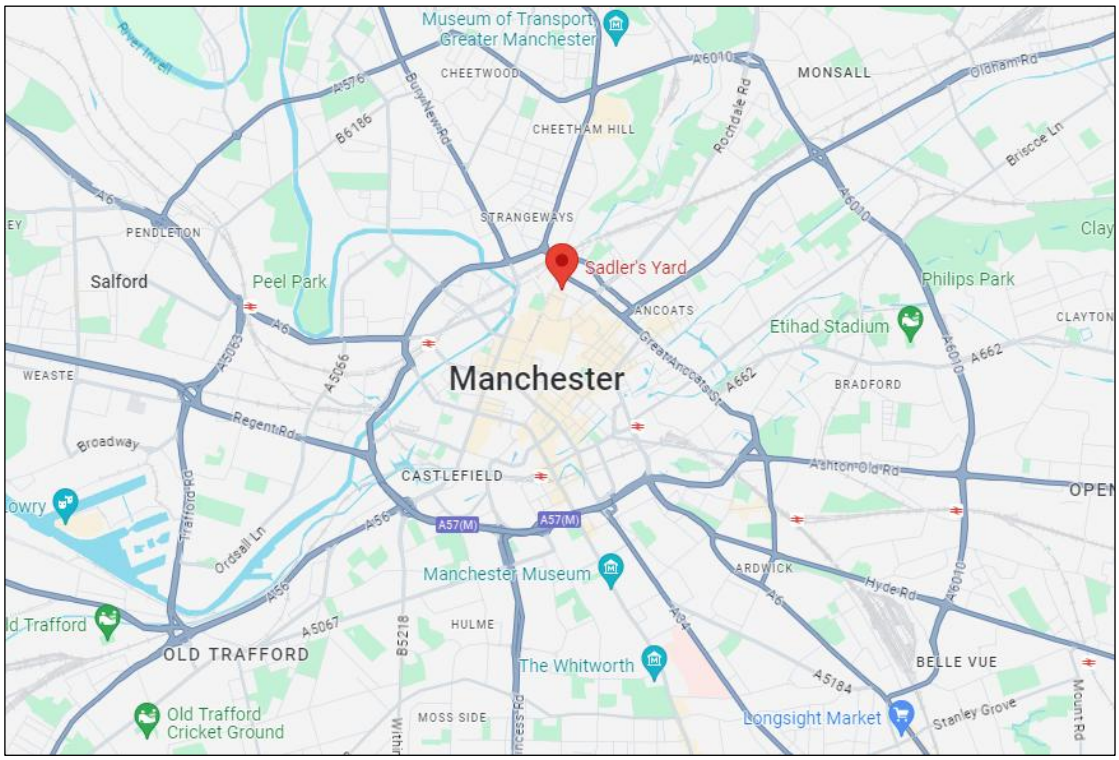
3.0 Acoustic Terminology

For an explanation of the acoustic terminology used in this report please refer to Appendix A enclosed.

4.0 Site Description

4.1 Location

The site is located in Sadler's Yard in the north of Manchester City Centre and is located approximately 45m from the Ring Road. The site falls within the jurisdiction of Manchester City Council. The site location in relation to the wider area is shown on the Location Map below.



Location Map (Map data ©2024 Google)

4.2 Description

The site is located in Sadler's Yard and is approximately 45 metres from the Ring Road (to the north), Hanover Street (to the south), and Corporation Street (to the west).

Sadler's Yard is surrounded by office/commercial buildings on each side, with New Century Hall to the northeast, and also probation services (Redfern Building) and Holyoake House to the east and southeast respectively. There are a number of commercial units in the immediate vicinity namely Allpress Espresso, Koi Sushi and Oriental, and Sadler's Cat pub.

To the south of the site is 3 Federation Street which houses restaurants and office businesses, and to the west and northwest is the Old Bank heritage building which also houses office spaces. The New Victoria, which is considered to be the closest residential building, is located approximately 70 metres to the northwest of the site.

The site shown in relation to its immediate surroundings is shown on the Site Plan below.



Site Plan (Imagery ©2024 Airbus, Maxar Technologies, Map data ©2024)

5.0 Proposed Development

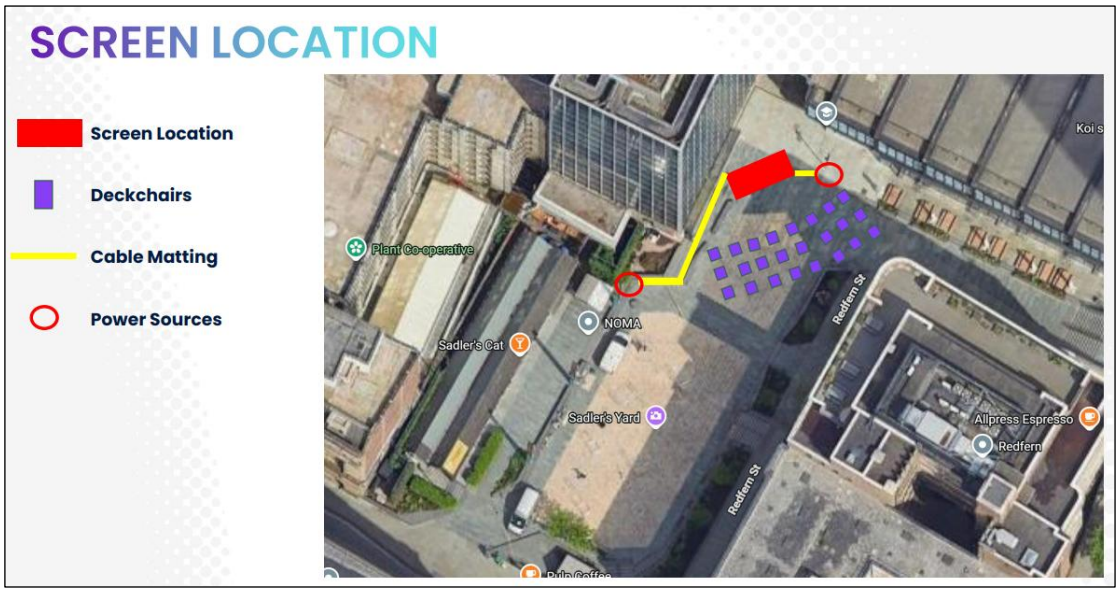
The proposals are for the installation erection of an external screen and associated seating in Sadler's Yard.

The proposed operation dates are between 22 May 2026 until 31 August 2026.

The expected capacity is 100No people. The proposed opening times would be variable depending on the event schedule; however, it is anticipated that opening times are generally between 10:00-23:00 hours (ie daytime hours), 7 days a week.

However, it should be noted that an agreement is sought to extend the screen operating times should certain matches in the 2026 World Cup go to extra time. As such, the operation of the screen could go into the night infrequently.

The site is shown in the Plan below for reference.



Plan showing Project Proposals (c/o New Century)

6.0 Planning Policies, Standards & Guidance

6.1 Policies & Guides

All quantitative guidance used to form this noise impact assessment is taken from these standards, guidance, and Local Authority requirements as summarised below:

- Manchester City Council's *"Planning and Noise Technical Guidance"* (October 2022)
- Manchester City Council's "*Guidance on noise control from open air concerts and events"* (August 2022)
- British Standard 4142:2014 + A1:2019

Detailed information for relevant planning policies and guidance can be found within Appendix B.

6.2 Specific Local Authority Criteria

6.2.1 Published Guidance

MCC have adopted 'Planning and Noise Technical Guidance' (PNTG), issued in October 2022 which provides planning guidance on matters relation to noise and vibration.

Section 3.7.1.2 of PNTG states the following with respect to entertainment venues.

> *'Entertainment noise ($L_{Aeq,5min}$) should be controlled to 5 dB below the typical background noise level (L_{A90}) in each octave band at the nearest noise sensitive location'.*

Section 3.7.1.5 of PNTG states the following with respect to industrial noise and commercial developments.

> *'The development should be designed so as to achieve a rating level of 5 dB (L_{Aeq}) below the typical background (L_{A90}) level at the nearest noise sensitive location.'*

Manchester City Council's '*Guidance on noise control from open air concerts and events' (August 2022)* draws on guidance from the documents in Appendices B2 to B4 in regard music noise egress from outdoor events.

Manchester City Council has Guidance relating to ad-hoc open-air events as set out in *"Guidance on noise control for open air concerts and events"* document dated August 2022. The document allows relaxed limits for up to 12No events per year held between the hours of 09:00 and 23:00. However, the document states that *"certain venues in the City may have site specific factors that will mean they fall outside of the above guidelines. The noise control strategy should be agreed in advance with the City Council's Events Unit."*

Based on the above, relaxed noise limits may be acceptable for up to 12No ad-hoc events, however, each event will need to be agreed with Manchester City Council's Events Unit.

6.2.2 Liaison with the Local Authority

Hann Tucker Associates contacted Manchester City Council Environmental Health to discuss the proposed approach to the assessment of noise associated with the temporary external screen at Sadler's Yard.

The consultation noted that noise limits had previously been agreed with Manchester City Council for the temporary Tipi use at the site in 2024. However, it was acknowledged that the proposed screen represents a different use, with a greater number of events and a focus on World Cup fixtures and other sporting activities over the summer period. On this basis, Manchester City Council confirmed that a formal noise assessment would be required, including confirmation of the existing background noise climate.

Manchester City Council confirmed that, given World Cup fixtures are generally expected to start from 17:00 onwards, with most games from 19:00, the previously agreed relaxed criterion at the office façade could be considered again for noise associated with the screen/speaker system. The Council also requested commentary on how the screen speakers would be controlled, for example through an electronic sound limiter or equivalent management measures.

With respect to patron noise, Manchester City Council advised that the assessment should be based on 50% of patrons talking. The Council acknowledged that the loudest crowd reactions are most likely to occur during football matches later in the day, when nearby offices are generally less sensitive or no longer occupied. On this basis, the Council indicated that some exceedance of the office criterion may be acceptable for infrequent loud patron noise events, particularly where these occur outside typical office hours. The Council also noted that full occupancy during daytime office hours is unlikely, and therefore a slight exceedance under a raised voice scenario may be acceptable, subject to the assessment being updated to reflect the requested 50% patron-talking assumption.

Manchester City Council also confirmed that the acceptability of the proposed use would depend, in part, on how the space is managed in practice. Accordingly, mitigation and management controls are required, including measures to control the speaker system and manage patron noise. These matters have therefore been considered within this assessment and should be incorporated into the applicant’s operational Noise Management Plan.

7.0 Baseline Noise Survey

7.1 Procedure

Fully automated environmental noise monitoring was undertaken by Euan Ellis BEng (Hons) from approximately 13:00 hours on Friday 16 August 2024 to 08:45 hours on Tuesday 20 August 2024, to establish full daytime and night-time noise levels over a typical weekday and weekend period. Measurements were taken continuously of the A-weighted (dBA) L_{90}, L_{eq}, and L_{max} sound pressure levels over discrete 2 and 15-minute periods.

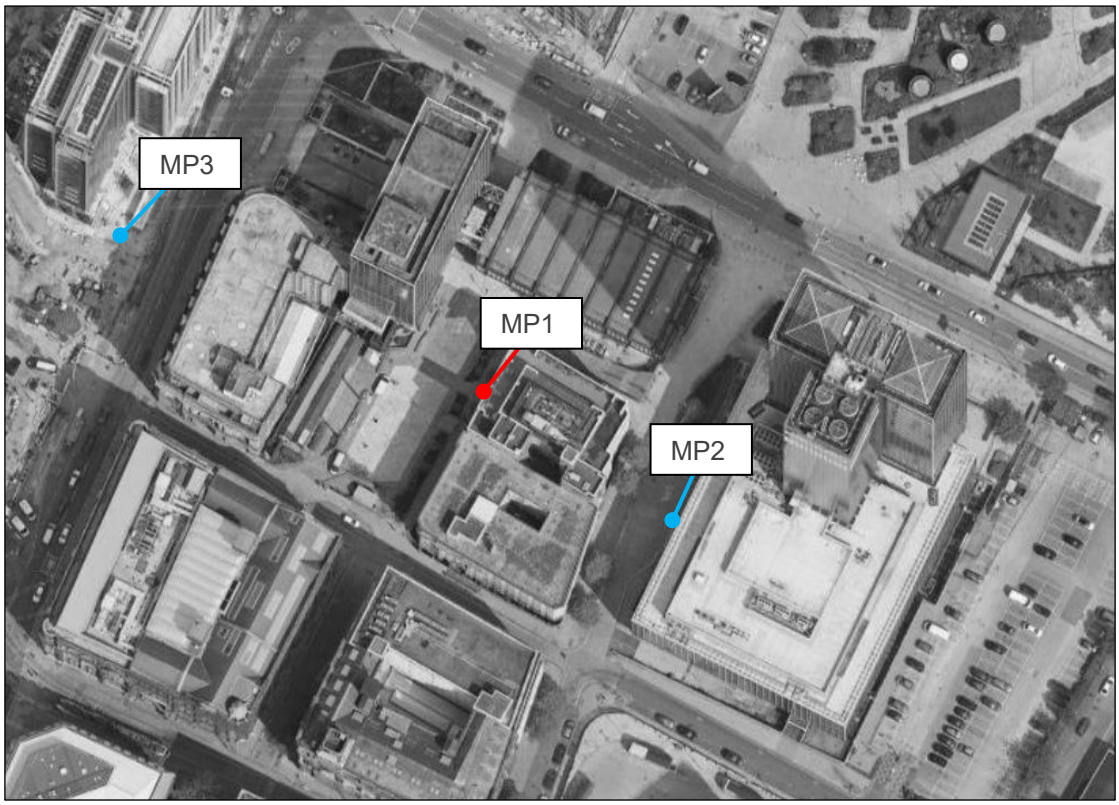
Additional attended measurements were performed between 13:00 hours and 14:45 hours on Friday 16 August 2024 with the purpose of establishing specific noise levels at nearby sensitive receptors.

7.2 Measurement Positions

The noise level measurements were undertaken at 3no positions as described in the table overleaf.

Position	Type	Description
1	Unattended	To the centre of the site, approx. 15m from the nearside edge of Hanover Street. Microphone in free-field conditions approx. 3m above ground.
2	Attended	Located on Dantzic Street to the east of the site, approx. 44m from the nearside edge of Hanover Street. Microphone in free-field conditions approx. 1.5m above ground.
3	Attended	Located to the northwest of the site at the boundary of the New Victoria residential building, approx. 8m from the nearside edge of Hanover Street. Microphone in free-field conditions approx. 1.5m above ground.

The positions are shown on the plan below.



Site Plan (Imagery ©2024 Airbus, Maxar Technologies, Map data ©2024)

7.3 Weather Conditions

For the unattended survey between Friday 16 August 2024 and Tuesday 20 August 2024, local weather reports indicated no notable periods of heavy rainfall, with temperatures ranging from 10 °C (night) to 19 °C (day) and wind speeds less than 5 m/s. During our time on site, skies were largely clear with patchy cloud cover, wind conditions were calm and from a southernly direction, and road surfaces were largely dry.

During the attended survey on Friday 16 August 2024, the weather was generally clear and dry with no periods of rainfall and light wind conditions.

7.4 Instrumentation

The instrumentation used during the survey is presented in the table below:

Position	Description	Manufacturer	Type	Serial Number	Calibration
1	Type 1 Data Logging Sound Level Meter	Larson Davis	824	4074	Calibration on 26/05/2024
	SLM Calibrator		Cal200	3083	27/03/2024
2 & 3	Type 1 Data Logging Sound Level Meter	Bruel & Kjaer	2250	3025254	Calibration on 21/02/2024
	Type 1 ½" Condenser Microphone	Bruel & Kjaer	4189	3004879	Calibration on 21/02/2024
	Type 1 Preamp	Bruel & Kjaer	ZC0032	28066	Calibration on 21/02/2024
	SLM Calibrator	Bruel & Kjaer	4231	2115545	Calibration on 28/11/2023

Note: Calibration dates presented relevant to the survey dates.

Each sound level meter, including the extension cable, was calibrated prior to and on completion of the surveys. No significant changes were found to have occurred (no more than 0.3 dB).

Each sound level meter was located in an environmental case with the microphone connected to the sound level meter via an extension cable. Each microphone was fitted with a windshield.

7.5 Results

The results have been plotted on Time History Graph 31800/TH1 enclosed presenting the 15-minute A-weighted (dBA) L_{90}, L_{eq} and L_{max} levels at each measurement position throughout the duration of the survey.

A summary of the results, as used to inform subsequent assessments against current guidelines, is presented in the table below. The daytime $L_{Aeq(12\text{-}hour)}$ (07:00-19:00 hours), evening $L_{Aeq(4\text{-}hour)}$ (19:00-23:00 hours), and night-time $L_{Aeq(8\text{-}hour)}$ (23:00-07:00 hours) levels have been calculated from the measured $L_{Aeq(15\text{-}minute)}$ noise levels and converted into single figure. The L_{A90} values presented are the 'representative' levels determined through statistical analysis of the 15-minute readings in line with BS 4142.

Position	Date	Daytime (07:00 – 19:00 hrs)		Evening (19:00 – 23:00 hrs)		Night-time (23:00 – 07:00 hrs)	
		$L_{Aeq,12hr}$	Typical L_{A90}	$L_{Aeq,4hr}$	Typical L_{A90}	$L_{Aeq,8hr}$	Typical L_{A90}
1	16/08/2024	64	49	67	49	63	43
	17/08/2024	61		59		53	
	18/08/2024	57		55		50	
	19/08/2024	60		63		55	

The following table details the typical measured L_{Aeq} spectra for day, evening, and night. The levels displayed were captured on Monday and as such deemed to be a “worst-case” scenario as the levels measured on Friday were significantly louder, assumedly from the bar opposite Measurement Position 1 on Sadler’s Yard.

Description	Measured L_{eq} (dB) at each Octave-Band Centre Frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Typical Daytime	62	59	53	53	52	46	39	30
Typical Evening	63	62	59	65	64	58	51	39
Typical Night-time	64	54	49	47	51	52	38	27

The following table details the typical measured L_{90} spectrums for day, evening, and night.

Description	Measured L_{90} (dB) at each Octave-Band Centre Frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Typical Daytime	54	53	46	45	45	39	32	23
Typical Evening	51	47	44	44	43	36	29	21
Typical Night-time	52	44	41	39	38	31	24	20

The following table summarises noise levels recorded at each of the attended measurement positions.

Position	Date	Period	Sound Pressure Level (dB)		
			$L_{Aeq,T}$	$L_{A90,T}$	$L_{Amax,T}$
2	16/08/2024	13:30-13:45	69	56	82
		14:30-14:45	68	58	80
3		13:00-13:15	61	54	72
		14:00-14:15	60	53	73

7.6 Discussion of Noise Climate

Due to the nature of the survey, i.e. unattended, it is not possible to accurately describe the dominant noise sources, or specific noise events throughout the entire survey period. However, at the beginning and end of the survey period the noise climate was noted to be dominated by pedestrian chatter on Sadler's Yard itself and road traffic noise.

It was not possible to install the unattended monitoring equipment at the residential location and as such the above levels measured in Measurement Position 3 have been used to establish the L_{A90} at the residential receptor.

8.0 Operational Noise Impacts

8.1 Establishing Suitable Criteria

As the noise sensitive premises directly adjacent to the site are offices it is assumed that these premises will be sensitive during typical office hours during the week (i.e. 07:00-19:00). During the weekend and evenings during the week, the most affected noise sensitive premises would be New Victoria, a residential building located 70 metres to the northwest of the site.

Based on the above, the following table sets out the relevant noise sensitive receptors during each time period.

Time Period	Noise Sensitive Receptors
Weekday (07:00-19:00)	Adjacent Offices and New Victoria
Weekend Day (07:00-19:00)	New Victoria
Evening (19:00-23:00)	New Victoria
Night (23:00-07:00)	New Victoria

8.1.1 Weekday Daytime Criteria (Office Receptor)

Based on the proximity of the nearby office premises, achieving the typical requirements of Manchester City Council is unlikely feasible. For example, to comply with a noise limit that is 5 dBA below the typical L_{A90} during the weekday eternal to the offices (i.e. 44 dBA), the noise levels in and around the screen would need to be below 60 dB which is less than two people talking.

Furthermore, Sadler's Yard is an existing amenity space with two adjacent bars where people already congregate, and it is likely that the public's presence on the site already exceeds the typical background noise level during periods of high occupancy. Based on the above and that the installations are temporary in nature and for the benefit of the local community; it is proposed to set the typical noise egress limit for the daytime so as to not exceed the measured ambient noise level at the nearby offices, rather than achieve 5 dB below the background noise level.

As such, the suggested weekday day-time criteria to be achieved external to the offices during typical operations is set out below given as free-field noise levels:

Proposed Typical Daytime $L_{eq, 5min}$ (dB) Criteria (07:00 – 19:00) at 1-metre from the Noise Sensitive Façade in each Octave-Band Centre Frequency (Hz)								dBA
63	125	250	500	1000	2000	4000	8000	
62	59	53	53	52	46	39	30	56

8.1.2 Weekend Daytime, Evening & Night Criteria (Residential Receptor)

During the evenings, weekends and night-time periods the offices are no longer noise sensitive and New Victoria becomes the most affected noise sensitive premises. As this is a residential dwelling which is unlikely to be already impacted by existing noise from Sadler's yard, the typical approach should be to limit the levels of noise egress to 5 dBA below the existing background noise level in-line with Manchester City Councils guidance.

Based on the above, the typical operational proposed limits for the evening and night-time operation of the development are as follows given as free-field levels:

Period	Proposed Sound Pressure Level Criteria at 1-metre from New Victoria Façade ($L_{eq,5min}$ dB) for Typical Activities								dBA
	63	125	250	500	1000	2000	4000	8000	
Weekend Day (07:00-19:00)	53	49	46	46	45	38	31	22	48
Evening (19:00-23:00)	53	49	46	46	45	38	31	22	48
Night (23:00-07:00	48	44	41	41	40	33	26	17	43

8.2 Assessment of Crowd Noise

8.2.1 Overview

To assess the impact of crowd noise on the nearby receptors the following assumptions have been made:

- Maximum occupancy of 100 people.
- In accordance with the liaison undertaken with Manchester City Council Environmental Health, 50% of patrons have been assumed to be talking at any one time. This would equate to 50No people at maximum occupancy.
- Additional scenario has also been considered based on 33No people talking at any one time. This is informed by research by Hodgson et al. (2007), which suggests that, for a typical crowd in a social setting, the total number of people may be divided by approximately three to represent the number of smaller conversational groups within the overall crowd.
- A further lower-occupancy scenario of 15No people talking at any one time has also been considered.
- Speech noise has been assessed for normal, raised and loud vocal efforts, with octave-band sound power level data derived from ANSI 3.5 as provided below.

Vocal Effort	Sound Power Level, L_w (dB) at each Octave Band Centre Frequency								$L_{w,A}$ (dB)
	63	125	250	500	1000	2000	4000	8000	
Normal	45	55	65	69	63	56	50	45	68
Raised	48	59	70	75	72	64	57	48	76
Loud	52	63	72	80	80	73	66	55	83

8.2.2 Acoustic Modelling

The following table shows the calculated total sound power level of the crowd based on differing number of the occupants speaking at once at different vocal efforts.

No. Occupants Talking	Vocal Effort	Total Sound Power of Crowd
50	Normal	85
	Raised	93
	Loud	100
33	Normal	83
	Raised	91
	Loud	98
15	Normal	80
	Raised	88
	Loud	95

Based on the above a noise model (CadnaA) has been developed to calculate the level of crowd noise at each receptor. The model considered the area of the seating area shown in Section 5.0 and includes third order reflections from buildings. The results are presented in the table below.

No. Occupants Talking	Vocal Effort	Calculated Crowd Noise (dBA)	
		Adjacent Offices	New Vicotria
50	Normal	55	31
	Raised	63	39
	Loud	70	46
33	Normal	53	29
	Raised	61	37
	Loud	68	44
15	Normal	50	26
	Raised	58	34
	Loud	65	41

8.2.3 Discussion

Based on the above, at New Victoria the crowd noise would only exceed the suggested criterion when more than 33No are speaking with loud vocal efforts at night. In general the screens will not be operating past 23:00, however, it is understood that an agreement is sought to extend the screen operating time should certain matches in the 2026 World Cup go to extra time. Such events would fall under the ah-hoc events noted in MCC's guidance set out in Section 6.2.1.

As such, in general the screen will operate within the suggested noise egress criterion at New Victoria.

Regarding the office receptors, 50No people talking with normal vocal efforts would result in the proposed criteria being achieved. However, when considering raised vocal efforts the maximum number of occupants that could talk at any one time before the suggested crtieiron is exceeded would be 10No.

As such, where events are shown during the day the crowd will need to be actively managed by New Century staff to ensure occupants speak with normal vocal efforts and respect that there are offices overlooking the site.

The following lists the World Cup fixtures that would take place during typical office hours. It should be noted that England group stage games occur outside of office hours:

- Monday, June 15 Group H**:** Spain vs Cape Verde, kick-off 5pm
- Wednesday, June 17 Group K: Portugal vs DR Congo, kick-off 6pm
- Thursday, June 18Group A: Czech Republic vs South Africa, kick-off 5pm
- Monday, June 22Group J: Argentina vs Austria, kick-off 6pm
- Tuesday, June 23 Group K: Portugal vs Uzbekistan, kick-off 6pm
- Monday, June 29 Round of 32 - Match 76: Group C winners vs Group F runners-up, kick-off 6pm
- Tuesday, June 30 Round of 32 - Match 78: Group E runners-up vs Group I runners-up, kick-off 6pm
- Wednesday, July 1 Round of 32 - Match 80: Group L winners vs Group E/H/I/J/K third place, kick-off 5pm
- Saturday, July 4 Round of 16 - Match 90: Match 73 winners vs Match 75 winners, kick-off 6pm
- Tuesday, July 7 Round of 16 - Match 95: Match 86 winners vs Match 88 winners, kick-off 5pm

Assuming England win their group the only England game that would be shown during typical office hours would be:

- Round of 32 Wednesday July 1: England vs Third-placed Group E/H/I/J/K, kick-off 5pm.

Based on the above list of games, it is unlikely that there would be a significant amount of occupants in Saddler's Yard during typical office hours with the exception of on Wednesday July 1 at 5pm. During this time it may be that the suggested criterion is exceeded, however, this is a single occurrence over the course of the summer and would occur late afternoon when office sensitivity could be regarded as reducing. The event is considered to be covered by the ah-hoc event guidance set out in Section 6.2.1 and should therefore be acceptable.

Therefore, providing that typical crowds during office hours would be less than the maximum capacity and patrons are reminded to be respectful of neighbours, the noise from crowds should be acceptable.

8.3 Assessment of Screen Noise

Calculations have been carried out to establish suitble noise limits of the screen itself. The screen is understood to have 2No speakers below the screen and can be programmed to a set level depending on the time of day.

Calculations indicate that the following noise levels should complied with a view to achieving the suggested noise egress criteria.

Period	Maximum Sound Pressure Level at 1m from Screen (dBA)
Weekday (10:00 – 19:00)	76
Weekday (19:00 – 23:00)	89
Weekend (10:00 – 23:00	89
Night-time (23:00 – 07:00)	84

The above limits shall be programmed by the screen installer with Hann Tucker on site to validate the noise levels.

9.0 Noise Management Plan

9.1 Overview

It is understood that MCC has requested a noise management plan should be prepared and followed. Procedures outlined below have been successfully implemented at city centre events over as well as other outdoor events across the UK.

As such, careful consideration will be given to following a noise management programme during operation of the screen to minimise the impact noise may have on the surrounding area whilst maintaining viable noise levels within the arena.

9.2 Use of Programmable Sound

To ensure compliance with noise limits established in Section 8.3, the volume of the screens will be electronically set and controlled by way of noise limiter and calibrated by Hann Tucker prior to first operation.

9.3 Preparations Before Operation

Provide nearby residents and businesses with details about the installation, including start and end times, contact numbers for complaints. A direct means of communication should be set up between all parties involved during the operation of the site. This should include but is not limited to, a designated person at New Century to act as a public liaison officer should any complaints be received.

A telephone complaints line should be made available for the duration the site is operational. Should any noise complaints be received, an acoustic consultant should investigate the complaint and if noise levels are above those specified in the license/planning conditions, immediate action would be taken to reduce the levels at the noise source.

A complaints log should be maintained throughout the time the site is operating, detailing addresses of complaints, times and actions taken.

The proposed means of communications between all parties and should be reviewed and agreed with the local authority. All established communication channels should be effective and responsive and maintained between all relevant parties.

10.0 Plant Noise

Plant noise should not exceed 5 dB below the background noise level, in-line the MCC guidance at both the office and residential receptors. There are 2No power sources of unknown noise levels proposed adjacent to the screen. These power sources should not exceed the following noise level at 1m to ensure compliance with MCC guidance is achieved.

65 dBA at 1m.

11.0 Conclusions

Hann Tucker Associates Limited has undertaken a noise impact assessment for the proposed temporary external screen and associated seating area at Sadler's Yard, NOMA, Manchester.

Baseline noise conditions have been established by attended and unattended environmental noise measurements. The measured noise climate was influenced by typical city centre sources, including road traffic, pedestrian activity and existing commercial uses around Sadler's Yard.

Liaison has been undertaken with Manchester City Council Environmental Health. The Council confirmed that a formal noise assessment was required and advised on the requirements for a Noise Impact Assessment.

The assessment indicates that crowd noise is predicted to generally comply with the proposed residential criteria. At the office receptors, crowd noise from normal vocal effort is predicted to comply, although raised or loud vocal effort could exceed the proposed office criterion, particularly at full occupancy. However, high-interest fixtures and associated crowd reactions are generally expected later in the day when nearby offices are less sensitive or unoccupied, with only limited daytime fixtures likely to result in significant attendance.

The screen loudspeaker and plant noise limits have been set and should be adhered to throughout the operation of the screen installation.

A Noise Management Plan should be implemented, including programmable sound limits, pre-opening calibration, active site management, liaison with nearby residents and businesses, a complaints contact, complaints log, and procedures for investigating and responding to noise complaints.

Subject to the implementation of the recommended noise limits, electronic control of the screen loudspeaker system, appropriate control of plant noise and active management of patron noise, the proposed temporary external screen is considered capable of operating without giving rise to significant adverse noise impacts at the nearest noise sensitive receptors.

Appendix A

Acoustic Terminology

The acoustic terms used in this report are defined as follows:

dB — Decibel - Used as a measurement of sound level. Decibels are not an absolute unit of measurement but an expression of ratio between two quantities expressed in logarithmic form. The relationships between Decibel levels do not work in the same way that non-logarithmic (linear) numbers work (e.g. 30dB + 30dB = 33dB, not 60dB).

dBA — The human ear is more susceptible to mid-frequency noise than the high and low frequencies. The 'A'-weighting scale approximates this response and allows sound levels to be expressed as an overall single figure value in dBA. The $_A$ subscript is applied to an acoustical parameter to indicate the stated noise level is A-weighted

It should be noted that levels in dBA do not have a linear relationship to each other; for similar noises, a change in noise level of 10dBA represents a doubling or halving of subjective loudness. A change of 3dBA is just perceptible.

$L_{90,T}$ — L_{90} is the noise level exceeded for 90% of the period *T* (i.e. the quietest 10% of the measurement) and is often used to describe the background noise level.

$L_{eq,T}$ — $L_{eq,T}$ is the equivalent continuous sound pressure level. It is an average of the total sound energy measured over a specified time period, *T*.

L_{max} — L_{max} is the maximum sound pressure level recorded over the period stated. L_{max} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the L_{eq} noise level.

L_p — Sound Pressure Level (SPL) is the sound pressure relative to a standard reference pressure of 2×10^{-5} Pa. This level varies for a given source according to a number of factors (including but not limited to: distance from the source; positioning; screening and meteorological effects).

L_w — Sound Power Level (SWL) is the total amount of sound energy inherent in a particular sound source, independent of its environment. It is a logarithmic measure of the sound power in comparison to a specified reference level (usually 10^{-12} W).

Appendix B

Planning Policies, Standards & Guidance

B.1 British Standard 4142:2014 + A1:2019

When setting plant noise emission criteria reference is commonly made to BS 4142:2014 "*Methods for rating and assessing industrial and commercial sound".*

The procedure contained in BS 4142:2014 provides an assessment of the likely effects of sound on people when comparing the specific noise levels from the source with representative background noise levels. Where the noise contains "a tone, impulse or other characteristic" then various corrections can be added to the specific (source) noise level to obtain the "rating level".

BS 4142 states that: *"The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs". An estimation of the impact of the specific noise can be obtained by the difference of the rating noise level and the background noise level and considering the following:*

• *"Typically, the greater this difference, the greater the magnitude of the impact."*

• *"A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context."*

• *"A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context."*

• *"The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context."*

The determination of the "rating level" and the "background level" are both open to interpretation, depending on the context.

B.2 Licensing Act 2003

The latest revision of the licensing act for England and Wales emphasises the need to minimise disturbance and annoyance to the local community whilst also encouraging local authorities to promote cultural activity in their communities.

The s182 Guidance to the Licensing Act is as follows:

"*The 2003 Act enables licensing authorities and responsible authorities, through representations, to consider what constitutes public nuisance and what is appropriate to prevent in terms of conditions attached to specific premises licences and club premises certificates. It is therefore important that in considering the promotion of this licensing objective, licensing authorities and responsible authorities focus on the effect of the licensable activities at the specific premises on persons living and working (including those carrying on business) in the area around the premises which may be disproportionate and unreasonable. The issues will mainly concern noise nuisance, light pollution, noxious smells and litter.*

Public nuisance is given a statutory meaning in many pieces of legislation. It is however not narrowly defined in the 2003 Act and retains its broad common law meaning. It may include in appropriate circumstances the reduction of the living and working amenity and environment of the persons living and working in the area of the licensed premises.

…Any conditions appropriate to promote the prevention of public nuisance should be tailored to the type, nature and characteristics of the specific premises and its licensable activities. Licensing authorities should avoid inappropriate or disproportionate measures that could deter events that are valuable to the community, such as live music…"

B.3 Environmental Protection Act 1990

Where it is established that noise from an event is causing, or is likely to cause, a statutory nuisance under Part III of the Environmental Protection Act 1990, the Council is required to serve an Abatement Notice, requiring that the nuisance is abated. It is a criminal offence not to comply with such a notice and may result in prosecution with a maximum penalty on conviction of an unlimited fine. It is therefore important that effective noise control procedures are implemented.

The Council's Enforcement Policy states that enforcement notices will be served where it is considered that a more informal approach would be ineffective. It also allows for Abatement Notices to be served without prior discussion with the prospective recipient in cases where immediate action is required in the interest of environmental protection.

B.4 Noise Council's Code of Practice on Environmental Noise Control at Concerts (1995)

The national Code of Practice was issued by the Noise Council in 1995 and is the most up to date and thorough guidance on the control of noise from outdoor concerts. It provides guidelines for noise levels and a noise control procedure to minimise any disturbance caused. It should be noted that compliance with the Code of Practice does not, of itself, confer immunity from legal obligations. It suggests that, if the event is to continue after 23:00 hours, music noise should be 'inaudible' within noise sensitive properties.

The recommended noise limits in the Code of Practice for events operating between 09:00 hours and 23:00 hours have been adopted by MCC with successful implementation at the many different external music venues across the city. These are as follows.

Concert days per calendar year, per venue	Venue	Guideline
1 to 3	Urban stadia or arenas	The MNL should not exceed 75dB $L_{Aeq, 15min}$
1 to 3	Other urban & rural venues	The MNL should not exceed 65dB $L_{Aeq, 15min}$
4 to 12	All venues	The MNL should not exceed the background noise level by more than 15dB(A) over a 15 minute period

MCC's guidance also states that for specific premises or bespoke events that the following points should be followed in lieu of the above Code of Practice guidelines.

1. If the event site already holds a Premises Licence (PL) then any proposed activities will be restricted to the terms and conditions of the PL. For example, venues such as Heaton Park and the Etihad stadium have specific conditions in relation to a prescribed limit attached to the PL.

2. Certain venues in the City may have site specific factors that will mean they fall outside of the above guidelines. The noise control strategy should be agreed in advance with the City Council's Events Unit.

3. For events continuing or held between the hours 23:00 and 09:00 the music noise should not be audible within noise sensitive properties with windows open in a typical manner for ventilation. Control can be exercised in this situation by limiting the music noise so that it is just audible outside the noise sensitive premises. When that is achieved it can be assumed that the music noise is not audible inside the noise sensitive premises.

4. Please refer to the Code of Practice (1995) for assessments relating to the background noise level.

If the above guidance was solely relied upon criteria for the events would likely be for the Music Noise Level to not exceed the background noise level by more than 15 dBA in any 15 minutes. This criterion is likely unachievable for a city centre development such as this and historical dialogue with MCC has yielded bespoke criteria to be achieved.

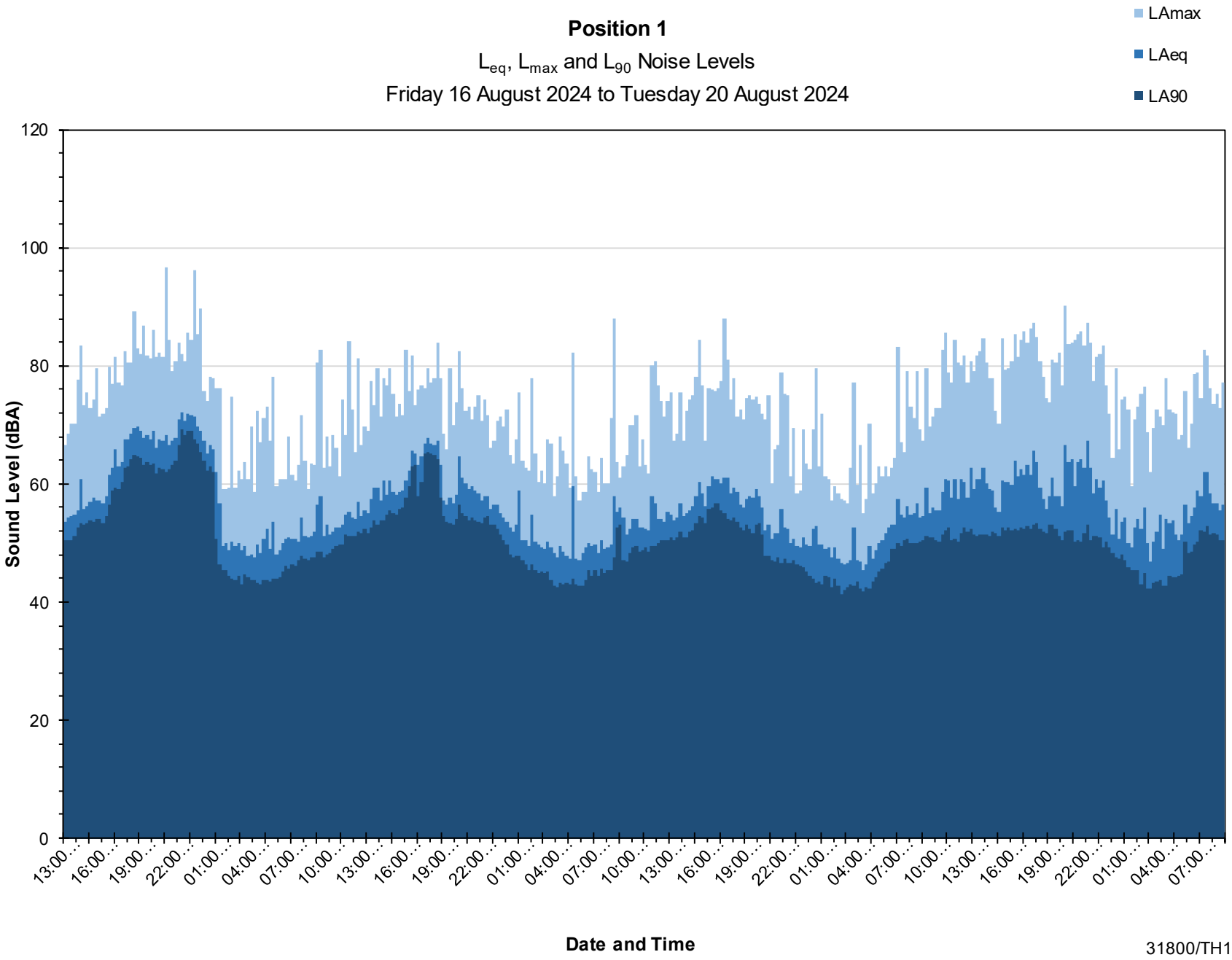
Appendix C

Time History Graphs

Position 1

L_{eq}, L_{max} and L_{90} Noise Levels

Friday 16 August 2024 to Tuesday 20 August 2024



31800/TH1