SANDY BROWN

Consultants in Acoustics, Noise & Vibration

APPENDIX C

18040-R02-A

14 March 2018

Elephant Park: event licensing

Noise assessment report

55 Charterhouse Street, London EC1M 6HA T: +44 (0)20 7549 3500
68 Sackville Street, Manchester M1 3NJ T: +44 (0)161 771 2020
2 Walker Street, Edinburgh EH3 7LA T: +44 (0)131 235 2020 **post@sandybrown.com**
87 Caroline Street, Birmingham B3 1UP T: +44 (0)121 227 5020 **www.sandybrown.com**

Sandy Brown Associates LLP
Registered in England & Wales No. OC 307504 Registered Office: 55 Charterhouse Street, London EC1M 6HA

Version	Date	Comments	Author	Reviewer
A	14 Mar 18		Jonathan Riley	Jason Swan and Alex Fryer

Summary

Sandy Brown has been commissioned by Elephant Park Estate Management Ltd to provide acoustic advice in relation to an events license at Elephant Park, London SE17.

Continuous environmental noise measurements have been undertaken at the site as part of the ongoing construction noise monitoring at the site. The data from these have been used as the basis of this assessment.

The report sets out the noise levels measured at the site, a discussion of the relevant noise criteria pertaining to external events, and a summary of the allowable noise levels for the events at the site. Three different phases have been assessed, in line with the phased activation of the Heygate Regeneration scheme and thus nearest residential developments.

The assessment aims to achieve the limits in the Institute of Acoustics' *Good Practice Guide on the Control of Noise from Pubs and Clubs*. Limits are set such than they can be measured at a point 5 m form the centre line of the stage.

During Phase 1 of the development (nearest residences Elephant One and MP2 H2), the maximum allowable noise level due to the entertainment is $L_{Aeq,15min}$ 75 dB, as assessed 5 m in front of the stage.

During Phase 2 of the development (nearest residences MP2 H2 and MP3 H4), the maximum allowable noise level due to the entertainment is $L_{Aeq,15min}$ 70 dB, as assessed 5 m in front of the stage.

During Phase 3 of the development (nearest residences H1 and MP3 H4), the maximum allowable noise level due to the entertainment is $L_{Aeq,15min}$ 63 dB, as assessed 5 m in front of the stage.

This is based on there being no more than 12 noisy events in a year.

Contents

1 Introduction

Sandy Brown has been commissioned by Elephant Park Estate Management Ltd to provide acoustic advice in relation to an events license at Elephant Park, London SE17.

Continuous environmental noise measurements have been undertaken at the site as part of the ongoing construction noise monitoring at the site. The data from these has been used as the basis of this assessment.

The report sets out the results of the monitoring at the site, a discussion of the relevant noise criteria pertaining to external events, and a summary of the allowable noise levels at the site during various phases of the development.

2 Site description

The site location in relation to its surroundings is shown in Figure 1. Elephant Park is outlined in blue. Owing to the construction work taking place of the rest of the site (red boundary), only the western portion of the park highlighted in red is currently active.

The site is located to the southeast of the central area of Elephant and Castle, within the administrative boundary of Southwark Council (SC). The A201 (New Kent Road) runs to the north of the site. The National Rail railway line runs north/south to the west of the site.

The nearest existing residences to the site are Elephant One (to the northwest), Strata (to the west) and Block H2 of the Heygate Regeneration (to the south). Block H2 is currently under construction and will be occupied in the coming months. These are highlighted in yellow in Figure 1.

Block H4 of the Heygate Regeneration will be located directly to the north of the park and is highlighted in green in Figure 1. This will be occupied from 2020.

Block H1 will be to the immediate south of the park and will be occupied from 2022. This is indicated in blue in Figure 1.

Figure 1 The site location in relation to its surroundings (courtesy of Google Earth Pro)

3 Noise measurement surveys

Continuous unattended noise logging was undertaken by Lendlease simultaneously at four different locations at the site as part of the ongoing construction noise monitoring regime. The four unattended noise monitoring positions are indicated in Figure 1 by the letters A-D. The time-period extracted for analysis in this report is the daytime levels (07:00-23:00) from 1 July 2016 to 31 July 2016.

Whilst this period is over 1 and a half years ago, it is not thought that the noise environment at the site has changed drastically in the intervening period, as the main background noise sources, the surrounding roads, have not changed. Therefore, this noise data is still considered to be valid.

In all cases, the microphone was positioned at least 3.0 m above the ground and at least 3 m from any other reflective surface. For location A, shown in the Figure 2, the noise is dominated by traffic on New Kent Road, and not significantly affected by construction noise. For location B, shown in Figure 3, the noise is dominated by traffic on Heygate Street and Rodney Road.

Figure 2 Monitoring location A on south side of New Kent Road

Figure 3 Monitoring location B on north side of junction between Heygate Street and Rodney Road

4 Unattended noise monitoring results

4.1 Lend Lease noise monitoring

The results of the unattended noise monitoring performed on behalf of Lend Lease at positions A to D are summarised in Table 1.

In order to assess a representative scenario, the average measured $L_{A90,15min}$ over the measurement period has been taken.

Table 1 Average background noise levels measured during the survey – 1-30 July 2016

Location (see Figure 1)	Description	Daytime (07:00-23:00) $L_{A90,15min}$ (dB)
A	A201 (New Kent Road)	58
B	School Heygate	52
C	Wansey Street	40
D	Walworth Road	55

5 Assessment criteria

5.1 Code of practice on environmental noise control at concerts

Noise criteria for this assessment has been drawn from the *Code of Practice on Environmental Noise Control at Concerts* issued in 1995 by the Noise Council. This sets out proposed criteria for entertainment noise.

Criteria vary according to the number of events and their location, as set out in Table 1 of the document. The relevant criteria are repeated in Table 2.

Table 2 Noise level guidelines, Table 1 of *Code of practice on environmental noise control at concerts* (1995)

Event days per calendar year	Guideline
1-3	The music noise level should not exceed L_{Aeq} 65 dB over a 15-minute period.
4-12	The music noise level should not exceed the background noise level by more than 15 dB over a 15-minute period.

5.2 Basis of assessment

The proposed schedule of events in the park for 2018 indicates 4 potentially noisy events over the year, consisting of parades, small scale music festivals and fireworks displays. This means the guidelines in the bottom row of Table 2 apply for the site.

Other, small events also occur throughout the year, including screenings of films and sports events, children's talent shows, and book readings. However, owing to the small scale of these types of event, they have not been specifically considered as part of this assessment.

The 2018 schedule of events has been taken as a typical scenario which can be assessed for all future years. If there are fewer events in following years, there may be scope to relax the criteria.

It should be noted that it may be difficult to establish compliance with the criteria at the noise sensitive premises, as the limiting noise level refers to the level of the entertainment noise only, ie in the absence of background noise. However, establishing a measurement location at 5 m from the stage front will help make this easier.

6 Assessment

6.1 Assessment approach

A phased approach to the assessment has been undertaken to reflect the phased activation of the residential buildings surrounding the park, with noise levels assessed to the nearest residential building at each phase of the development. Each phase is detailed below. In each case, the background noise levels were established (ie, without event noise), as well as the maximum allowable noise level from the events.

- 2018-2019
    - Nearest residential developments to the site are Elephant One, Strata and Block H2 of the Heygate Regeneration scheme
- 2020-2021
    - As above, plus Block H4 of the Heygate Regeneration scheme
- 2022 onwards
    - As above, plus Block H1 of the Heygate Regeneration scheme.

3D modelling software CadnaA has been used to assess the maximum allowable noise level to be generated by events in the park This noise level has been defined in terms of a measurement position 5 m directly in front of the stage.

The stage has been modelled as a raised platform, with a loudspeaker to both sides. A photograph of the stage is shown in Figure 4.

Figure 4 Stage at Elephant Park

6.2 Assessment results

6.2.1 Phase 1 – background

The L_{A90} background noise levels experienced at the facades of the nearest residential buildings overlooking the park during Phase 1 are indicated in Figure 5.

To comply with the criteria, the $L_{Aeq,15min}$ due to event noise should not exceed these levels by more than 15 dB.

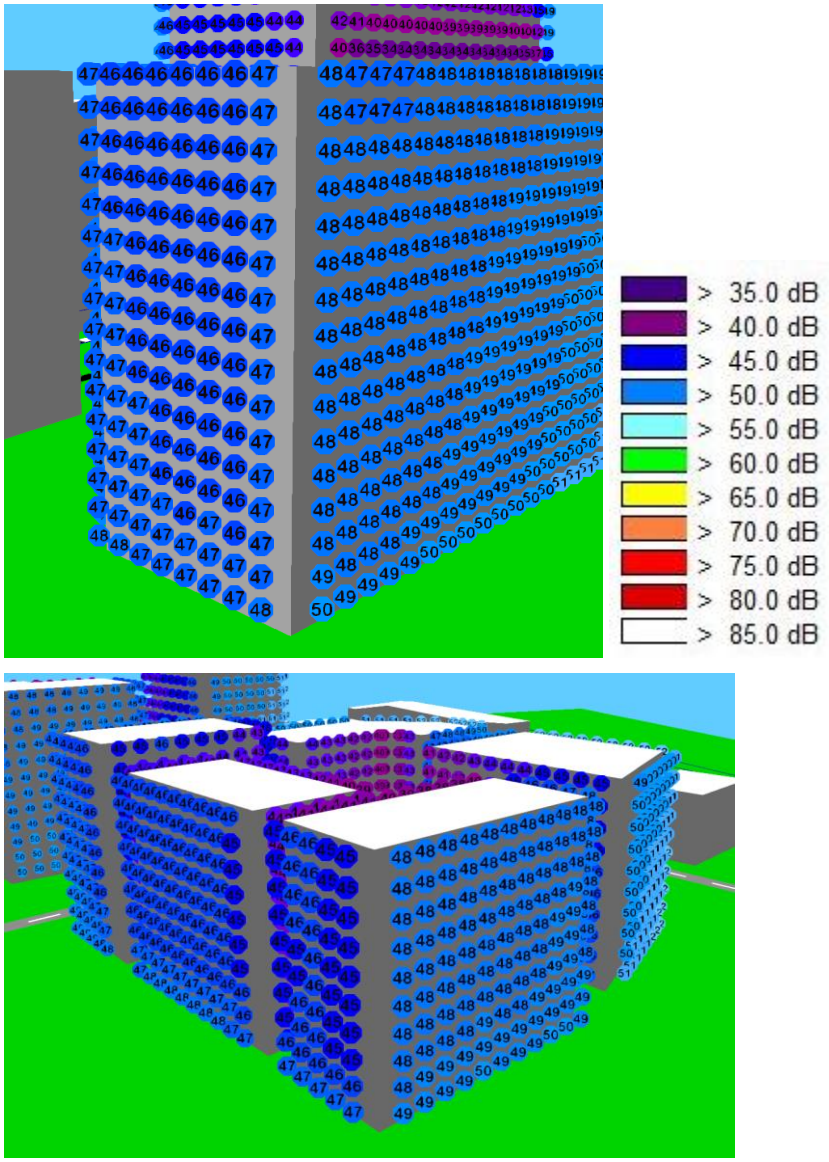

Figure 5 Predicted noise levels at facades facing the park during Phase 1 with no entertainment noise, Elephant One (top) and H2 (bottom)

6.2.2 Phase 1 – event noise

During Phase 1, a maximum noise level from the event of $L_{Aeq,15min}$ 75 dB at 5 m in front of the stage is allowed while achieving the criteria.

Figure 6 shows the noise levels in the park due only to the entertainment. Figure 7 shows the levels experienced at the facades of the residential building overlooking the park.

It can be seen from Figure 6 that the facade noise level at H2 and Elephant Park at the nearest and worst affected apartment is not more than 15 dB higher than the background scenario without entertainment noise.

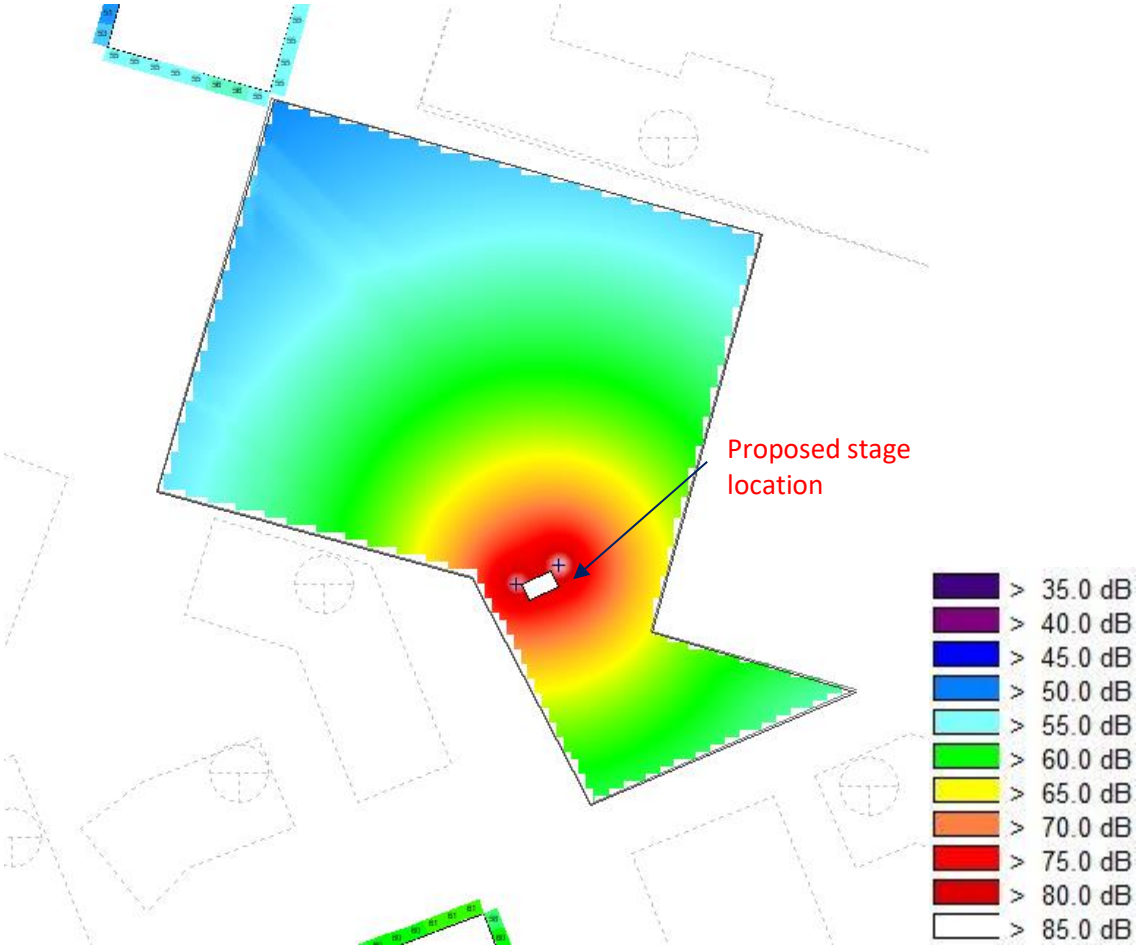

Figure 6 Noise levels across the park due to event noise during Phase 1 (L_{Aeq})

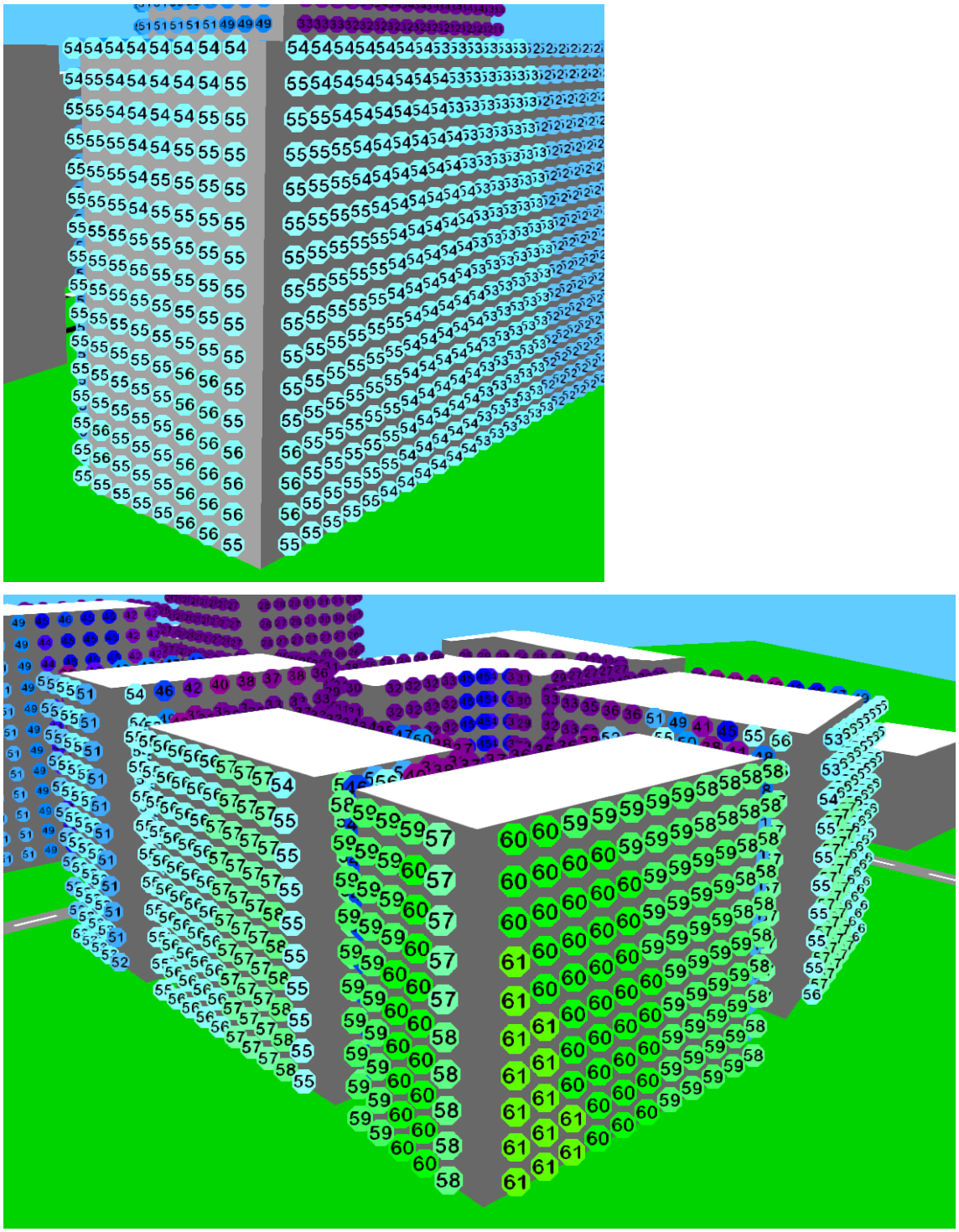

Figure 7 Predicted noise levels at facades facing the park during Phase 1 due to entertainment noise, Elephant One (top) and H2 (bottom)

6.2.3 Phase 2 – background

The L_{A90} background noise levels experienced at the facades of the nearest residential buildings overlooking the park during Phase 2 are indicated in Figure 8.

To comply with the criteria, the $L_{Aeq,15min}$ due to event noise should not exceed these levels by more than 15 dB.

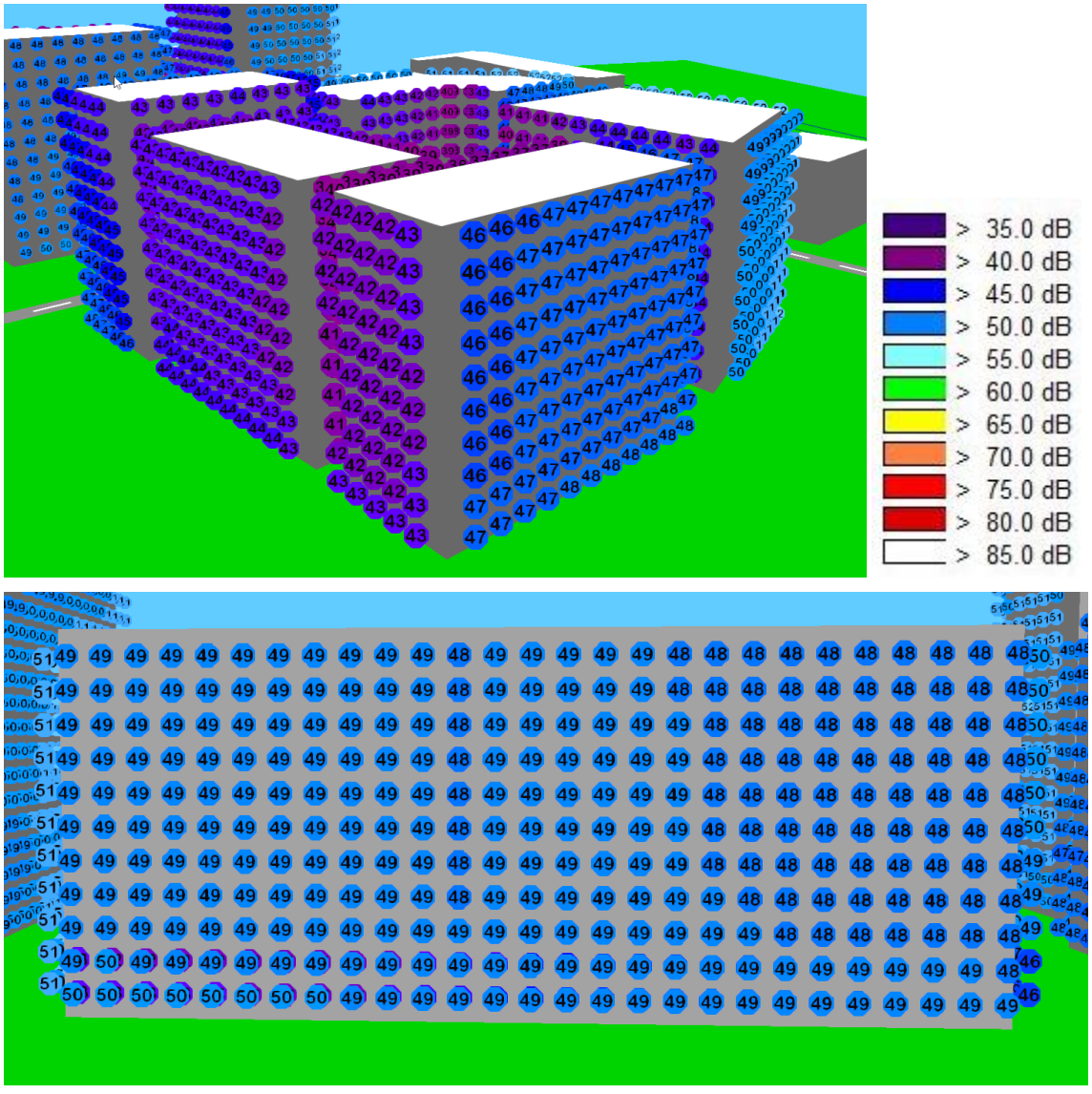

Figure 8 Predicted noise levels at facades facing the park with no entertainment noise, H2 (top) and H4 (bottom)

6.2.4 Phase 2 – event noise

During Phase 2, a maximum noise level from the event of $L_{Aeq,15min}$ 70 dB at 5 m in front of the stage is allowed while achieving the criteria.

Figure 9 shows the noise levels in the park due only to the entertainment. Figure 10 shows the levels experienced at the facades of the residential building overlooking the park.

It can be seen from Figure 10 that the facade noise level at H2 and H4 at the nearest and worst affected apartment is not more than 15 dB higher than the background scenario without entertainment noise.

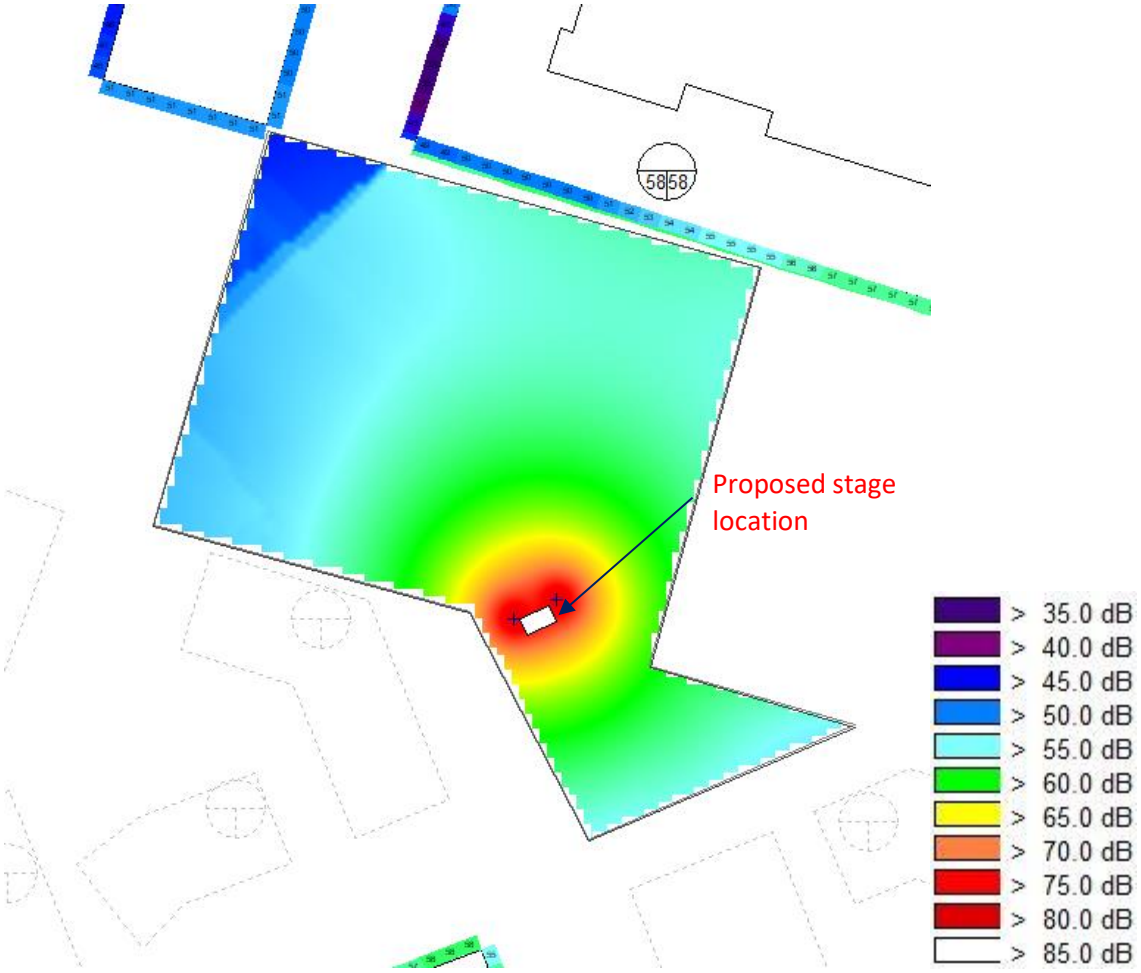

Figure 9 Noise levels across the park due to event noise during Phase 2 (L_{Aeq})

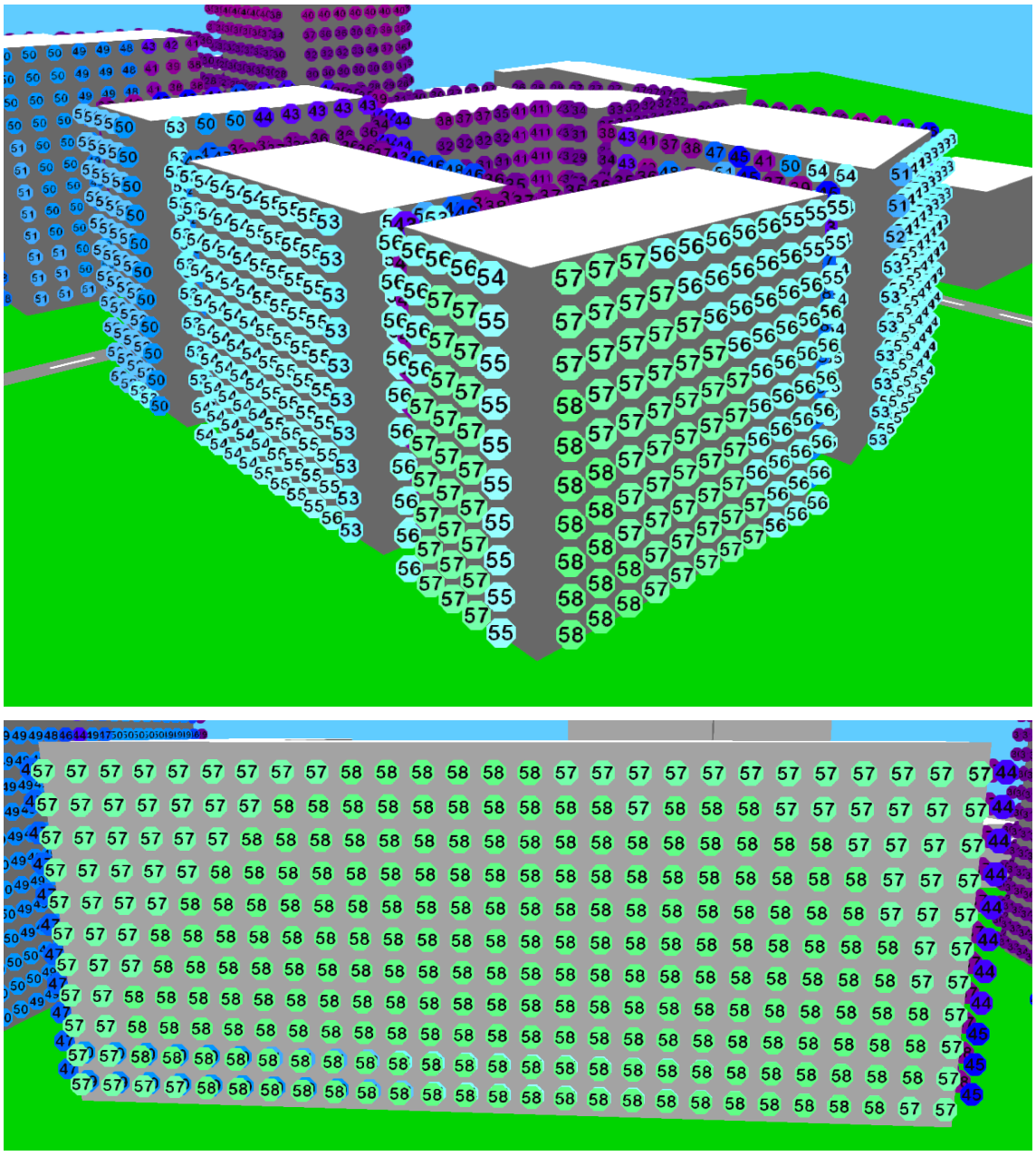

Figure 10 Predicted noise levels at facades facing the park during Phase 2 due to entertainment noise, H2 (top) and H4 (bottom)

6.2.5 Phase 3 – background

The L_{A90} background noise levels experienced at the facades of the nearest residential buildings overlooking the park during Phase 3 are indicated in Figure 11.

To comply with the criteria, the $L_{Aeq,15min}$ due to event noise should not exceed these levels by more than 15 dB.

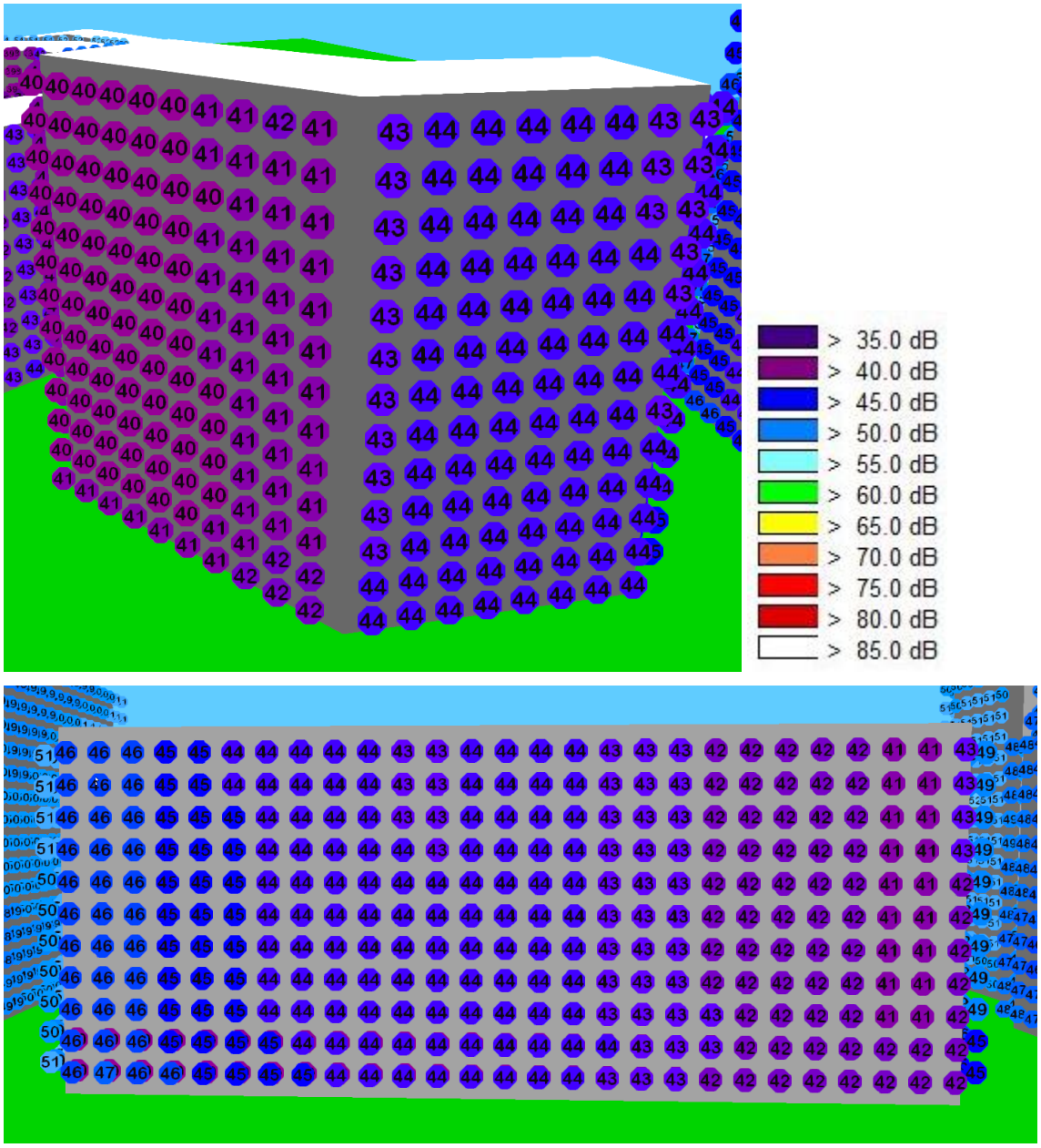

Figure 11 Predicted noise levels at facades facing the park with no entertainment noise, H1 (top) and H4 (bottom)

6.2.6 Phase 3 – event noise

During Phase 3, a maximum noise level from the event of $L_{Aeq,15min}$ 63 dB at 5 m in front of the stage is allowed while achieving the criteria.

Figure 12 shows the noise levels in the park due only to the entertainment. Figure 13 shows the levels experienced at the facades of the residential building overlooking the park.

It can be seen from Figure 13 that the facade noise level at H1 and H4 at the nearest and worst affected apartment is not more than 15 dB higher than the background scenario without entertainment noise.

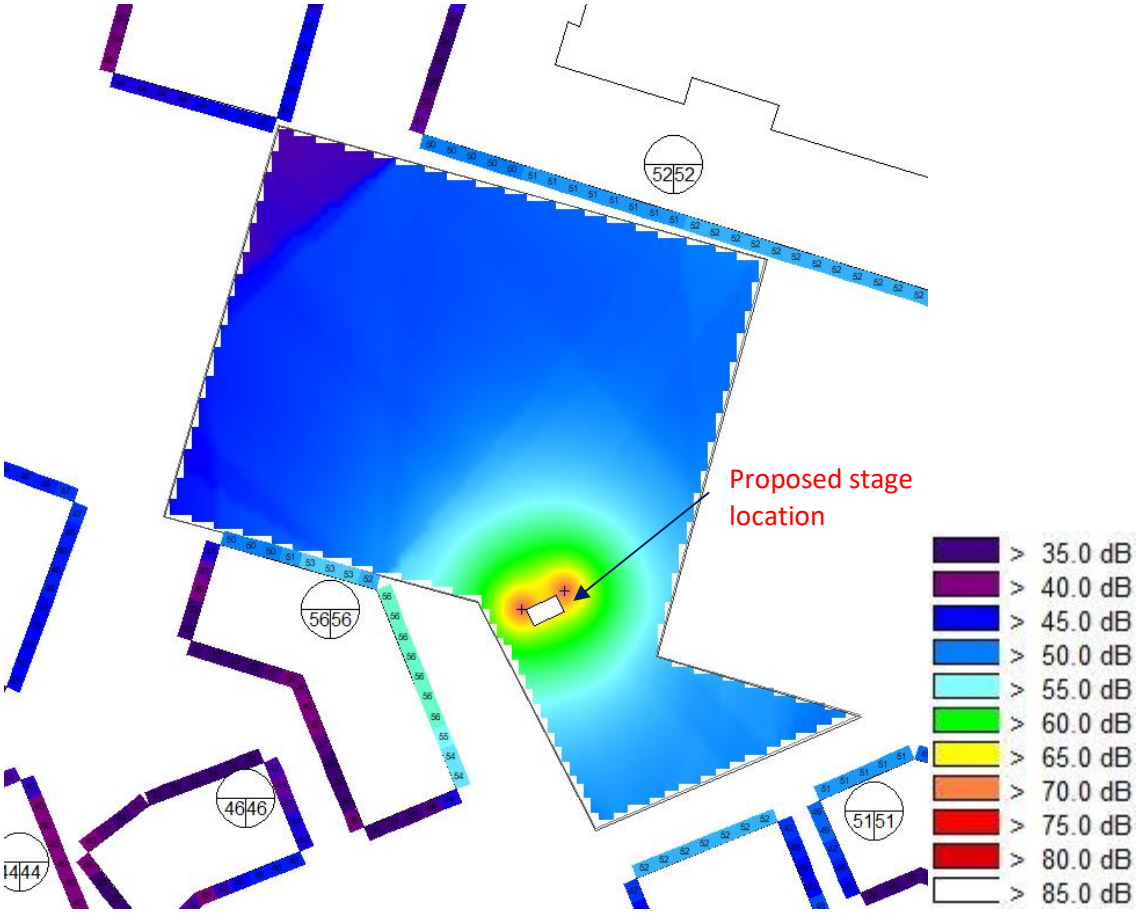

Figure 12 Noise levels across the park due to event noise during Phase 3 (L_{Aeq})

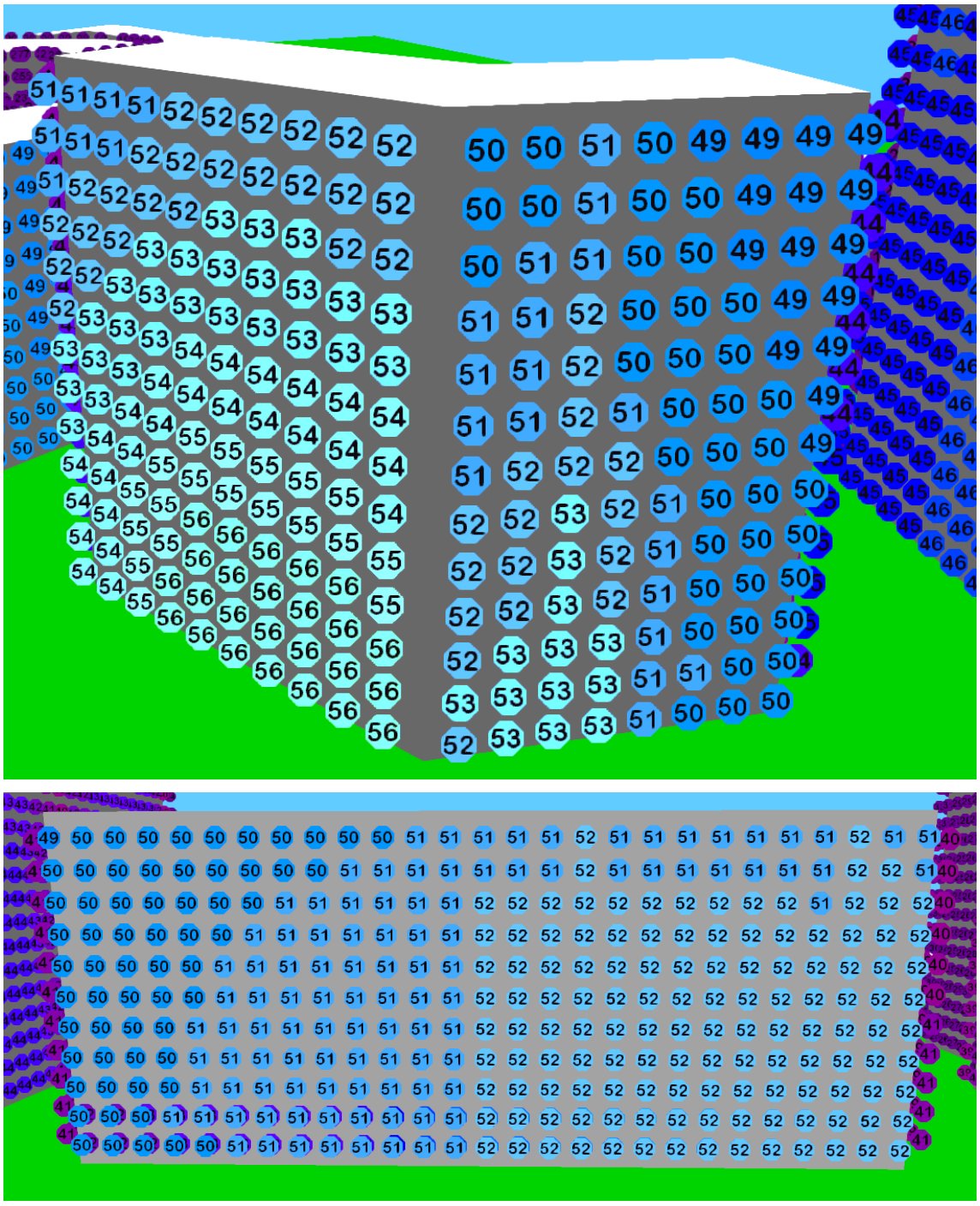

Figure 13 Predicted noise levels at facades facing the park during Phase 3 due to entertainment noise, H1 (top) and H4 (bottom)

7 Conclusion

A noise assessment has been undertaken in support of license application for music events in Elephant Park. Criteria have been drawn from the Institute of Acoustics' *Good Practice Guide on the Control of Noise from Pubs and Clubs*. The assessment is based on background noise levels measured around the site as part of the ongoing construction monitoring at the site. The assessment is based on background noise levels measured at 4 locations around the site as part of the ongoing construction monitoring at the site.

Three different phases have been assessed, in line with the phased activation of the Heygate Regeneration scheme and thus nearest residential developments.

During Phase 1 of the development (nearest residences Elephant One and H2), the maximum allowable noise level due to the entertainment is $L_{Aeq,15min}$ 75 dB, as assessed 5 m in front of the stage.

During Phase 2 of the development (nearest residences H2 and H4), the maximum allowable noise level due to the entertainment is $L_{Aeq,15min}$ 70 dB, as assessed 5 m in front of the stage.

During Phase 3 of the development (nearest residences H1 and H4), the maximum allowable noise level due to the entertainment is $L_{Aeq,15min}$ 63 dB, as assessed 5 m in front of the stage.

This is based on there being no more than 12 noisy events in a year, which reflects the 2018 events schedule. If there are fewer events in future years there may be scope to adopt a higher noise level criteria than presented in this assessment.