

Sydney Opera House

EVENT MANAGEMENT PLAN
Southern Forecourt and Monumental Steps

EVENT:
Live Nation On The Steps 2024

ARTISTS:
Various

18 Nov 2024





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1 EVENT OVERVIEW

1.1 Hirer

- Live Nation Australia

1.2 Event Schedule

Date	Activity	Performance	Time
Sat 23 Nov	Event Bump-in		Between 8am – 10pm
Sun 24 Nov	Event Bump-in		Between 8am – 11.59pm
Mon 25 Nov	Event Bump-in		Between 8am – 11.59pm
Tue 26 Nov	Performance	Glass Animals	GA Gates Open 6pm, finish 10.00pm
Wed 27 Nov	Performance	Glass Animals	GA Gates Open 6pm, finish 10.00pm
Thu 28 Nov	Performance	Troye Sivan	GA Gates Open 6pm, finish 10.00pm
Fri 29 Nov	Performance	Troye Sivan	GA Gates Open 6pm, finish 10.00pm
Sat 30 Nov	Performance	Tones & I	GA Gates Open 5pm, finish 10.00pm
Sun 1 Dec	Performance	Missy Higgins	GA Gates Open 5pm, finish 10.00pm
Mon 2 Dec	Day Off		
Tue 3 Dec	Day Off		
Wed 4 Dec	Performance	Crowded House	GA Gates Open 6pm, finish 10.00pm
Thu 5 Dec	Performance	Crowded House	GA Gates Open 6pm, finish 10.00pm
Fri 6 Dec	Performance	Two Door Cinema Club and Declan McKenna	GA Gates Open 6pm, finish 10.00pm
Sat 7 Dec	Performance	Crowded House	GA Gates Open 6pm, finish 10.00pm
Sun 8 Dec	Performance	Crowded House	GA Gates Open 6pm, finish 10.00pm
Mon 9 Dec	Performance	Tina Arena and Richard Marx	GA Gates Open 5pm, finish 10.00pm
Tue 10 Dec	Performance	Brooke Fraser	GA Gates Open 6pm, finish 10.00pm
Wed 11 Dec	Event Bump-out		Between 8am – 11.59pm
Thu 12 Dec	Event Bump-out		Between 8am – 11.59pm

Times are Approximate. Amplified music not to exceed 10pm.

Further details are in the Production Schedule



1.3 Contacts

- SOH Contacts

Company	Contact	Role	Contact
SOH	Conor Farrell	Gener Manager, Event Operations & Planning	0432 830 526
SOH	Rande Kamolz	Production Manager (PM)	0457 397 843
SOH	Marie Sherrard	Account Manager (AM)	0487 831 883
SOH	John Lomax	Head of Security, Emergency Planning & Response	0408 830 277

- External Contacts

Company	Contact	Role	
The P.A. People	Andrew Rodd	Sound Monitoring	(02) 8755 8761
Auditoria	Luis Miranda	Acoustic Consultant	0406 659 770
Live Nation	Kate Elrington	Project Manager	0421 844 702

1.4 Responsibilities

The General Manager, Event Operations & Planning has oversight of all operational matters and coordinates all elements of the event. He is the first point of contact for regulators (other than in relation to security), the Hirer and the Hirer's contractors, SOHT contracted experts and contractors and community complaints during the event.

The Production Manager is responsible for all technical aspects of the production and reports to the Head of Production Management. The role will be responsible for liaising with the Hirer and their production team and integrating their overall planning, safety and management and coordination of all the necessary technical production and site/venue requirements and services

The Account Manager is responsible for scheduling and liaison with the Hirer and internal SOH departments and reports to the Head of Account Management. The role is responsible for integrating all the operational event requirements with SOH policy and procedure.

The Head of Security, Emergency Planning and Response is responsible for oversight of security, crowd management and police liaison and will take control of the site in the event of an emergency.



1.5 Audience

- Demographic
 - A wide variety of performances and demographics from 18 – 50 (approx.).
- Historical Crowd Information
 - Previous events have attracted a mix of 18 – 50 age groups
 - Previous attendances range from 3,000 – 6,000, depending on artist
- Capacity
 - 4,500 seated
 - 6,000 max standing

1.6 Attachments

- Attachment 1: Event Site Plan
- Attachment 2: SOH Noise Management Plan
- Attachment 3: SOH Noise Management Sub Plan
- Attachment 4: Heritage Guidelines for Outdoor Events and Activities - Draft 12
- Attachment 5: Sydney Opera House Trust By-law 2015
- Attachment 6: Environmental Risk Register - FINAL for Outdoor Events



2 STATUTORY APPROVALS

Planning Consent	DA 445-10-2003, as modified	MOD 4 issued 14 October 2016
Heritage Authority	SOH Site specific Heritage exemptions under the Heritage Act 1977	N/A
Event Management Plan	Secretary, Planning & Environment	Submitted 18 November
Noise Management Plan	Secretary, Planning & Environment	Submitted 18 November
Noise Management Sub-Plan	EPA Review Secretary, Planning & Environment	Submitted 18 November
Notify authorities of Event	City of Sydney, North Sydney Council, Police, Department of Planning & Environment, EPA	Notified 11 November
Notify authorities of Food Event	NSW Health	Advised by LNA
Temporary Food Permit	City of Sydney	Submitted by LNA
Temporary Structures	s68 Local Government Act 1993 Sewerage waste building works	Approval issued as part of Vehicle and Pedestrian Safety works consent. Section 68 LGA approval not required.



3 VISITOR EXPERIENCE & COMMUNICATIONS

3.1 Food Management

- Food Provider CMC Solutions
- Outlets Emmy's Turkish Gozleme
Agape
Fritz's Wieners
Café Alfresco
- Outlet operating times 1800 - 2145
- Food outlets are restricted to authorised cooking areas of the eastern forecourt – i.e. not on granite surfaces
- Protection will be laid down under cooking areas, as specified in the Outdoor Event Guide
- Providers to ensure that any food options provided will not stain or damage any Opera House surface
- Further information in Outdoor Event Guide, Section 5

3.2 Beverages & Alcohol Management

- Beverage provider Northbourne
- Outlet operating times 1800 - 2130
- Special conditions Maximum 4 drinks per person per transaction
- Marshalls Located at the front of each entry queue to bar
- Crowd to be monitored and in consultation with bar manager, maximum number of drinks purchased at a time may be reduced if required to ensure Responsible Service of Alcohol.
- Wristbands for 18+ patrons will be checked by both bar staff and RSA marshalls
- Free drinking water will be made available to patrons
- Security guards hold security licenses and have first aid training
- Glass is prohibited for all large scale commercial events – beverages sold in glass bottles must be decanted into plastic cups before being served to patrons
- Bags searched on entry for alcohol being brought into venue
- Crowd monitored by Security on departure to ensure no alcohol permitted to be taken off-site
- Refer outdoor Event Guide section 5 and Sydney Opera House Trust By-law 2015

3.3 Ticketing

- Fully ticketed events
- All tickets are general admission – Standing only
- Temporary Box Office located on the Eastern side of the Forecourt (via Covered Concourse)
- Approx. 20% of ticket holders will require Box Office collection
- All tickets to be scanned upon entry



- Ticket stubs not required to be collected at ticket entry

3.4 Communications

- To Event Patrons Box Office to provide patrons information on website and email
- To Patrons of other SOH venues Box Office to send information about changed site conditions
- To non-Event visitors Website
- To other SOH F&B tenants SOH F&B Department to notify
- To nearby residents By notice sent 7 days prior
- To SOH staff/contractors SOH AM to send Performance Update and post on Intouch
- To Hirers, Resident Companies SOH AM to notify
- To Wilson Car park Visitor Services to notify
- Media Enquiries SOH Corporate Communications

Website information:

<https://www.sydneyoperahouse.com/on-the-steps>

<https://www.sydneyoperahouse.com/contemporary-music/crowded-house>

3.5 First Aid

- Provider First On Scene
- Location SOH Momentual Steps
- Communications Security Channel 1
- Licensed security guards present also have first aid training



4 MANAGEMENT PLANS

4.1 Waste and Water Management

- Recycling is encouraged and at a minimum the separation of general waste and mixed (co-mingled) recycling will be undertaken
- Waste will be recycled and disposed of according to Sydney Opera House's waste management practices. General waste will be separated from recycling items to avoid contamination of recycling streams
- All grey water produced by caterers will be stored in a stand-alone tank and transported off site by caterers
- Temporary toilet facilities to be plumbed into the sewer by a licensed plumber – approved under DA for Vehicle Access and Pedestrian Safety Project (VAPS) works
- Licensed plumber on site at event times to attend any blockages and leaks that may occur
- All cleaning on site is compliant with the SOH Green Cleaning Manual
- Cleaners continuously monitor toilet area for spills and leaks
- Further information is in the Outdoor Event Guide, Sections 3 & 7

4.2 Environmental Management

Sydney Opera House has been awarded a 6 Star Green Star Performance Rating by the Green Building Council of Australia, putting the Opera House among a select few World Heritage buildings globally that have achieved green certification. The environmental performance of the event will be monitored by our Building Operations Manager, in consultation with our Environmental Sustainability Manager, and managed through the Event Management Plan.

This Event Management Plan is to ensure:

- The site will be reinstated to the same condition it was prior to the Event
- No structures penetrate the ground
- Temporary structures have ground protection such as hard wood boards and pro floor matting
- All food outlets are on black bitumen areas as outlined in the Outdoor Event Guide, Section 3
- All F&B outlets' waste oils/grease to be collected and removed by caterers
- Timely collection and removal of litter before, during and immediately after the Event to avoid litter entering the harbour
- Ply protection installed over the VAPS tunnel head
- For 6,000 capacity event 75 toilet pans to be located under the Vehicle Concourse and plumbed into SOH sewer
- Mitigations in relation to identified risks to be implemented - as identified in the Environmental Risk Register - v1 FINAL for Outdoor Events



4.3 Heritage Management

SOH and Live Nation recognise the specific environmental aspects of working respectfully on this World Heritage site. The Hirer commits to complying with the Heritage Guidelines for outdoor Events, although it is acknowledged that the guidelines are still in draft form and the set-up and lessons from the November set-up will inform the finalisation of the guidelines.

As required under conditions 46 to 55A inclusive:

- all temporary structures are confined to the event area, are no more intrusive than is reasonably necessary to perform their functions and will be certified by a qualified practicing structural engineer on completion of installation;
- the design of the venue minimises the visual impact of temporary structures on the vista within reasonable requirements of the event;
- fencing and gates are of high quality as well as functional, as appropriate for the nature of the event;
- fire hazard properties will comply with Specification C1.10 of the Building Code of Australia, as applicable, with no structures within six metres of any egress path from a fire isolated building exit; and
- safe and efficient points of egress from the permanent venues within the building will be ensured at all times;

In consideration of SOH Draft Heritage Guidelines for Outdoor Events:

- Where possible white marquees have been replaced with black or grey
- The use of high fencing only in the places where its deemed necessary for crowd, safety and security management
- Sea container wall (for acoustic baffle) to the back of the stage has been painted 'Coconut Husk' (Heritage approved colour), in consultation with the Eminent Architects Panel and Conservation Council

Further information is in the Outdoor Event Guide, Section 6 and SOH Outdoor Events & Activities – Heritage Guidelines/Key Performance Indicators.

4.4 Noise Management

The success of the Sydney Opera House outdoor events program relies heavily on a responsible approach to noise management.

Noise from the event will be managed and monitored in accordance with the Noise Management Plan and the event-specific Noise Management Sub-Plan and all applicable conditions. Complaints to the event hotline during the event will be relayed to SOH Event Control Room in real time, for coordination of prompt and appropriate action.

4.5 Traffic Management

Traffic will be managed in accordance with the Event Operational and Safety Management Plans. Further details are in section 5 below.

4.6 Crowd Management

Security and Crowd management will be in accordance with the Event Operational and Safety Management Plans as applicable to the Event. This can be provided upon request.



4.7 Complaint Management

All complaints relating to the event will be managed in accordance with the applicable conditions, the Noise Management Plan (as applicable) and the Sydney Opera House Customer Feedback Policy.



5 SAFETY SECURITY & RISK

5.1 Security

- A detailed Safety Management Plan is prepared by SOH for internal purposes – see Attachment 3.
- Prohibited activities are set out in SOHT By-law 2015. Authorised Officers have search powers and may issue directions to leave the site.
- SOH Security works closely with NSW Police and other relevant agencies to ensure appropriate safety and security measures are implemented for the precinct.
- Security Providers
 - SOH Security
 - Constant Security
 - Constant Event Logistics
- 35 security guards and two User Pays Police.
- All bags checked on entry including random x-ray scanning.
- SOH FOH Staff to provide customer service, including providing information and directions, at front of site.

5.2 Transport & Traffic Management

- All patrons are encouraged to take public transport
- No road closures in place
- SOH roadway closed to all vehicles except Event production vehicles
- SOH buggies and accessible bus operate outside performance times
- No vehicles on SOH roadway from Gate Open times
- Road accessible at all times to emergency services
- Notification of performance times sent via Visitor Services to Wilson Car park

5.3 Pedestrian Management

- No access across Forecourt
- All accessible drop off/pick up at Gatehouse and SOH underground Loading dock
- Artist parking next to entrance to back of house compound on forecourt
- SOH Accessible bus via SOH underground Loading dock
- Clearly signed separation of Event audience and non-attendee pedestrians at ingress points
- The travel paths are to be wide enough to accommodate the expected populations
- Separation strategies of pedestrians and vehicle traffic during each phase of the Event
- See Outdoor Event Guide section 3
- Detailed Production Risk assessment to be submitted by Live Nation



5.4 Audience Movement

Normal Conditions:

- Ingress
 - Four lanes of entry at ticket check and bag search. Express lane at security search, one VIP lane.
 - Gates open at 5pm and 6pm to stagger ingress across two hours prior to main act starting.
- Egress
 - Exit via Gates on Western Forecourt & SOH Road

Emergency Conditions:

- Egress/ Emergency Assembly Areas
 - SOH Road & Gate on Western Forecourt/RBG
 - Locations for Emergency Assembly points are determined for each major event. For this Event, for SOH staff, contractors and hirers, the assembly point will be the Western Broadwalk. For ticket holders and general public, East Circular Quay becomes the primary assembly area and the secondary assembly area is the Royal Botanic Gardens.

5.5 Command & Control

- SOH Control Room 24 hours a day Ph: 9250 7200
- SOH Event Control Room operational during performance times to support SOH Control Room



6 LIGHTING MANAGEMENT

6.1 Lighting set-up

Professional lighting companies and experienced lighting engineers are engaged in the planning and set-up of lighting. SOHT ensure compliance with all applicable planning, environment and heritage conditions.

6.2 Emergency Lighting Tower

- Emergency lighting towers will be placed around the site for egress of patrons
- In case of emergency the emergency lighting towers will be activated to ensure safe egress

6.3 General Site Lighting

- Suitable work lights will be installed for the safe operations of the site at night time
- Back of house work lights not to spill into neighbouring areas
- No lights to shine into nearby resident apartments
- Site lighting will have no adverse impact on the surrounding Environment , Aviation, Maritime or General Public

6.4 Lighting Standards

- AS/NZ1158.3: 1999 Pedestrian Area (Category P) Lighting
- AS4282: 1997 Control of the Obtrusive Effects of Outdoor Lighting



7 HEALTH & SAFETY

7.1 Third parties

Hirers, contractors and performing companies undertaking business at the Opera House must comply with the *Work Health and Safety Act 2011* (NSW). They must take all practicable steps to ensure that the health and safety of their own workers and other persons are not put at risk from work carried out as part of the conduct of their business or undertaking in relation to the Event.

7.2 SOH Safety Management

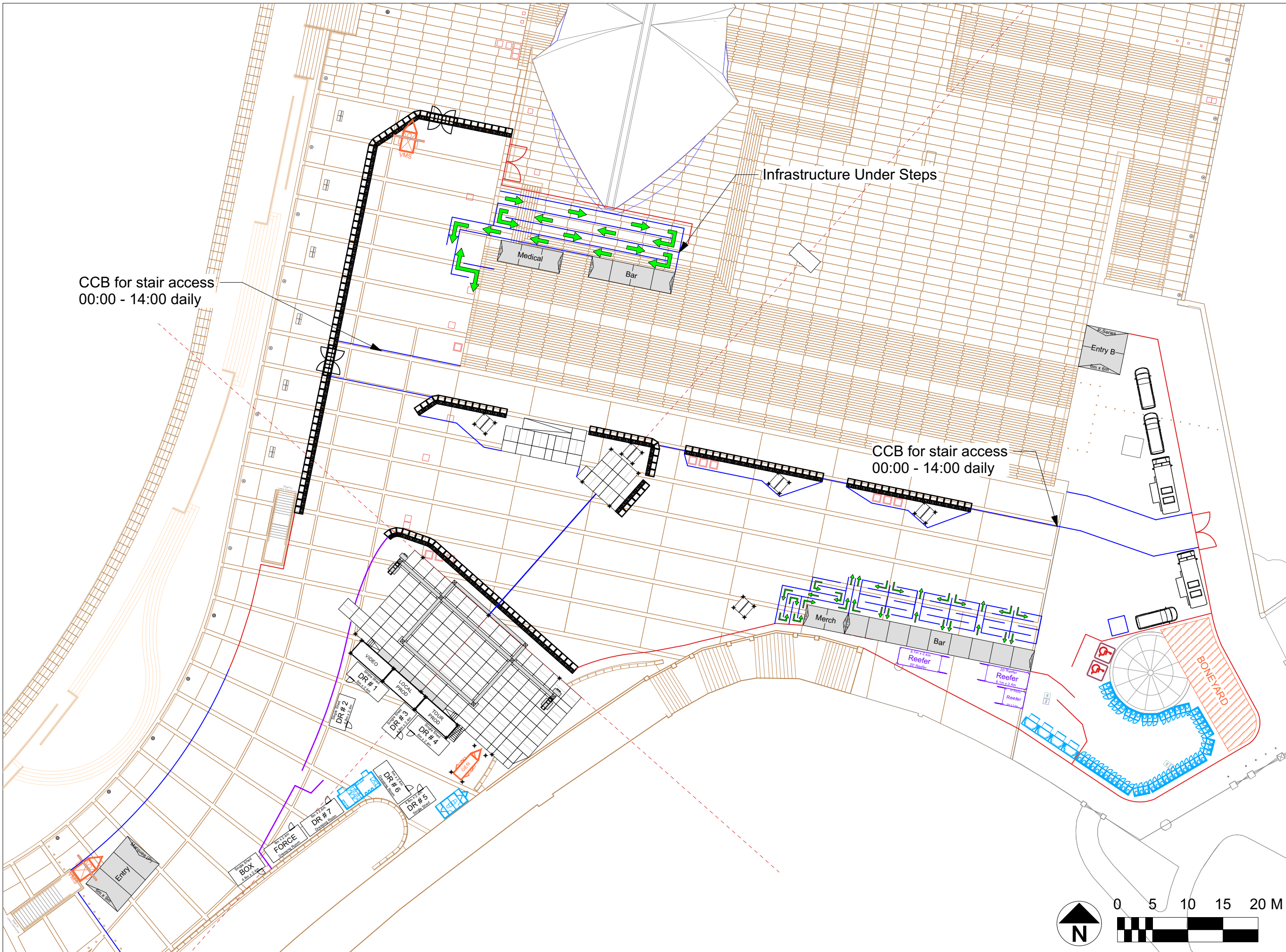
- Opera House Event Safety Team has a number of Event Safety Officers who oversee safety assurance for outdoor events
- The team has a focus on both worker safety and public safety for events and acts as WHS liaison between Live Nation and SOHT
- It is a requirement that all persons undertaking work onsite complete an Opera House Site Induction prior to commencement of work. This is either completed online and/or provided onsite by SOH Event Safety Officers
- All contractors and suppliers coming on site must be aware and comply with the WHS Act and relevant, regulations and codes of practice and standards
- Each SOH shift to commence with a “Toolbox Talk” incorporating the safety briefing
- All workers to wear high visibility vests and fully enclosed boots with non-slip soles whilst inside work zones
- Additional PPE requirements or deviations from SOH requirements by workers are identified and addressed in the Production Risk Assessment and/or Safe Work Method Statement
- Hard hats are to be worn if work is being conducted inside the exclusion zones for overhead work
- All electrical equipment and temporary installations must comply with the WHS Regulation 2011 Part 4.7 and Division 3, 4, 5, the Code of Practice “Managing electrical risks in the workplace”
- All incidents are reported via the Opera House’s online reporting system
- Further details are in the Outdoor Event Guide, Section 10

7.3 Safety Risk Management

- SOH provides a Standard Site Risk Assessment to assist in the development of the hirer’s Production risk assessment, which includes risk identification, risk analysis and risk elimination or control
- Production risk assessment to be received by SOH from Live Nation must include the risks identified in the SOH Standard Site Risk Assessment
- Hirer and Contractors must provide Safe Work Method Statements for high risk tasks and Job Safety Analyses or Safe Work Procedures for the individual tasks that they will be undertaking during the Event
- Qualified Engineer sign-off required for all temporary structures
- Maximum load limits to be adhered to across the site



- Temporary structures must be wind rated and documented in the Inclement Weather and/or Wind Management Plan. Wind monitoring undertaken during all phases of the Event.
- Further details are in the Outdoor Event Guide, Section 10



This drawing is a guide only and is not to be used for construction. All measurements and locations must be checked onsite with the Site Manager prior to placement or commencement of construction.
 This drawing and its contents remain the property of FORCE EVENTS at all times. This drawing may be copied and distributed for the direct purposes of the event. This drawing shall not be edited or modified with the prior written consent of FORCE EVENTS.

DRAWN BY	AW
REVISION DATE	9/8/2024
SHEET SIZE	ISO A3

PROJECT DATE	NOV-2024
REVISION	0.4
SCALE	1:1

SHEET TITLE	Site Plan (GA Event)
PROJECT NAME	SOH Series 2024
PROJECT ADDRESS	Sydney Opera House



Sydney Opera House

NOISE MANAGEMENT PLAN

For the Carrying out of Outdoor Events and
Functions

Southern Forecourt and Monumental Steps

31st December 2021

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Principal Partner

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1 BACKGROUND & DEFINITIONS

1.1 Development approval

The development approval (DA 445-10-2003) for the use of the Forecourt and Monumental Steps for Temporary Events and Functions at the Sydney Opera House was modified on 14 October 2016 (DA 445-10-2003 MOD 4). Included in the modification, among other things, is a requirement for the Sydney Opera House Trust to prepare and implement an overarching Noise Management Plan for the carrying out of outdoor events and functions (Noise Management Plan).

1.2 Attachments

This Noise Management Plan includes the following attachments:

- Schedule 1** SOH Forecourt Sound Management Plan_210624
- Schedule 2** SOH Sound Monitoring Procedure 21 August 2017
- Schedule 3** Crowd Management Plan 28th July 2017
- Schedule 4** Sydney Opera House Customer Feedback Policy, 2 March 2016

Conditions referred to below are conditions set out in DA 445-10-2003 including MOD 4.

1.3 Definitions

Event can be over one 24 hour period (day) or a number of 24 hour periods, comprising one performance/concert or a number of performances/concerts.

Performance means a performance/concert typically occurring during the daytime or evening and includes rehearsals and sound checks. A performance/concert does not last more than one 24 hour period in which there may be more than one act or band within each performance/concert.



2 USE OF QUALIFIED EXPERTS

2.1 Qualified Experts

In accordance with the requirements of condition 45A(a), Schedules 1 and 2 of this Noise Management Plan have been prepared by suitably qualified and experienced experts in each of the relevant fields.

2.2 Auditoria Pty Ltd

Auditoria Pty Ltd combines a vast record in the performance environment with exceptional technical knowledge in audio and acoustics, supported by the qualifications of their staff, led by Scott Willsallen (M.Des.Sc.Hons) and Luis Miranda (Ph.D), who both hold Masters and Honours degrees in Audio and Acoustics with Luis recently graduating with a Ph.D in Acoustics. This allows them to provide practical solutions based on realistic scenarios balancing the needs of noise sensitive receivers while providing the best experience for patrons. Auditoria has been involved in some of the largest events in the world providing audio consultancy services. Auditoria has also been involved in applying their experience in audio systems to sound management solutions. This includes the successful implementation of sound management plans for the Defqon Festival and Secret Garden Festival.

2.3 P.A. People

The P.A. People is a specialist integrator and contractor in sound reinforcement, audio visual systems, performance lighting and production communications. Over its 40 year history the company has developed a reputation as a leader in these fields, understanding the rigours of working in a design construct environment and working with other trades and services to ensure delivery of a fully integrated package.



3 EPA REVIEW

3.1 EPA Review

In accordance with condition 45A(b) a draft of this Noise Management Plan dated 7 November 2016 was provided to the Environment Protection Authority (EPA) for review. A further draft was provided on 7 December 2016 and an updated Schedule 1 was provided on 13 December 2016 to EPA. Further review by EPA received on 18th July and updates made to schedules 1,2 and 3.

3.2 Response to EPA Review

The Noise Management Plan was reviewed by the EPA and changes were made to section 3.1 and Schedule 1 to address the EPA's comments. Any further comments received from the EPA will be considered as part of the continuous improvement program set out in section 8 of this Noise Management Plan.



4 NOISE MANAGEMENT

4.1 Consistency with DA

This Noise Management Plan is based on and consistent with Appendix A of the Sydney Opera House Trust's response to the development application submissions (RTS). Refer to section A of Schedule 1.

4.2 Noise Control

Consistent with condition 18, the Sydney Opera House retains ultimate control of the noise levels, including those caused by any sound amplification equipment operated outdoors.

A representative will be appointed for each event who is able to exercise that control. The representative will be available throughout the event to receive calls from the Event Operations Control Room including any complaints received by the hotline and issues raised by key personnel engaged in noise management, to ensure prompt response to any complaints or issues. This person will be the contact for the Acoustic Consultant attending the event who will notify the representative of any perceived risk of exceedances under the process outlined in the applicable Noise Management Sub-Plan.

Real-time communications will be by mobile telephone unless otherwise specified in the applicable Noise Management Sub-Plan.

4.3 Noise Limits

Amplified music will be played only between 10am and 11pm within the limits set out in Condition 42 of the DA, except when Condition 43 applies, as specified in the Noise Management Sub-Plan.

Noise during bump-in and bump-out activities, site pack-up and temporary noise generating plant and equipment between 8am and 12 midnight will not exceed 60 Leq(15 minute) dB(A) outside the nearest residential receivers, as required by condition 44.

Crowd management procedures will be implemented for each event as part of the event-specific Security, Crowd and Risk Management Plan, which is an internal operational document. This plan will include event specific details of procedures to ensure the efficient and orderly departure of patrons with minimum noise. Refer also to section 6.1 below.

4.4 Exemption for Exceedance of Noise Limits

The Sydney Opera House has a system of triggers aimed at preventing levels over the limit which is outlined in B.3.3 of Schedule 1. An exceedance of the noise limit during a performance will not be taken to be a breach of DA conditions 42-44 unless:

- Two (2) consecutive five (5) minute readings of more than 2 dB above the limit occur on three (3) or more occasions; or
- Three (3) consecutive five (5) minute readings of more than 2 dB above the limit occur; or
- A total of eight (8) five (5) minute readings of more than 2 dB above the limit occur; or
- A total of four (4) five (5) minute readings of more than 5 dB above the limit occur.

4.5 Noise Monitoring

Amplified music will be monitored in real time at the Front of House continuously throughout each event by an accredited consultant. A report will be provided to the Department of Planning and Environment and the EPA, including any exceedances, as required by condition 45.



Noise generated by bump in and bump out will be monitored against activity being undertaken to comply with Condition 44. Should any complaints be received a mobile meter will be deployed to monitor noise levels.

4.6 Expert Reports

The Sydney Opera House Trust commits to complying with the experts' recommendations in the attached Schedules 1 and 2 with regard to noise mitigation and management.

The sound amplification equipment setup and noise minimisation measures required in conditions 21 – 23 will be in accordance with each relevant expert's advice.

4.7 Further Measures

Further measures will apply specifically during bump-in, bump-out and site set-up aimed at minimising noise including:

- traffic management to minimise vehicle noise;
- contractor management to minimise noise associated with use of vehicles (including horns) and infrastructure installation and dismantling; and
- scheduling of activities to minimise disruption.

4.8 Event Limits

Under condition 5 outdoor events on the Forecourt and Monumental Steps are limited to:

- (a) five events per year of a maximum of 11 days each;
- (b) three events per year of a maximum of 20 days each; and
- (c) a total of 99 event days per year.

In addition, for events of 11 days or more Sydney Opera House Trust will consider limiting the number of consecutive performance days to minimise noise impacts on nearby residents, provided the event will remain viable. Any such further limits will be set out in the relevant Noise Management Sub-Plan for each applicable event.

The Sydney Opera House Trust will comply with any further limitations of the number of consecutive performance days as may be required under applicable regulations.



5 EQUIPMENT AND MONITORING

SOHT will comply with the recommendations in the expert reports (Schedules 1 & 2)

5.1 Schedule 1

Schedule 1 contains the following details.

Condition	Details	Schedule 1 Reference
45A(d)	Speaker arrangement	B.5.2
45A(d)	Stage configuration	B.4
45A(d)	Front of House location	B.1, B.2, B.4
45A(e)	Noise limits and goals for events	B.1, B.2
45A(f)	Minimisation strategies	B.5
45A(j)	Early warning and reactive management system	B.3
45A(h)	Bump in and Bump out	B.5.5

5.2 Schedule 2

Schedule 2 contains sound check procedures and the noise monitoring program for events and rehearsals to ensure compliance with the noise limits under the development approval, as required under condition 45A(g) and (i).



6 PATRON MANAGEMENT

6.1 Ingress and Egress of Patrons

Measures to ensure quick and orderly patron departure and minimisation of patron noise are contained in Schedule 3, as required under condition 45A(h).

In addition:

- The Sydney Opera House Trust will erect signs at the perimeter of the precinct to remind patrons to respect our neighbours by keeping noise to a minimum.
- Staff in attendance at outdoor events are briefed to deal with any outbreaks of noise from patrons on a case by case basis as appropriate in the circumstances.



7 COMPLAINTS MANAGEMENT & NOTIFICATION

7.1 Customer Feedback Policy

For outdoor events on the Forecourt and Monumental Steps, the Sydney Opera House Trust will comply with its Customer Feedback Policy contained in Schedule 4. This established complaints management system satisfies the requirements of condition 45A(k).

7.2 Outdoor Event Hotline

Outdoor Events Hotline operates during outdoor events, as required by condition 40.

The number is found on the “Contact Us” page of the Sydney Opera House website

- Hotline: +61 2 9250 7113

7.3 Notification

Notification for all events will be sent to the following recipients at least seven days prior to the event:

- Secretary, Department of Planning and Environment
- City of Sydney Council
- North Sydney Council
- NSW Environment Protection Authority
- Royal Botanic Garden
- Bennelong Residents
- Property NSW

The notifications will include general information about the event, SOH hotline number and a contact name, phone number for enquiries and complaints, as required under conditions 39 (c), 41 and 45A(l). In the event of material changes to event details, updated notifications will be sent.



8 REPORTING & CONTINUOUS IMPROVEMENT

8.1 Final Compliance Report

In accordance with condition 45, following the completion of each event (events may include multiple performances), the Sydney Opera House is required to provide a report to EPA and DPE within 28 days. The report will include the below information.

- An Executive summary including
 - Whether or not there has been compliance or non-compliance with the permitted hours in this DA for the relevant event, including the reasons for any non-conformance(s);
 - The times and details of any exceedance(s) of the noise level limits in this DA for the relevant event, why the exceedance(s) occurred and what measures were implemented to ensure that the exceedance(s) did not occur;
 - discussion of whether or not any exceedances of the noise limits in the development consent constituted a “sustained exceedance” as defined in Section 4.4; and
 - The number, location and times of any complaints recorded by the Sydney Opera House in accordance with Conditions 35 to 38 of this DA.
- Supporting information including:
 - Date & time of monitoring
 - Activities occurring on land administered on land during monitoring
 - Sound pressure levels recorded including exceedances of noise limits
 - Any other information relevant to the consideration of the noise impact on residents or other sensitive receivers

Please note: The Opera House will seek consent from complainants at the time of collection for their personal details to be provided to third parties for the purposes of complying with the conditions of consent. If that consent is not provided, only the following details will be provided: date, time, nature of the complaint, method by which the complaint was made and action taken by the Opera House

8.2 Review and Updating of Plan

This Noise Management Plan will be reviewed by Sydney Opera House Trust in consultation with suitably qualified experts in each relevant field after each event and as otherwise required under the DA. The Sydney Opera House Trust commits to amending the Noise Management Plan as necessary and appropriate to take into account the results of each event review, as well as the one year and three year reviews required under condition 45B to ensure the plan is kept up-to-date.

8.3 Review after each Event

The review process after each Event will include:

- Debrief notes and lessons from each event
- Key outcomes from Final Compliance reports
- Analysis of monitoring and exceedances by suitably qualified consultant/s
- Analysis of all complaints and customer feedback received, including those received by the hotline.
- Feedback from regulators and government
- Feedback from external hirer, if relevant
- Evaluation of the noise limits and hours of operations
- Analysis of any feedback received from industry professionals who have attended the Event or Function



8.4 Review of Customer Feedback Policy

The Customer Feedback Policy (See schedule 4) will be reviewed and if necessary updated by 2 March 2018.

8.5 Annual Monitoring Reports

Details about noise monitoring, noise levels and any related complaints received by SOHT will be included in the annual monitoring reports to be submitted to the Secretary of the Department of Planning and Environment (or nominee). Any feedback received will be considered as part of the continuous improvement outlined in this section.

8.6 One Year and Three Yearly Review

The EPA will be consulted as part of the reviews in October 2017 and 2020, as required under condition 45B.

8.7 Noise Management Sub-Plans

Each event will have its own Noise Management Sub-Plan that is consistent with this Noise Management Plan and contains further details about noise management standards and procedures for the specific event, including the required notifications and community consultation referred to in condition 41.

Each successive Noise Management Sub-Plan will build on the knowledge gained from the reviews described in this section.



Sydney Opera House

Forecourt Events Sound Management Plan

Client	Sydney Opera House Bennelong Point NSW 2001
Project Manager	Heather Clarke Manager, Event Operations & Planning ☎ +61 2 9250 7426 ✉ HClarke@sydneyoperahouse.com
Document	Forecourt Events Sound Management Plan
Reference	SOH Forecourt Sound Management Plan_240621.docx
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A. Introduction

The Forecourt of the Sydney Opera House hosts several events each year in one of the most recognisable settings in the world. However, this setting possess unique challenges as it is located very near residential areas and, since it is an outdoor venue, provides very little sound attenuation.

This document will form part of the Noise Management Plan required under condition 45A of DA 445-10-2003, as modified. It presents guidelines for the operation and measurement of sound systems during events held at the Forecourt and Monumental Steps of the Sydney Opera House ("Forecourt"). The intention of these guidelines is to allow for the best possible audience experience within the prescribed limits.

This document is guided by an in-depth study of the existing background noise levels in the area, noise logging from previous events and typical sound systems used in the most common stage configurations for this venue. It is based on and consistent with Appendix A of the Sydney Opera House Trust's response to the development application submissions (RTS).

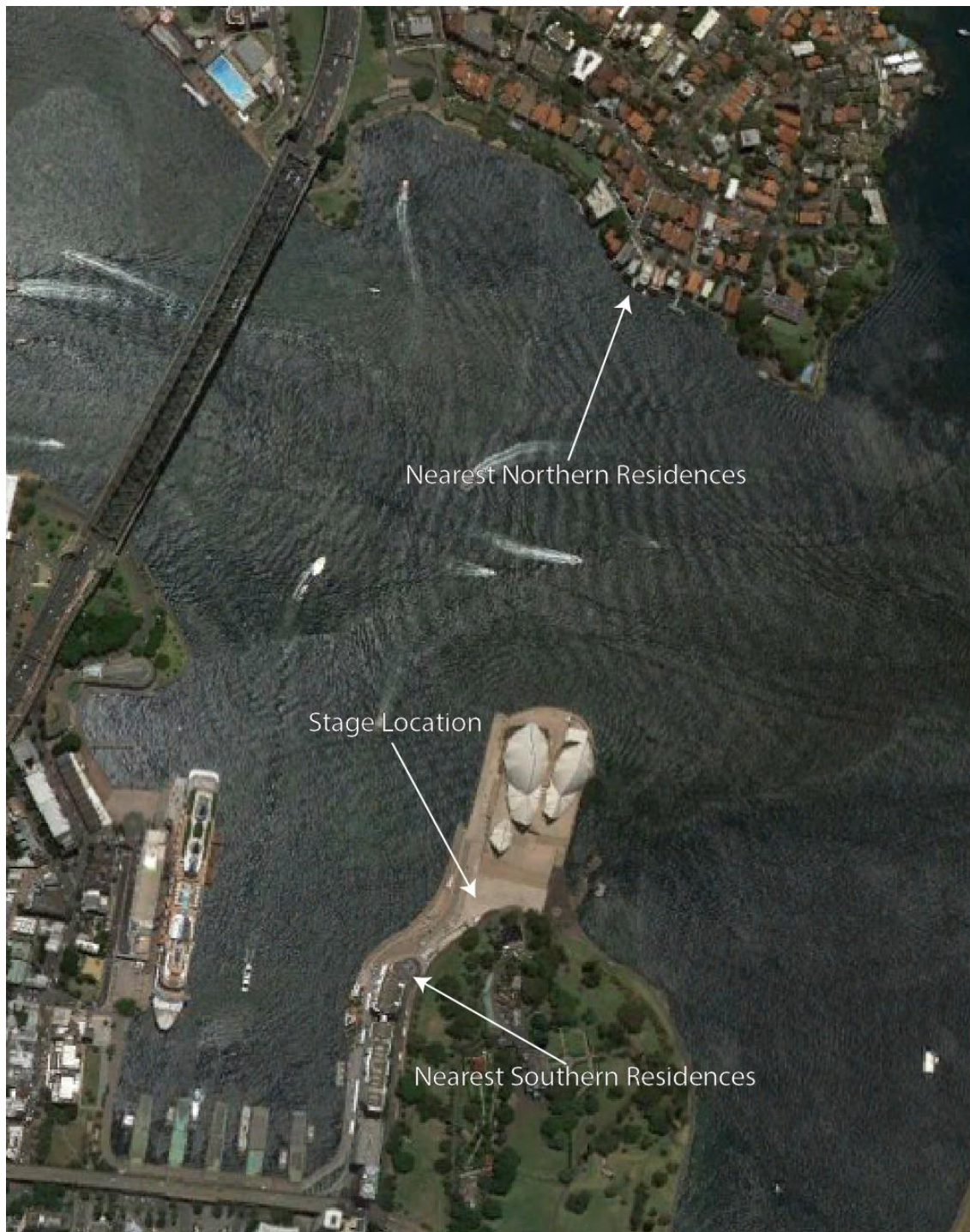
The Sound Management Sub-Plan for each event will be consistent with this document and will inform event's organisers and sound operators (audio and noise logging) to ensure the best possible experience to patrons and residents.

The Plans are intended to be used:

- By organisers in the planning stages as a guideline to understand expected sound levels in the audience area and different loudspeaker system choices.
- By audio companies in the design phase to aid in the design of loudspeaker systems including subwoofer arrays.
- By noise monitoring companies to understand best practices and level limits during an event.
- By everyone involved in the event to prepare post-event reports aimed to improve sound management practices.

A.1 Site Overview

A site overview is presented in the following figure. The figure includes locations of interest including the nearest residences to the north and south, as well as the typical stage location. The southern residences are approximately 120 m from the back of the stage. The northern residences are located approximately 800 m from the front of the stage. The recommendations in this document are based on these two residential areas as they have been identified as the most susceptible to be impacted by the events held at the Forecourt.



B. Sound Management Plan

The purpose of the sound management plan presented in this document is to provide guidelines to limit the impact of the different sound sources from the events held in the forecourt. We believe the recommendations specified in this section provide a good balance between acceptable impact to the nearby residents and the ability to provide a good quality event for the audience.

B.1 Sound Limits at FOH Location (40m from stage)

The permissible limits for events held at the Forecourt have been recently revised. The limits are summarised in the following table. All limits are to be measured at the FOH location for all configurations with the exception of the Western Broadwalk events where the measurements are to be made at the site's boundary. All FOH levels have been prepared with the assumption of a FOH location 40 m from stage.

Event Type	Leq 5min dB(A)	Leq 5min dB(C)
Typical Forecourt Configuration	92	102
Australia Day Configuration*	88	98
Western Broadwalk – North End	90	100
Western Broadwalk – South End	85	95

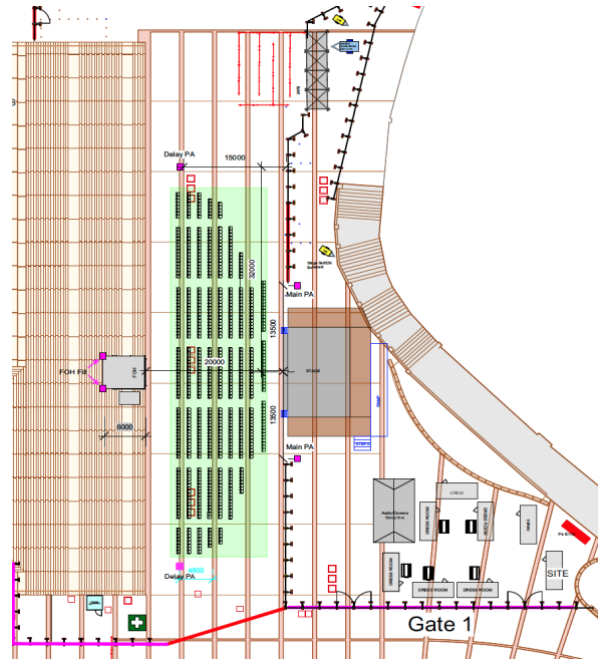
*Please note that every event set up is different and the configurations used to establish sound limits are based on the most common event locations and set ups. However, Australia Day concerts may use the typical Forecourt configuration and other events may use the Australia Day configuration.

Additionally, the levels for the typical forecourt event configuration can be increased by 5 dB if the total duration of the performance is no more than 4 hours, if all amplified music ceases by 10 pm and if the organiser in conjunction with the SOH consider that a reasonable patron experience cannot be achieved using the limits contained in the table above, as outlined in condition 43 of DA 445-10-2003. A decision to invoke condition 43 must be made in the planning stages of an event and incorporated in the Noise Management Sub Plan.

B.1.1 Special Setups and Associated Limits

It could be the case that a different setup to the ones outlined above is desired. This gives the Sydney Opera House and hirers additional flexibility to stage events with smaller crowds or different backdrop options. As no extensive data for different setups exists, the event would require a calibration procedure to provide similar output levels at the residences as the levels that have been used as targets to derive the levels in section B.1. The method used to derive the levels is included in section B.3.6.

An example of this setup is show below.



B.2 Corrections for FOH to Stage Distance – B.1 Table

If the FOH to stage distance is different to 40 m the following table contains adjustments for the values in the table shown in section B.1.

Distance (m)	Adjustment (dB)
20	6
22	5.2
25	4.1
30	2.5
35	1.2
40	0
45	-1
50	-1.9
55	-2.8
57	-3
60	-3.5
65	-4.2
70	-4.9

B.3 Measurement and Adjustment Methodology

B.3.1 Measurement Instruments

All the loggers and handheld measurement instruments shall be Class 1 loggers within recent calibration. The calibration shall be approved by a certified body such as NATA.

B.3.2 Location and Intervals

Sound logging shall be performed at the following locations:

- FOH Mix Location.
- If the event is an event held at the western Broadwalk, logging locations change to positions shown in section B.4.3.

To reduce the effect of crowd noise, the microphone shall be located at a height of a minimum of 2.7 m from the audience area level. The microphone shall be placed at the front of the FOH mixing tent location and the maximum height shall not exceed 2.6 m from the mixing platform.

The following acoustic descriptors shall be captured and made available for further processing:

- $L_{eq-5min}$ A and C-weighted
- L_{fast} A and C-weighted (with at least 8 data entries per second)
- L_{fast} octave bands (with at least 8 data entries per second)

The following acoustic descriptors shall be continually monitored by the sound monitoring team:

- $L_{eq-5min}$ A and C-weighted
- $L_{eq-1min}$ A and C-weighted

B.3.3 Adjustments

The sound monitoring team shall give warning to the FOH mix engineer at:

- 5 dB(C) before reaching the limit
- 2 dB(C) before reaching the limit
- At any breach

The event organisers and the SOH remain in control of the output levels at all times.

An experienced operator is preferred as early warning can be noticed and acted upon from the $L_{eq-1min}$ measurements.

The noise monitoring operator will also provide spectrum information to the FOH operator, relating information of frequency bands that could be providing a disproportionate contribution to the overall readings. For this reason, a calibrated sound instrument providing octave band data is essential.

B.3.4 FOH Monitoring

As part of the monitoring system, the FOH location shall include the following displays:

- A and C-weighted $L_{eq-1min}$ measurements at the FOH location.
- A and C-weighted $L_{eq-5min}$ measurements at the FOH location

This is to be used for guidance and does not exclude the noise monitoring operator from being primarily responsible for monitoring levels during events.

B.3.5 Mobile Sound Level Meter

As part of the monitoring system, a mobile sound level meter shall be included in the noise measurement package. This mobile device shall be used to provide quick measurements at locations near the Forecourt not covered by the equipment specified in section B.3.2. This device shall also be used to investigate complaints as explained in section B.6.1.

B.3.6 Calibration Procedure for Special Events (as Outlined in Section B.1.1)

A calibration procedure for the setup in section B.1.1 is to be followed if a different setup is to be used. The calibration procedure will be according to the following steps:

1. Ensure all parts of the system are in place and commissioned/tuned as they will be for the show. This includes sub system setup, arrays setup, balance between low and high elements, delay towers, etc. In essence, all frequency and delay settings should be in place. Additionally, all monitoring system should be setup on stage as close as the final setup as possible.
2. Ensure the FOH measurement system is setup and calibrated. This will be used to setup levels at the FOH location.
3. Select a test signal. An important point in the selection of the signal is that it correctly represents the frequency spectrum of the content that will be played during the event. Pink noise or a similarly shaped noise signal could be used but it is understood that this type of signal can have high levels of annoyance to the people occupying the Forecourt and vicinity and the residents. A section of music content with adequate frequency content and low dynamics (i.e. steady level) could be used in lieu of noise. We would recommend that a section with continuous levels (e.g. no more than a 4 dB crest factor) is looped for the duration of the tests.
4. Set a handheld logger at the residential area (typically, 1 Macquarie Street). Test the signal and ensure that the measured levels are above the existing background levels. A higher output than usual could be used for a reduced time if the noise is too high while keeping the measurements to less than 2 minutes.
5. Set the levels at the FOH mixing desk so that the readings at the residential area equal 80 dB(C) when measured as an $L_{eq-1min}$ ¹. It has been found that A-weighted levels are usually impossible to measure with the existing background noise. The levels measured at FOH for the 1 minute measurement are to be setup as the $L_{eq-5min}$ target. It should be ensured that the levels are verified with a 1 minute measurement after it has been setup.
6. We recommend that the A-weighted levels are set 10 dB lower than the C-weighted levels to provide adequate musical balance.
7. If the existing background noise is too high, a higher level can be used and then subtracted. For example, set the levels to measure 85 dB(C) and then subtract 5 from the FOH measurement.

¹ The $L_{eq-1min}$ 80 dB(C) level has been derived from the studies conducted when developing this sound management plan. It was found that when aiming to limit levels at this location to an L_{max} of 90 dB(C) (prior DA condition) the typical maximum L_{eq} would correspond to 80 dB(C). Thus, this sound management plan aims to provide a similar output level at the residences.

We recommend that this procedure is carried out with the supervision of an independent party and included as part of the required sound system certification.

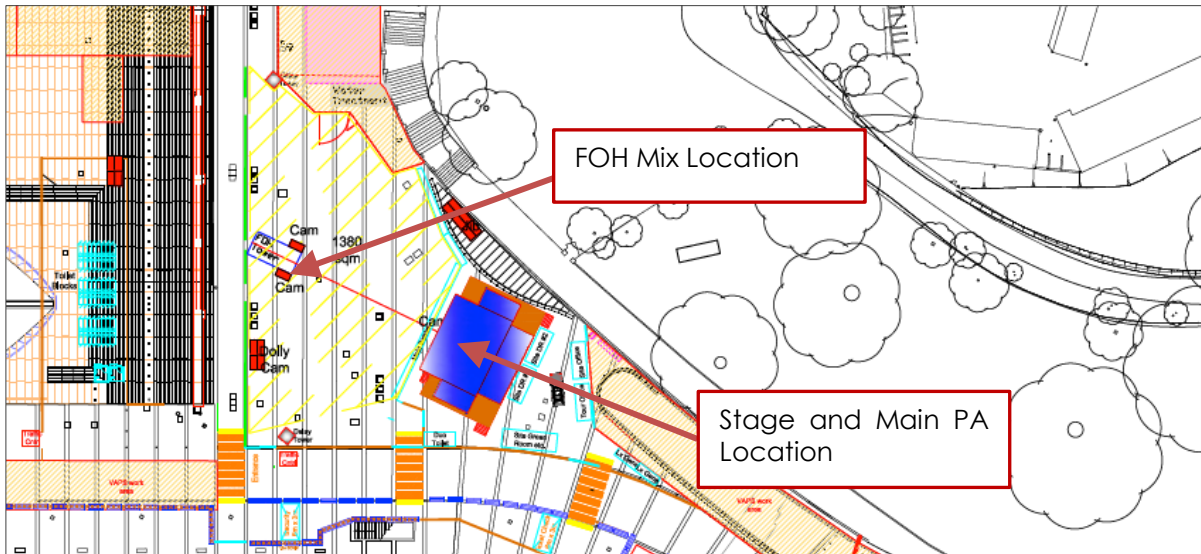
An indicative table based on the event layout and measurements conducted for the Barrabuwari event during April, 2021 using the configuration shown in section B.1.1 is included below. The FOH tent in that case was 20 m from the edge of the stage. The limits set for that event were 95 dB (A) and 105 dB(C). We recommend using this table as a guideline and still using the recommended calibration procedure.

Distance (m)	Adjustment (dB)
10	6
15	2.5
20	0
25	-1.9
30	-3.5
35	-4.9
40	-6
45	-7
50	-8

B.4 Event Configurations – Stage and Front of House Location

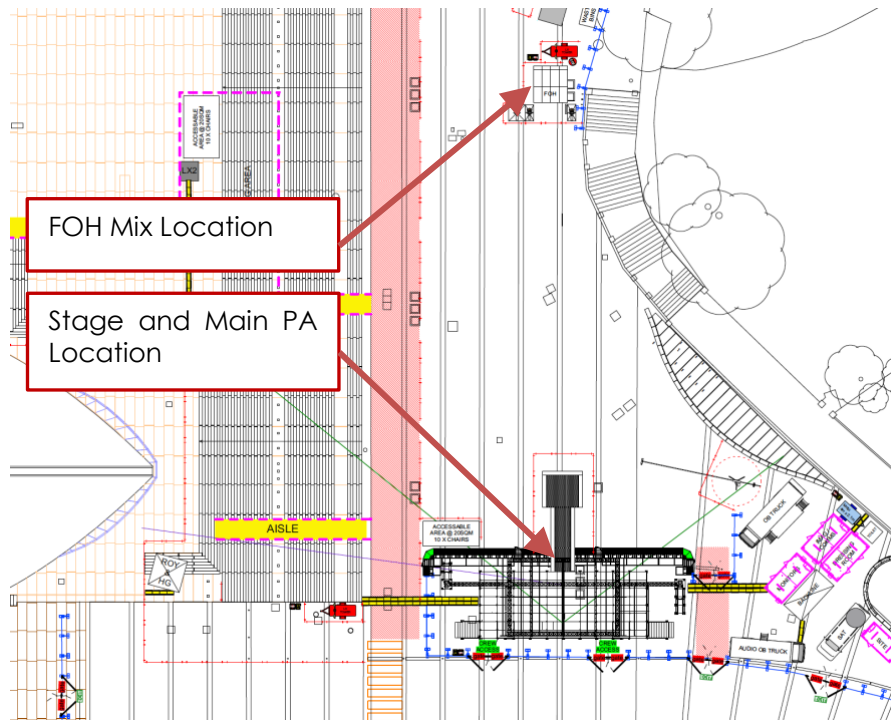
B.4.1 Typical Large Events Configuration

The figure below shows the typical FOH and stage location used for larger events. In this configuration we have identified a FOH location as shown below with an additional FOH location located on the first few steps of the monumental stairs. The main focus of the recommendations in the later sections of this sound plan are specifically placed on events where the stage is located at the location shown in the figure below. This is due to the higher permissible output for this configuration.



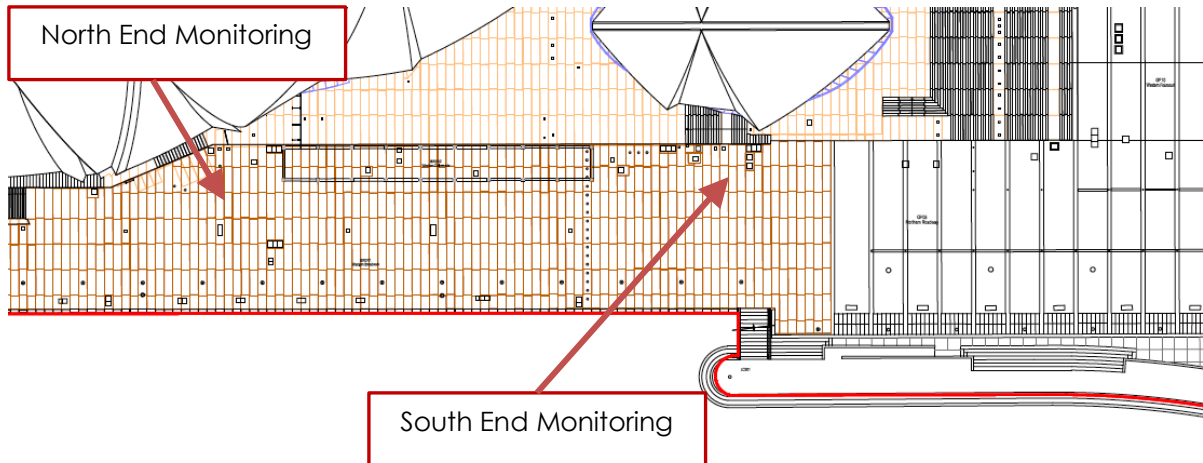
B.4.2 Australia Day Configuration

Events that are televised and/or benefit from the inclusion of the Harbour Bridge as a backdrop, generally use the configuration shown below. This was named the 'Australia Day configuration' as it was historically used for the major Australia Day concert. However, Australia Day events may also use the typical Forecourt configuration and other events may use the Australia Day configuration.



B.4.3 Western Broadwalk Configuration

The western Broadwalk does not have a typical layout in terms of FOH and audience area. The logging locations are shown in the figure below.



B.5 Mitigation Strategies

The strategies presented in this section are intended for events under the typical large events configuration with the configuration shown in section B.4.1. This is due to the higher output systems used in this configuration, the larger permissible output and the stage configuration. The combination of these present higher risk of higher sound levels at the Macquarie Street residences.

Depending on the specifics and nature of each performance a range of mitigation strategies are presented below as options.

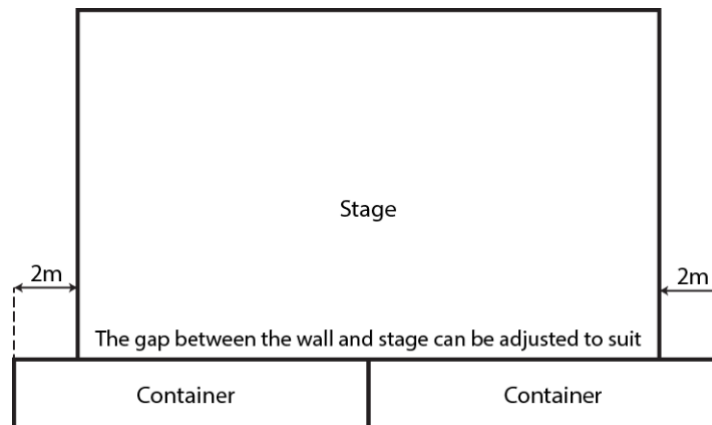
B.5.1 Container Wall Sound Barrier

The stage sound sources are a noticeable contributor of levels at the nearby residents. A container wall can be placed behind the stage as a mitigation strategy when instruments and monitors are placed on stage.

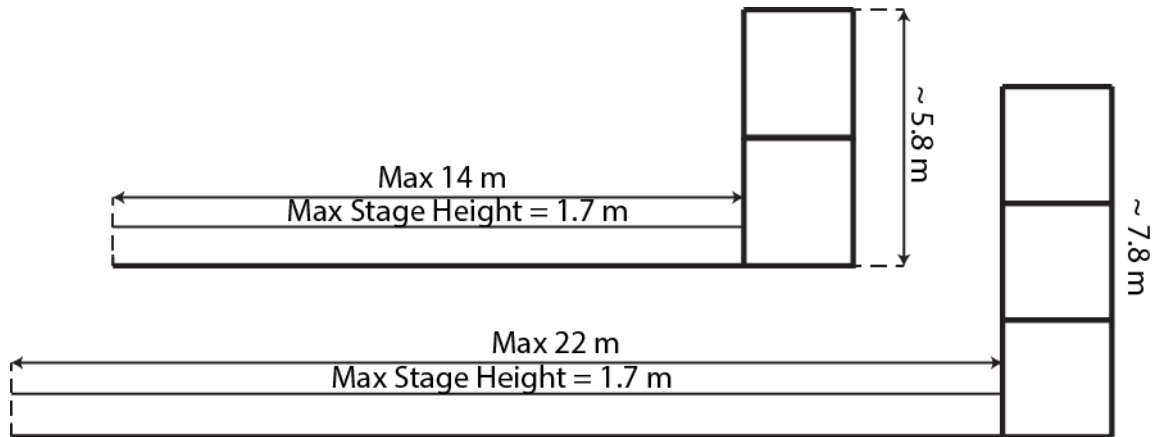
A container wall shall be installed when feasible and reasonable to block line of sight between the front edge of the stage and nearby residences.

The container wall would ideally observe the following guidelines:

- The container wall would preferably overhang the stage by 2 m on each side as shown in the indicative plan view figure below. As an example, if the typical stage is 20 m wide, two 40' (12.192 m) containers can be arranged on their sides to provide the adequate attenuation.



- The container wall would preferably be as tall as to impede direct line from the lip of the stage to the residences. This is a direct result of the placement of the wall in relationship to the stage. For a maximum total depth of 14 m including the stage and the gap between stage and container wall, we recommend a minimum height of 5.78 m (equal to two high cube containers). For stages longer than 14 m we recommend a minimum height of 7.8 m (equal to three standard containers) to a maximum stage depth of 22 m.



- All the containers shall be appropriately stacked using their coupling holes to minimise gaps between containers. The inclusion of small gaps between containers has been included in modelling transmission loss through the container wall. However, these should be kept to a minimum with appropriate stacking practices.
- To minimise break in noise and break out from containers, any container used would have only one door if feasible.
- If practical, we recommend that any structure used as a roof on stage (e.g. tarp) to be fixed to the container wall, sealing the stage at the top of the containers. This would allow for additional attenuation over the container barrier.

B.5.2 Loudspeaker System Design Alternatives

B.5.2.1 Main System

The main system is one of the main contributors of sound at the residences. We have conducted an analysis to aid organisers in understanding the maximum achievable levels with different commercially available rental loudspeaker systems. It should be noted that this advice is only relevant when the stage is at the typical location.

All systems have a different frequency dependent polar pattern that dictates the difference between sound directed to the front, and sound radiating from the back of the loudspeaker. We have performed an acoustic analysis of different commercially available loudspeaker systems taking into account their polar characteristics. The following table provides an indicative level difference between systems taking into account their proprietary sub bass systems and equal output from sources on stage. The table expresses the level difference as the projected maximum levels at FOH when producing the same level at the residents' locations.

It should be noted that this table is indicative and the overall output can change depending on sources on stage and additional noise sources on the day. **This table is only intended as a comparison between systems and not as an overall predictor of maximum permissible levels at FOH. The maximum level is based on the recommendations included in this document.**

Make	Configuration	Equivalent Level at Measurement Pos.	Predicted level at FOH
L`Acoustics	10 x K1	L _{Ceq-5min} 86 dB	L _{Ceq-5min} 104 dB
L`Acoustics	12 x K2	L _{Ceq-5min} 86 dB	L _{Ceq-5min} 103 dB
L`Acoustics	10 x VDOSC	L _{Ceq-5min} 86 dB	L _{Ceq-5min} 102 dB
L`Acoustics	15 x KUDO	L _{Ceq-5min} 86 dB	L _{Ceq-5min} 101 dB
d&b	12 x J-Series	L _{Ceq-5min} 86 dB	L _{Ceq-5min} 101 dB
Meyer	16 x MILO	L _{Ceq-5min} 86 dB	L _{Ceq-5min} 99 dB

It is important to note, that only the level limit at the typical measurement location is to be used to regulate sound levels, the level available at FOH is provided here simply as a guide.

B.5.2.2 Subwoofers

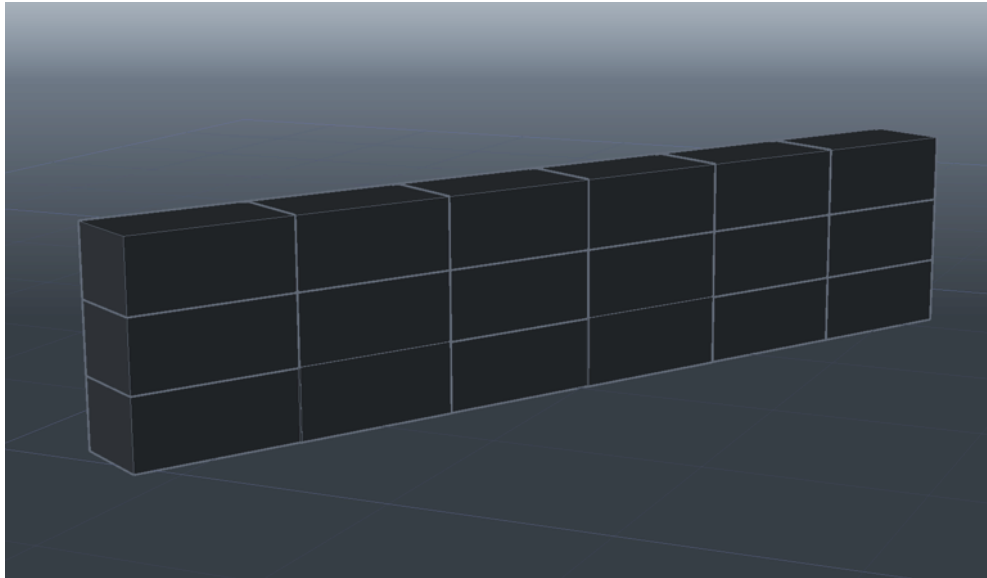
The ground stacked subwoofer system methodology is recommended to provide consistent coverage of the audience area and reduce the risk of exceeding the level limits due to beaming or poor pattern control. The subwoofer system deployed for a Forecourt concert is to be deployed in a cardioid configuration to cancel the energy behind the array in the direction of 1 Macquarie Street.

We further suggest that the subwoofer system be built as a horizontal line array to provide horizontal pattern control and deliver a more consistent coverage throughout the audience area.

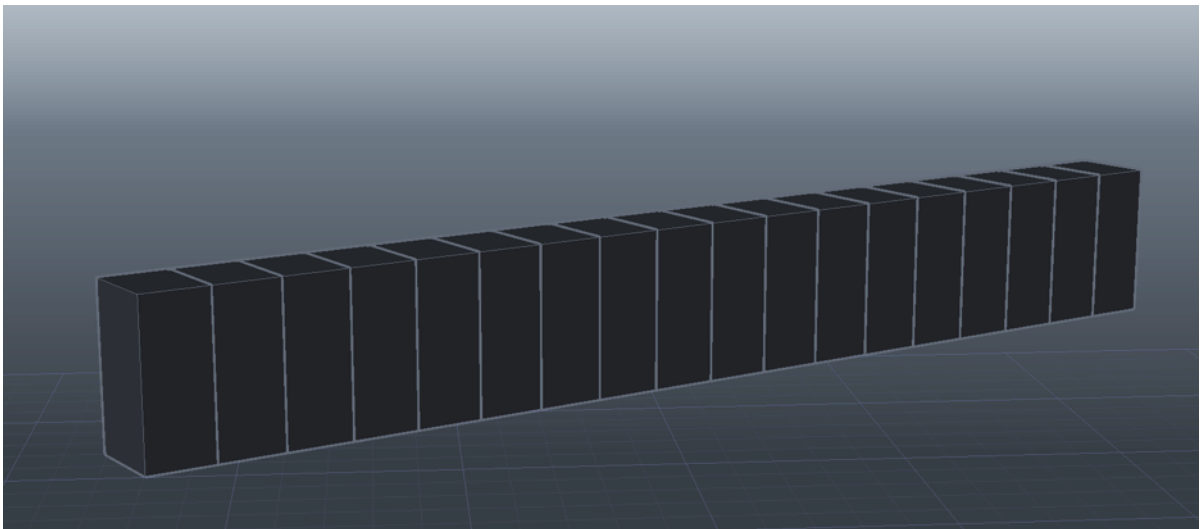
Indicative system configurations are provided to communicate design intent only and are not given as mandatory for a Forecourt event. The stage layout, stage height, audience area, music style and many other factors are significant in the design of a subwoofer array for a Forecourt event.

All indicative designs are presented using generic boxes indicating subwoofers.

The first indicative design is a single block of 18 subwoofers as shown in the image below. As an example, the bottom row of subs would be reversed to enable cardioid operation if using L`Acoustics products or configured as cardioid if using d&b products.

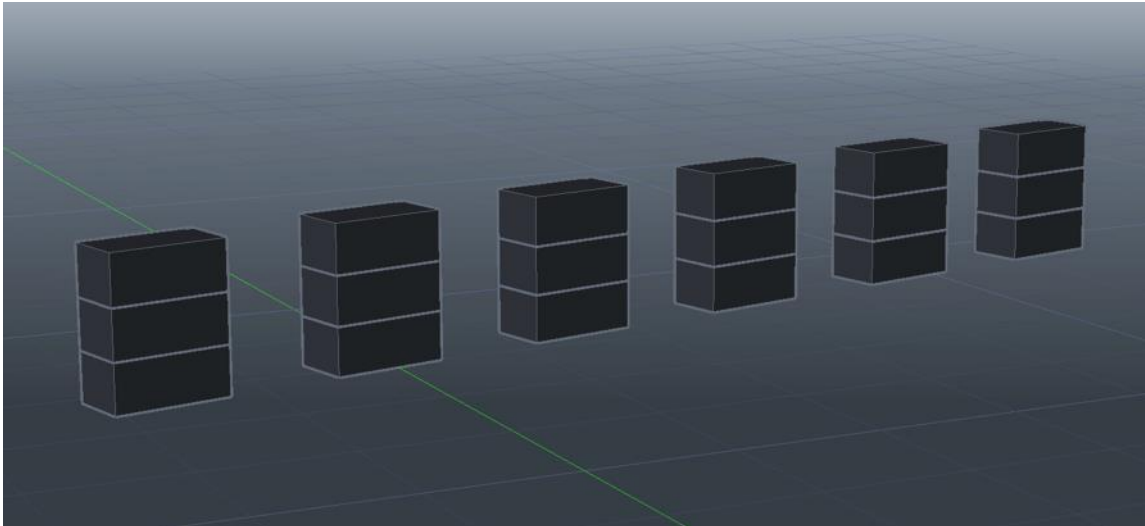


The second indicative design, pictured below, uses the same quantity of subwoofers, arranged in a single block on-end as would be required for a lower stage height. In this arrangement sub numbers 3, 4, 9, 10, 15 and 16 are reversed for cardioid operation if using an L'Acoustics product or configured as cardioid if using d&b products.



These first two options are very fast to deploy and have little room for error, however require usage of a large area directly in front of the stage which may not suit if a catwalk is part of the stage design.

The final indicative design breaks the subs up into smaller columns at regular spacing to provide a gap between columns as shown in the image below. This array also uses 18 subwoofers in six stacks of three with the bottom unit reversed for cardioid operation if using an L'Acoustics product or configured as cardioid if using d&b products.



This is an option that can work but requires additional modelling by the supplier to customise the overall width. The size of the gaps between stacks should be designed to meet the requirements of the stage build. Once the array size is known, modelling must be used to determine the time-domain processing of the array to deliver even sound pressure level throughout the audience area.

Both L`Acoustics and d&b have well established and highly effective cardioid programs in their proprietary amplifier platforms that make deploying a well-designed subwoofer array far simpler than in the past.

B.5.2.3 Delay Systems

Delay systems following typical configurations for audience coverage at the forecourt do not pose a noise risk. This assessment is based on the configuration of this type of loudspeaker array as used in previous events under the configurations previously described. However, it should be noted that these loudspeakers should not be directed towards the residences at Macquarie Street or Kirribilli under any circumstances.

Given the requirements for the delay towers to be positioned close to the audience, they may be positioned in or near primary view lines to the Sydney Opera House. The Opera House's heritage architect has advised that these structures should not be covered in screening material to enable views through the structure to the podium and sails. This is to minimize the visual impact of arrays, in line with condition 54 of the DA 445-10-2003.

B.5.3 Other Mitigation Strategies

Additional mitigation strategies include:

- Using in ear monitoring when possible if it fits the performance on stage. This could replace the inclusion of container walls as a sound mitigation solution.
- Add baffling to sources on stage such as drums and monitors if adequate for the type of performance.

B.5.4 Other Sources

A Forecourt event requires various overlay services, some of which increase the noise floor on an event day. These sources include generators, truck movements, increased foot traffic and increased local vehicle traffic.

As a general advice, to limit the impact of this type of sources, it is recommended that generators are baffled and where possible fitted with silencers.

It is understood that the SOH has a crowd management plan in place during these events. Crowd management is an effective way of dealing with crowd noise as patrons leave the building.

B.5.5 Bump In/Out Management

Noise from bump in/out activities should be minimised. When measured at the nearest residential receiver, between the hours of 8 am and 12 am, noise from bump in/out activities and noise from temporary plant and equipment should meet the requirements presented in the following table.

Location	$L_{eq\ 15min\ dB(A)}$
Nearest residential receivers (external)	60

B.6 Community Engagement

SOH notifies nearby residents in advance of Forecourt events. Also, as part of the community engagement the SOH provides a hotline on the days of the events. An integral part of the post event reporting includes collecting data from any complaints received through the hotline that relate to noise. These complaints are to be analysed, cross related to measurements and included in the report.

B.6.1 Complaint Response

As part of managing the event impact on the surrounding community, a mobile sound level meter will form part of the noise monitoring system. The response to any noise related complaint on the day will include an in-situ measurement using the mobile sound level meter. The complaint shall be logged along with any data obtained and, if necessary, sound level adjustments shall be communicated to the event's organisers.

B.7 Post Event Reporting

In accordance with condition 45, following the completion of each event (events may include multiple performances), the Sydney Opera House will provide a report to EPA and DPE within 28 days. The report will include the below information.

- An Executive summary including:
 - Whether or not there has been compliance or non-compliance with the permitted hours in the DA for the relevant event, including the reasons for any non-conformance(s);
 - The times and details of any exceedance(s) of the noise level limits in this DA for the relevant event, why the exceedance(s) occurred and what measures were implemented to ensure that the exceedance(s) did not occur; and
 - The number, location and times of any complaints recorded by the Sydney Opera House in accordance with Conditions 35 to 38 of this DA.

- Supporting information including:
 - Date & time of monitoring
 - Activities occurring on land administered on land during monitoring
 - Sound pressure levels recorded including exceedances of noise limits
 - Any other information relevant to the consideration of the noise impact on residents or other sensitive receivers

B.8 Certification

I certify that the specifications in this sound management plan, correctly implemented as documented, will enable an event setup to comply with all noise limits set out in DA 445-10-2003 as modified.



Scott Willsallen M.Des.Sc.Hons
Principal Consultant
Auditoria Pty Ltd



Sydney Opera House - Sound Monitoring Procedure

The following is an outline procedure for monitoring of sound pressure levels (SPL) at the Sydney Opera House for outdoor events deemed to require compliance with:

- SOH Forecourt Sound Management Plan _220817 (SMP)
- Southern Forecourt DA 455-10-2003 and (DA)
- DA 455-10-2003 MOD 4 (MOD)

1. Personnel

The Opera House will appoint an internal Event Manager for each event.

The Opera House Event Manager will appoint a suitably qualified and experienced sound expert to monitor amplified noise for all events. They in turn will appoint an SPL Engineer for each event.

The Artist will provide an Audio Operator for each event.

2. Responsible Person

The SPL Engineer and Audio Operator will operate under the authority of and report to the Opera House appointed Event Manager.

All communication about sound processes, reporting and breaches will be through and with the Event Manager or their delegate. The Event Manager shall be responsible for any enforcement of SPL levels or limits, however the SPL Engineer is responsible to ensure the Event Manager is fully briefed at all times.

Communication between the SPL Engineer and the Event Manager will be either through an agreed channel on the Event Radios or by Mobile phone. Both personnel will ensure that phone numbers are exchanged prior to the event, and that contact is made upon arrival of the SPL Engineer on site.

3. Equipment Details

Compliance with these documents requires monitoring of sound pressure levels at:

- FOH Mix Location for all Southern Forecourt events (Refer SMP B.4.1 and B.4.2); or
- The South End and North End monitoring locations for Western Broadwalk Events (Refer SMP B.4.3)

Each monitoring location will be provided with a pair of SPLnet M100 meters, one to monitor and record 'A' levels, and the second to monitor and record 'C' levels.



Each meter will carry a current NATA certified calibration certificate, and will be locally calibrated at installation.

Each meter will capture:

- $L_{eq-5min}$ A and C weighted
- L_{fast} A and C weighted (with at least 8 data entries per second)
- L_{fast} octave bands (with at least 8 data entries per second)

The meters will be monitored in real time on PC interfaces both at event control and at the FOH position.

Information for all descriptors will be captured for future use and analysis.

In addition, sound monitoring staff will also be able to monitor L_{eq1min} for both A and C descriptors to assist with anticipating a breach and providing early informal warnings to the Audio Operator and the Event Manager.

The SPL Engineer will also have available a hand held Class 1 SPL meter for spot measurements as required.

Additional monitoring tools to supplement use of meters could include a range of contemporary technologies (e.g. smartphone applications for spot monitoring).

4. Communications with Audio Operator

It is imperative that the Audio Operator has read, understood and accepted the SMP prior to the event.

Prior to any Sound Check, the Event Manager shall facilitate a briefing for the Audio Operator with the SPL Engineer to ensure clarity of the levels and processes, including operational training on the displays and text based messaging system. This briefing should be scheduled for a maximum duration of 30 minutes.

During any sound checks and the performance(s), in accordance with the SMP, the SPL Engineer shall give a warning through text based messaging to the Audio operator at:

- 5dB(C) before reaching the limit
- 2dB(C) before reaching the limit
- At any breach

The SPL Engineer will also inform the Event Manager if the latter reached.

The primary means of communication with the Audio Operator during the event will be the text based messaging system that forms part of the SPLnet system. A secondary communications mechanism will be established on an event specific basis. This may be required for escalation or where text messaging proves ineffective. This secondary mechanism may be radio communications with an Audio Assistant or Systems Engineer or other similar process. The secondary communication established for the event will be recorded (e.g. logged) for future reference.



Sydney Opera House - Crowd Management Plan

Ingress of Crowds

For all outdoor events, the Sydney Opera House will develop a specific *Security, Crowd and Emergency Management Plan*. Minimising the impact on neighbours and other event patrons of crowds ingressing and egressing the site is paramount.

The following factors have been identified, which could affect crowd management:

- Ticket holders arriving late or just before the scheduled start time;
- Security bag-check reduces the rate at which people are processed; and
- Security incident which delays loading.

The following strategies will assist to ensure that patron loading has finished by the scheduled event start time.

- Opening gates in sufficient time to reduce crowd queuing (approximately 2hrs before scheduled start time);
- Separate ticket check from security check operations;
- Appropriate number of bag check lanes;
- Allocating lanes based on the input of patrons (i.e. General Admission vs Seated);
- Ensure there are no bottle necks and sufficient entry widths;
- Separate loading points for the Forecourt and Monumental Stairs;
- Express lane;
- Signage that informs patrons of what to expect on approach;
- Support acts to encourage patrons to arrive early; and
- Ticket holder communications.

Patrons are generally queued on the western concourse where a ticket check point will be located for patrons to proceed through security bag check. There will generally be five bag check lanes and one express lane.

The above strategies also ensure that there is limited impact on East Circular Quay and Macquarie street and that queues are kept to a minimum.

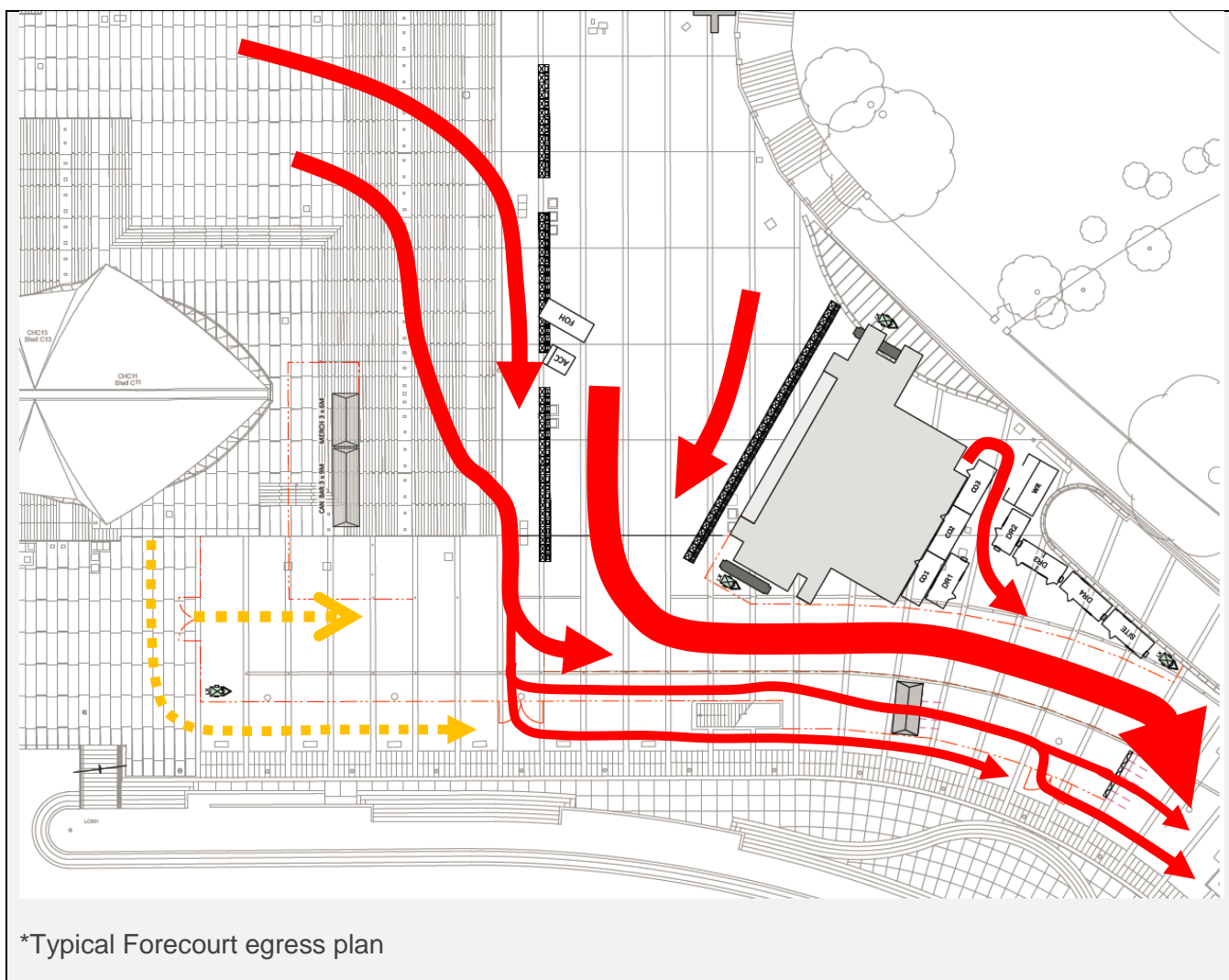
To manage crowds arriving early before gate open time, plans will be put in place to pre-check tickets and undertake security bag checks to move patrons onto SOH land. Patrons will then be held near the event entry point until the event site is ready to be opened. This limits possible queue build up down East Circular Quay.



Egress of Crowds

In order to minimise site impact, event patrons will be exited down the closed Opera House roadway and directed off the roadway just before the gatehouse onto the western concourse. This will ensure that the egress is done in a timely and safe manner. Designated breaks in the fencing along the western concourse will be in place to take pressure off the main roadway. There may also be instances where other Opera House performances are exiting at or around the same time as the outdoor concert is finishing. Those patrons will egress down the western concourse

The Security marquee will have the northern wall opened to allow internal Opera House shows exiting to transit through and maximise usage of the western broadwalk.





In order to minimise impacts on our neighbours and ensure patrons leave the site in an orderly fashion with minimum noise, the following will occur.

Ten minutes prior to egress, Security staff and/or Police will be deployed to the following areas.

- SOH Roadway
- Macquarie Street roundabout
- Macquarie Street up to Albert Street
- East Circular Quay

Key responsibilities for the officers will include:

- Ensure patrons leave the site and continue off site in an orderly fashion;
- Ensure alcohol is not taken outside the licensed area;
- Display signs reminding patrons to keep noise to a minimum
- Manage traffic on Macquarie Street to ensure there are minimal delays;
- Ensure patrons remain on the footpath at all times;
- Monitor and respond to noisy or anti-social behaviour;
- Work closely with NSW Police, City of Sydney, Property NSW and the relevant transport operators (SOH Security Control will notify the relevant stakeholders prior to egress);
- Assist patrons and direct crowd;
- Conduct a final sweep at the end of the night, ensuring all patrons have left and any glass bottles or rubbish left behind are collected and disposed of accordingly; and
- Conduct a final sweep of Macquarie Street, Albert Street and East Circular Quay.



Opera House Policy

Title:	Customer Feedback Policy		
Policy Number:	SOH107		
Effective Date:	2 March 2016	Next Review:	2 March 2018
Authorisation:	Chief Executive Officer		
Authorisation Date:	18 December 2015		
Superseded Policy:	SOH107		
Accountable Director:	Director, Visitor Experiences		
Responsible Officer:	Head of Ticketing Services		

1. CORE PROPOSITION

The Opera House is committed to achieving excellence in customer service through effective management of customer feedback. The Opera House welcomes and values complaints, compliments and suggestions as positive tools for change and to improve visitor experiences.

2. SCOPE

- 2.1 This Policy applies to all Sydney Opera House staff (including permanent, temporary and casual employees), contractors and persons otherwise engaged to undertake work on behalf of the Opera House.
- 2.2 This Policy does not apply to business to business feedback or informal feedback as described below.

3. WHAT IS CUSTOMER FEEDBACK?

- 3.1 Customer feedback is an unsolicited communication received from patrons, visitors and guests, including complaints, compliments and suggestions for improvement. This feedback may be provided face-to-face or via telephone calls, letters, email or the Sydney Opera House website.
- 3.2 Customer feedback does not include:
 - informal feedback (including anecdotal comments and general comments posted on Opera House social media pages) received from patrons, visitors and guests; or
 - business to business feedback (whether solicited or unsolicited) received from suppliers, resident companies, presenting organisations, venue hirers or sponsors. Feedback received from commercial hirers is managed in accordance with the [Feedback and Complaints Handling Guidelines for Commercial Hirers](#).

4. HANDLING AND RESPONDING TO CUSTOMER FEEDBACK

- 4.1 When handling customer feedback, staff should be courteous and helpful. Whenever possible, staff should endeavour to resolve issues that are the subject of feedback at the first point of contact. This may involve direct discussion between the customer and the staff member and an agreed resolution.
- 4.2 Where feedback cannot be dealt with at the first point of contact, the staff member must acknowledge receipt of feedback and refer the feedback to their supervisor or responsible manager as listed on the internal "Referral List" within **24 hours** of receipt of the feedback.
- 4.3 The supervisor or responsible manager must respond and resolve any issues that are the subject of feedback within **5 working days** of receipt of the feedback. If this timeframe cannot be complied with, the supervisor responsible manager must notify the customer **within 5 working days** of receipt of the feedback that additional time is required to respond or resolve the issue.
- 4.4 The Head of Ticketing Services should be contacted for guidance on the content and style of response or if staff are concerned about the sensitive nature of a particular subject matter. In order to ensure consistency and maintain the quality of customer correspondence, where appropriate, written responses will utilise the suite of template responses maintained by the Head of Ticketing Services.
- 4.5 Where appropriate, the supervisor or responsible manager responding to the customer feedback should also notify the relevant business unit in order to raise awareness of customer concerns or suggestions that are being received in relation to that business unit.

5. RECORDING CUSTOMER FEEDBACK

- 5.1 All customer feedback must be recorded as a customer service issue (**CSI**) in the Opera House's customer relationship management system – *Tessitura*. At a minimum, the following information must be recorded:
- the name of the customer;
 - the nature of the feedback (including conduct or practices identified in the feedback);
 - the form of the feedback (for example, face to face, phone, email); and
 - the relevant business unit that the feedback relates to.
- 5.2 Once resolved, CSIs should be "closed" in *Tessitura* within **24 hours** of resolution. A summary of the action taken must be recorded against the CSI prior to closing.
- 5.3 If the content of the customer feedback and/or the response contains sensitive or confidential information (for example, potential legal issues or personal or health information), the accessibility of the CSI in *Tessitura* should be restricted in consultation with the Head of Ticketing Services.

6. REVIEWING AND REPORTING ON CUSTOMER FEEDBACK

- 6.1 All customer feedback will be reviewed by the Head of Ticketing Services on a regular basis to:
- ensure that suggestions and actions are implemented and that issues are resolved in an appropriate manner;
 - maintain the consistency and quality of customer correspondence;
 - collate information on the nature, scale and frequency of issues important to Opera House customers; and
 - enable improved reporting of customer feedback across the organisation.
- 6.2 The Head of Ticketing Services will prepare a report summarising the nature, scale and frequency of issues that are the subject of feedback. This report will be circulated to the Executive Team and responsible managers every two months.

7. RESPONSIBILITIES

Staff

- 7.1 All staff have a responsibility to comply with this Policy.

Host Team

- 7.2 The Host Team is responsible for:
- monitoring all online customer feedback received via the "Contact Us" page on the Opera House website or via email to infodesk@sydneyoperahouse.com;
 - assigning feedback to the responsible manager for action using the internal Referral List to; and
 - supporting the Head of Ticketing Services in the overall management of customer feedback.

Head of Ticketing Services

- 7.3 The Head of Ticketing Services is responsible for:
- overall management of customer feedback (including maintaining template responses);
 - maintaining the Referral List;
 - oversight of CSI recording and development in *Tessitura*; and
 - reporting to the Executive Team in relation to customer feedback.

8. SUPPORTING DOCUMENTS AND RELEVANT LEGISLATION

Sydney Opera House *Customer First Commitment Statement*

APPROVED



Chief Executive Officer

Date: 18 December 2015

Sydney Opera House

NOISE MANAGEMENT SUB-PLAN Southern Forecourt and Monumental Steps

EVENT:

Live Nation – On The Steps series
23 November – 12 December 2024

ARTISTS:

- **Glass Animals**
- **Troye Sivan**
- **Tones & I**
- **Missy Higgins**
- **Crowded House**
- **Two Door Cinema Club and Declan McKenna**
- **Tina Arena and Richard Marx**
- **Brooke Fraser with the SSO**





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1 EVENT OVERVIEW AND CONTACTS

1.1 Hirer

- Live Nation Australia

1.2 Event Schedule

Date	Activity	Performance	Time
Sat 23 Nov	Event Bump-in		Between 8am – 10pm
Sun 24 Nov	Event Bump-in		Between 8am – 11.59pm
Mon 25 Nov	Event Bump-in		Between 8am – 11.59pm
Tue 26 Nov	Performance	Glass Animals	GA Gates Open 6pm, finish 10.00pm
Wed 27 Nov	Performance	Glass Animals	GA Gates Open 6pm, finish 10.00pm
Thu 28 Nov	Performance	Troye Sivan	GA Gates Open 6pm, finish 10.00pm
Fri 29 Nov	Performance	Troye Sivan	GA Gates Open 6pm, finish 10.00pm
Sat 30 Nov	Performance	Tones & I	GA Gates Open 5pm, finish 10.00pm
Sun 1 Dec	Performance	Missy Higgins	GA Gates Open 5pm, finish 10.00pm
Mon 2 Dec	Day Off		
Tue 3 Dec	Day Off		
Wed 4 Dec	Performance	Crowded House	GA Gates Open 6pm, finish 10.00pm
Thu 5 Dec	Performance	Crowded House	GA Gates Open 6pm, finish 10.00pm
Fri 6 Dec	Performance	Two Door Cinema Club and Declan McKenna	GA Gates Open 6pm, finish 10.00pm
Sat 7 Dec	Performance	Crowded House	GA Gates Open 6pm, finish 10.00pm
Sun 8 Dec	Performance	Crowded House	GA Gates Open 6pm, finish 10.00pm
Mon 9 Dec	Performance	Tina Arena and Richard Marx	GA Gates Open 5pm, finish 10.00pm
Tue 10 Dec	Performance	Brooke Fraser	GA Gates Open 6pm, finish 10.00pm
Wed 11 Dec	Event Bump-out		Between 8am – 11.59pm
Thu 12 Dec	Event Bump-out		Between 8am – 11.59pm

*Times subject to change

1.3 Contacts

- External Contacts

Company	Contact	Role	Contact
The P.A. People	Andrew Rodd	Sound Monitoring	(02) 8755 8761
Auditoria	Luis Miranda	Acoustic Consultant	0406 659 770
Live Nation	Kate Elrington	Project Manager	0421 844 702



- SOH Contacts

Company	Contact	Role	Contact
SOH	Conor Farrell	General Manager, Event Operations	0432 830 526
SOH	Rande Kamolz	Production Manager	02 9250 7214
SOH	Marie Sherrard	Account Manager	02 9250 7667
SOH	John Lomax	Head of SOH EPRG	0414 185 489

1.4 Persons in Control of Noise

Sydney Opera House Trust retains ultimate control of the noise level, as required under condition 18 of the DA.

For the purposes of conditions 19 and 20, 29 and 30 of the DA, the person who is able to exercise ultimate control of the noise levels from the sound amplification equipment during the Event, who will be contactable throughout the Event is:

Conor Farrell General Manager, Event Operations 0432 830 526

And as a secondary contact;

Rande Kamolz SOH Production Manager 02 9250 7214

In addition, the person who will be present at the sound-mixing desk throughout the Event, who will be contactable throughout the Event is:

SOH Sound AV technician – SOH Radio via Event Control

1.5 Hotline

The following hotline number will be available throughout the Event to receive and pass on complaints to the responsible person:

02 9250 7113



2 BACKGROUND

2.1 Development approval

The development approval (DA 445-10-2003, as modified) for the use of the Forecourt and Monumental Steps for Temporary Events and Functions at the Sydney Opera House (DA) includes, among other things, a requirement that all events and functions are undertaken in accordance with a tailored Noise Management Sub-Plan (Sub-Plan).

This Sub-Plan for the Event (Event Sub-Plan) is consistent with the overarching Draft Sydney Opera House Noise Management Plan for the Carrying out of Outdoor Events and Functions on the Southern Forecourt and Monumental Steps (Noise Management Plan) and the conditions of the DA. It is prepared as required under condition 66 of the DA.

2.2 Attachments

This Event Sub-Plan includes the following attachments:

Schedule 1 SOH Forecourt Sound Management Plan_240621 prepared by Auditoria Pty Ltd

Schedule 2 On The Steps 2024 Audio Plan Proposal by JPJ Audio



3 USE OF QUALIFIED EXPERTS

Each element of this Event Sub-Plan has been prepared by a suitably qualified and experienced expert in the each relevant field.

3.1 Auditoria Pty Ltd

Auditoria Pty Ltd combines a vast record in the performance environment with exceptional technical knowledge in audio and acoustics, supported by the qualifications of their staff, led by Scott Willsallen (M.Des.Sc.Hons) and Luis Miranda (Ph.D), who both hold Masters and Honours degrees in Audio and Acoustics with Luis recently graduating with a Ph.D in Acoustics. This allows them to provide practical solutions based on realistic scenarios balancing the needs of noise sensitive receivers while providing the best experience for patrons. Auditoria has been involved in some of the largest events in the world providing audio consultancy services. Auditoria has also been involved in applying their experience in audio systems to sound management solutions. This includes the successful implementation of sound management plans for the Defqon Festival and Secret Garden Festival

3.2 JPJ Audio Pty Ltd

JPJ Audio, the merged operation of Jands Production Services and Johnston Audio has a history dating back to 1970 when Jands first began providing sound and lighting equipment and expertise for local and overseas entertainers.

Over the last four decades, JPJ Audio has undertaken some of the most innovative and memorable projects in the fields of sound and lighting. In recent years, JPJ has provided audio support for several events in the Forecourt, including Live Nation's on The Steps and Crowded House, Disney Under The Stars, the Concert Series in February 2015 and 2016, Daniel Johns, Roxette, Australia Day 2022, Damon Albarn, The National, and the Bangarra 25th Anniversary.



4 EPA REVIEW

4.1 EPA Review

In accordance with condition 66 of the DA, a draft of this Event Sub-Plan dated 17 November 2024 was provided to the Environment Protection Authority for review.



5 EXPERIENCED EXPERT REVIEW

5.1 Review Installation set up

Installation and orientation of the sound amplification equipment will be undertaken using all practical (reasonable and feasible) measures to limit the emission of noise to areas outside of the Event area including:

- (a) use of diffuse speaker array systems to limit main speaker noise output (i.e. diffuse speaker coverage patterns);
- (b) optimisation of the direction and array of speaker to limit noise propagation to sensitive receivers; and
- (c) treatments to the rear of the stage to limit escape of fold back speaker noise.

In accordance with condition 22 of the DA, Auditoria Pty Ltd has been engaged for the purpose of certifying the installation. The certification will take place on site between 12pm and 8pm on Monday 25 November 2024.

5.2 Noise Levels

Condition 42 imposes the following limits, as measured at the Front of House (as adjusted for FOH at 23 metres from stage):

- Leq(5minutes) dB(A) 97.2; and
- Leq(5minutes) dB(C) 107.2

Sydney Opera House intends to enact condition 43 and end the concerts at 10pm in order to benefit from the increase of up to 5 dB permitted under condition 43. This decision relates to a longer run of events and an agreed earlier finish for nearby residents. However, given the inevitable variations in sound levels during a concert, temporary fluctuations above these levels are unavoidable unless such low limits were set as to make it impossible to achieve a reasonable patron experience. Accordingly, some tolerances (for example, up to 2dB) for temporary fluctuations would be consistent with the purpose and intention of the conditions.



6 AUDIO OVERVIEW & DESIGN

In accordance with condition 66(b) of the DA and consistent with the overarching Noise Management Plan, the following arrangements are in place for the Event.

6.1 Noise Management Arrangements

Schedule References are references to the overarching Noise Management Plan.

Schedule Reference	Requirements	Event Compliance
Schedule 1 B.5.2	Speaker arrangement	Refer to the Schedule JPJ - - Addendum
Schedule 1 B.4.1	Stage configuration	Complies with Typical Large Events Configuration Refer to the Schedule JPJ - Addendum
Schedule 1 B.1, B.2, B.4 Schedule 2, page 2	Front of House location	23m metres from FOH to the stage
Schedule 1 B.1, B.2 Schedule 2	Noise limits and goals for events	Leq 5min dB(A) = 102.2 Leq 5min dB(C) = 112.2 Adjusted under B.2 An increase will be applied under Condition 43 of the DA.
Schedule 1 B.5	Minimisation measures	Container wall at back of stage Loudspeaker system Refer to the Schedule JPJ - - Addendum
Schedule 1 B.3 & Schedule 2	Early warning and reactive management system	Event will be noise monitored by The PA People in accordance with Noise Management Plan
Schedule 1 B.5.5	Bump in and Bump out	To be monitored in accordance with Noise Management Plan

1. The Event Audio Plan contains the stage plan for the Event, including the FOH mixing desk location and all controls to be implemented to ensure compliance with the noise limits under the DA, as required under condition 66 (b) of the DA.
2. The Event Audio Plan contains the detailed equipment list, acoustic simulation of the speaker output and demonstrates compliance with the overarching Noise Management Plan.
3. The Opera Exemptions in condition 67 do not apply to this event.



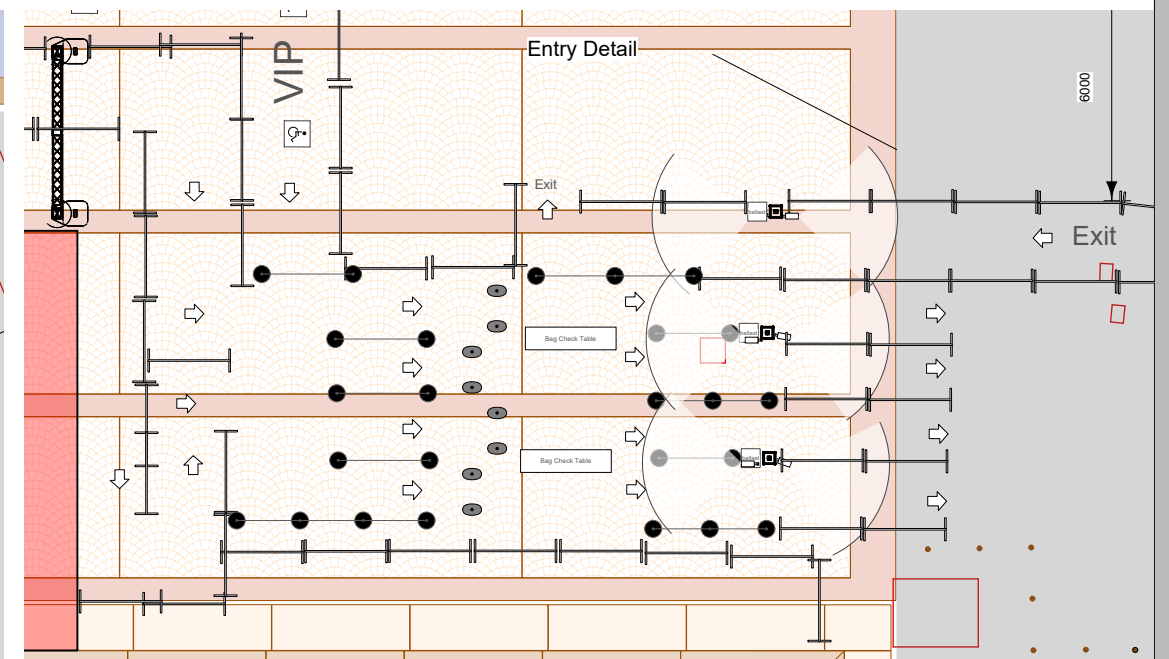
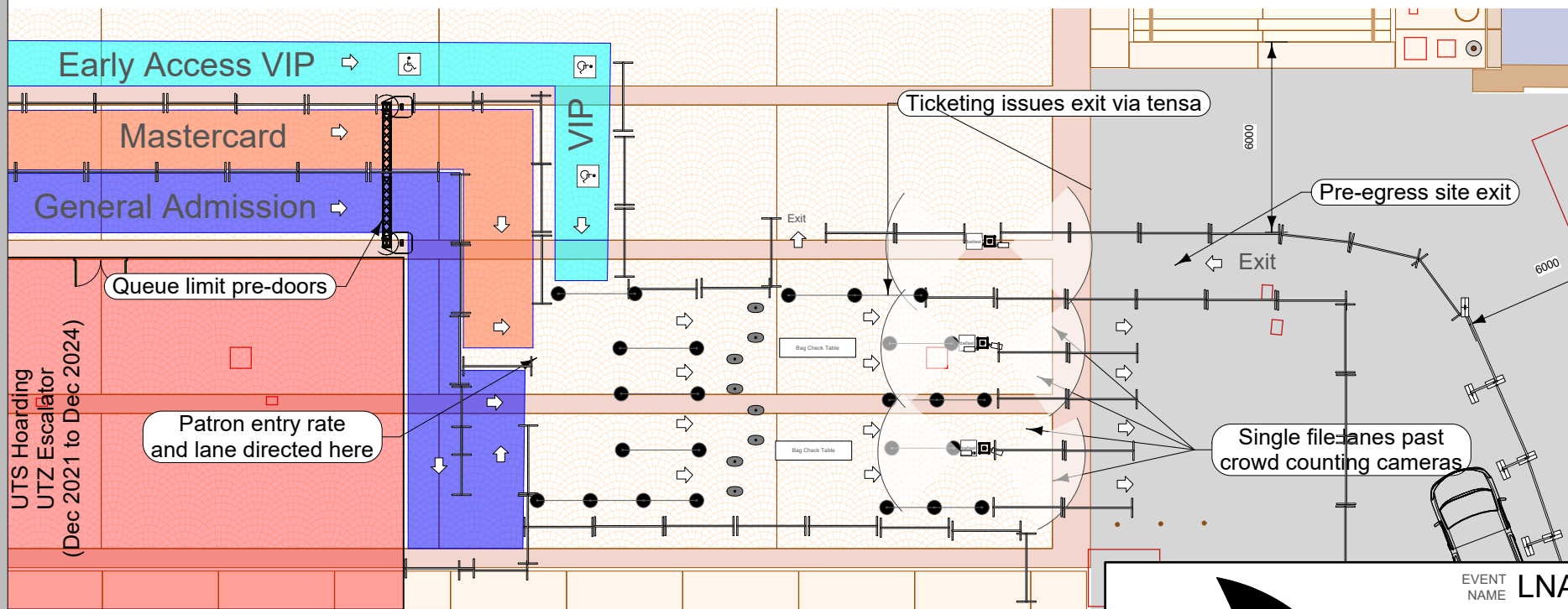
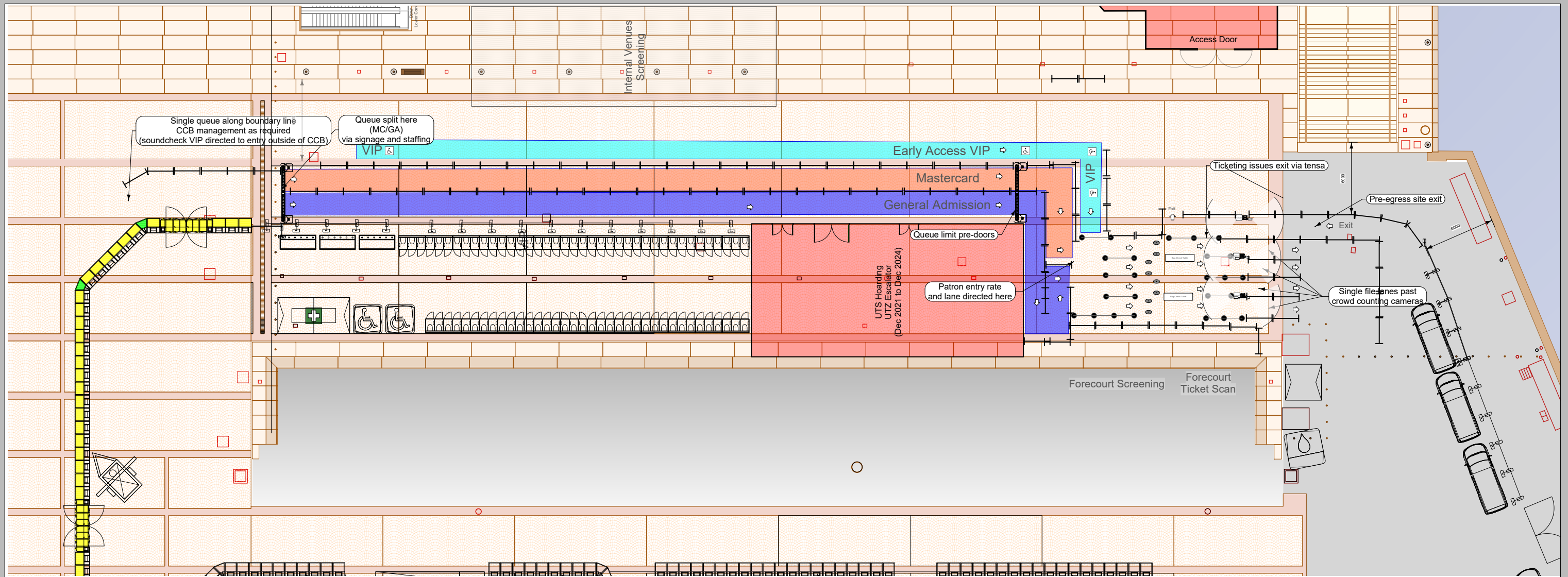
7 CERTIFICATION

The appointed experts have confirmed that the Event set up has the ability to comply with all noise limits in the DA.



ADDENDUMS and SUPPORTING DOCUMENTS

- SOH Site Plan – Live Nation On The Steps 2024
- JPJ Audio Implementation Schedule



EVENT NAME **LNA - On The Steps**
 DRAWING TITLE **Covered Concourse Screening**
 VENUE **Under The Steps**
 EBMS ID #
 DRAWN BY **R. Kamolz**
 FILE LOCATION SOH Event Plan - FCT - LNA 2024 Site_rkamolz_Cloud v2025.vwx

NOTES:
 Updates: Hoarding removed. Screening under Covered Concourse. This plan assumes MC package requires additional lane.

EVENT DATE **2024**
 SHEET # **20** OF **15**
 SCALE **AS NOTED**
 VERSION **V4**
 UPDATED **22/11/2024**



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Live Nation Australasia
Attn. Kate Elrington
Bennelong Point
GPO Box 4274
Sydney, NSW, 2001

9th October 2024

Dear Kate,

Thank-you for the opportunity to provide the Live Nation Australasia with an audio solution for the series of shows on the Sydney Opera House Forecourt during November and December 2024.

With our considerable experience with these types of events and our extensive contacts within the Australian industry, we would be excited to be involved in the Sydney Opera House Forecourt Events again. We feel we are in a strong position to be able to offer a complete audio solution to suit the proposed artists, including local staff and technical expertise as well as the most current audio inventory available in today's market.

In recent years, JPJ has provided audio support for several events in the Forecourt, including Live Nation's on The Steps and Crowded House, Disney Under The Stars, the Concert Series in February 2015 and 2016, Daniel Johns, Roxette, Australia Day 2022, Damon Albarn, The National, and the Bangarra 25th Anniversary.

Based on our experience in this space with these and many other previous events, we have elected to design a system around the L-Acoustics K2 and K1 Line Source Array Enclosures. This system design is consistent with the Forecourt Events Sound Management Plan. For further details, please refer to pages 2–8 of this document.

L'Acoustics offer an Acoustical Simulation Program (SOUNDVISION), developed for sound designers. SOUNDVISION is dedicated to the acoustical and mechanical simulation of L-Acoustics systems (WST Line Arrays, Sub Arrays and Coaxial point source technologies). Benefiting from L-Acoustics long-term experience in the modelling of acoustic sound sources, SOUNDVISION is the first 3D sound design program capable of operating in real time. SOUNDVISION allows the calculation of sound pressure level (SPL) coverage, SPL Mapping and delay coverage (or mapping) for complex sound systems and venue configurations.

Attached is an equipment list detailing the speaker system and associated items required.

Also included are SOUNDVISION models using on the system design we have provided, based on the space and seating configurations, which illustrate the layout and coverage of the system.

We trust this will provide you with the solution and outcome you require.

If I can be of any further assistance, please feel free to contact me at your convenience.

Best regards,

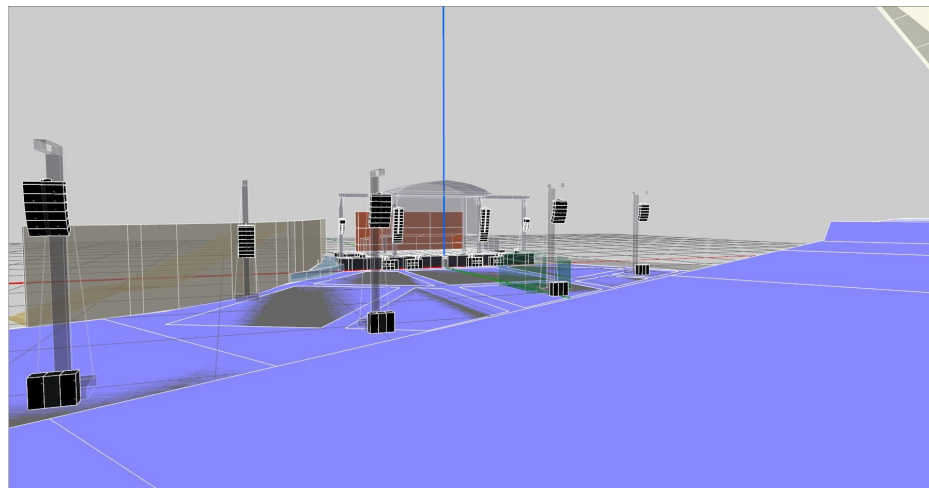
A handwritten signature in black ink, appearing to read 'Mats Frankl', written in a cursive style.

Mats Frankl
Account Manager

Suggested Distributed Audio System

The received proposal for the Music at the House Forecourt season has a total of five delay towers, four to cover the Opera House steps and one to cover the eastern side of the forecourt.

Fig.5. shows the placement of the proposed audio system including the delay towers.



(See page 10 for full size diagram)

Sydney Opera House – Forecourt Events Audio Implementation Proposal

In accordance with the Sydney Opera House *Forecourt Events Sound Management Plan*, JPJ Audio notes the following.

1. Sound Limits & Event Configuration

- JPJ has calculated our proposal on a plan of 23m from Stage to FOH Location, as per the Typical Large Event Configuration (refer SOH FESMP P. 10, B.4.1). The Sound Limits for this stage location would be 102.2dB(A) and 112.2dB(C).

2. Corrections for FOH to Stage Distance

- At a distance of 23m from Stage to FOH Location, correction adjustments will be required as per the table supplied:

Distance (m)	Adjustment (dB)
25	4.1
30	2.5

3. Measurement and Adjustment Methodology

- JPJ will abide by the noise monitoring procedures as laid out in the Sound Management Plan.
- JPJ will follow the schedule supplied by the event organisers which requires a concert finish of 10.00pm.

4. Event Configurations

- See above – this proposal is based on the Typical Large Event Configuration layout.

5. Mitigation Strategies

5.1. Container Wall Barrier

- JPJ Audio recommends the use of the Container Wall as suggested in the Sound Management Plan; a container wall of 60' wide by 25' high will effectively impede the higher sound outputs from the stage.

5.2. Loudspeaker System Design

- The main PA system consists of 8 x L'Acoustics K1 enclosures and 4 x K2 enclosures, per side, flown from the stage Roof structure.
- The side hang PA system consists of 1 x SB18 and 6 x KARA-II enclosures per side flown from the stage roof structure.
- There are two outfills consisting of 2 x A15 WIDE per side. The stage left and stage right outfill are stacked.
- There are four sets of 2 x KARAII stacked across the front of the stage and 1 x KARA-II in the centre, as frontfill. All frontfills and outfills are designed to work in the near-field area.
- There are two blocks of 4 x KS28 sub bass enclosures placed in a cardioid configuration, on each side of the stage.
- 3 x L-Acoustics SB28 sub bass enclosures are placed in a cardioid configuration at each of the 4 x delay towers facing the Opera House steps.
- The Delay system consists of:
 - 4 x systems facing the Opera House steps (D1 – D4). Each of these systems consists of 6 x L-Acoustics K2 enclosures (flown) and 3 x L-Acoustics SB28 enclosures (stacked, as above).
 - The 5th system (D5) covers the eastern side of the forecourt and consists of 8 x L-Acoustics K2 enclosures.
- Please refer to:
 - Fig. 1. Music at the House Forecourt – Back Of Stage
 - Fig. 2. Music at the House Forecourt – Front of Stage
 - Fig. 2A. Music at the House Forecourt – Front of Stage 25m Spec
 - Fig. 3. Music at the House Forecourt – Top View
 - Fig. 4. Music at the House Forecourt – Front of Stage (Mapped)
 - Fig. 5. Music at the House Forecourt – PA Layout
 - Fig. 6. Music at the House Forecourt – Site Map
 - Fig. 7. Music at the House Forecourt – Stage PA

Fig. 1. Music at the House Forecourt – Proposed Back Of Stage

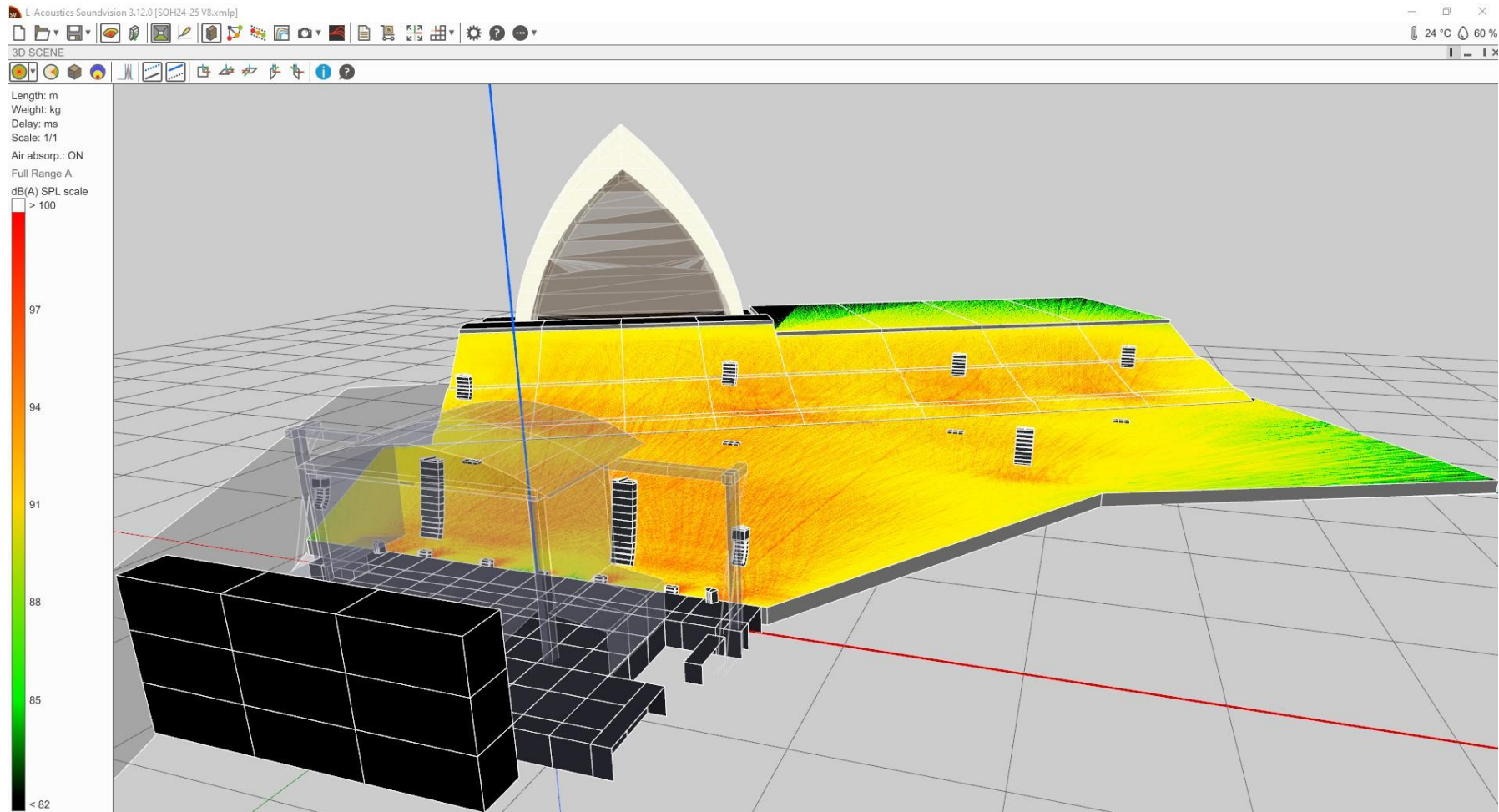


Fig. 2. Music at the House Forecourt – Proposed Front of Stage

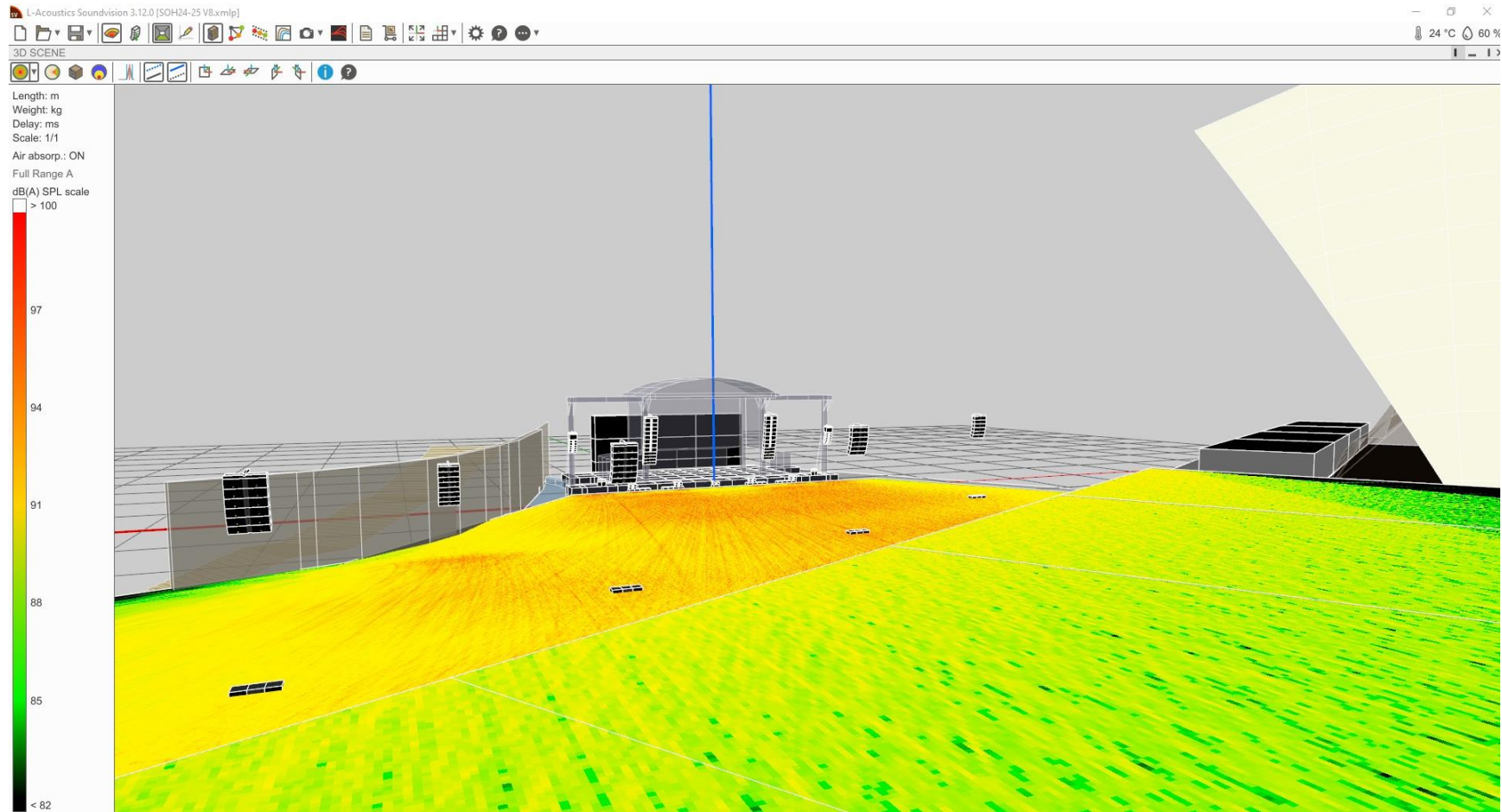


Fig. 2-A. Music at the House Forecourt – Front of Stage 25m Spec

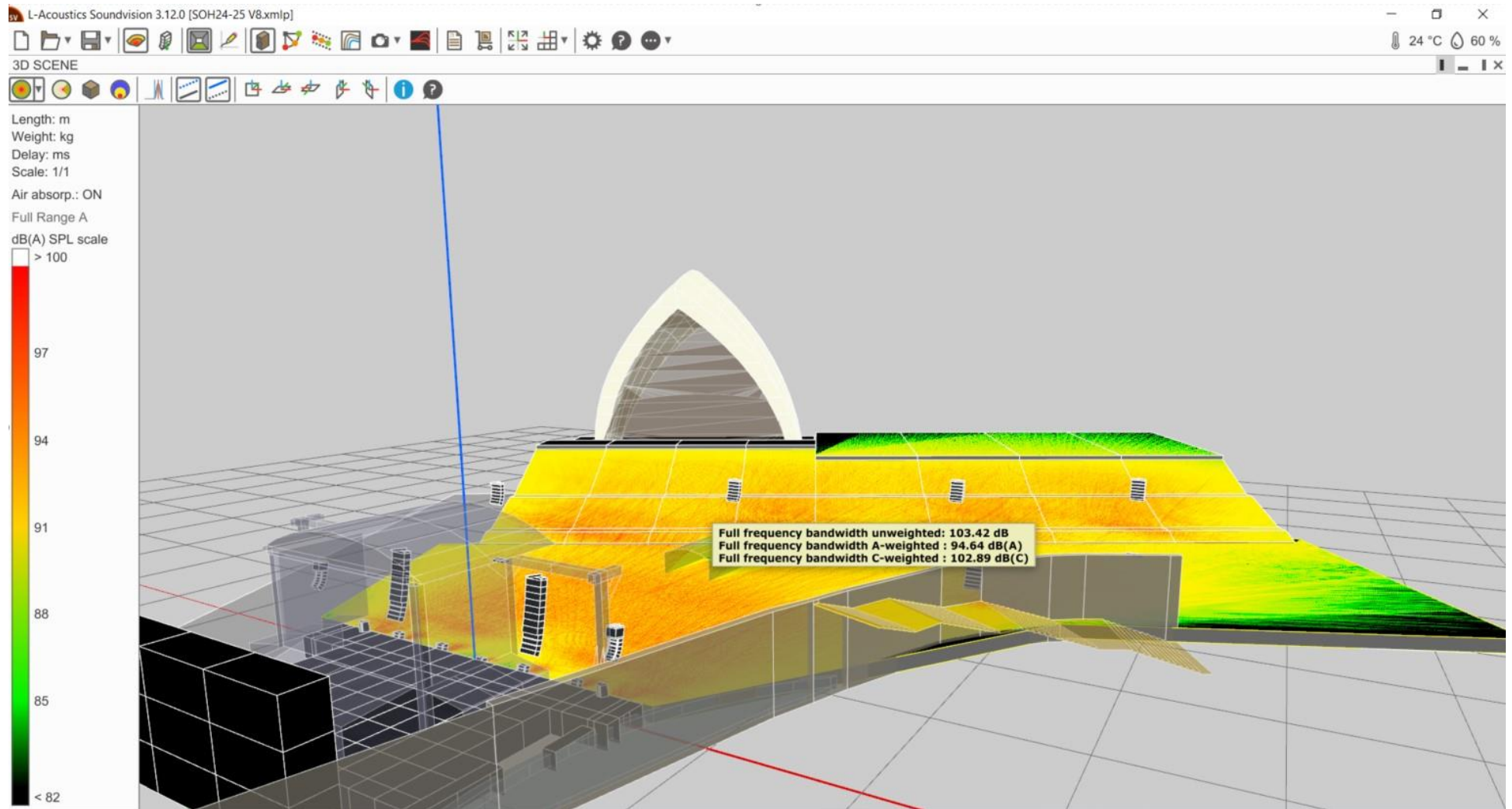


Fig. 3. Music at the House Forecourt – Proposed Top View

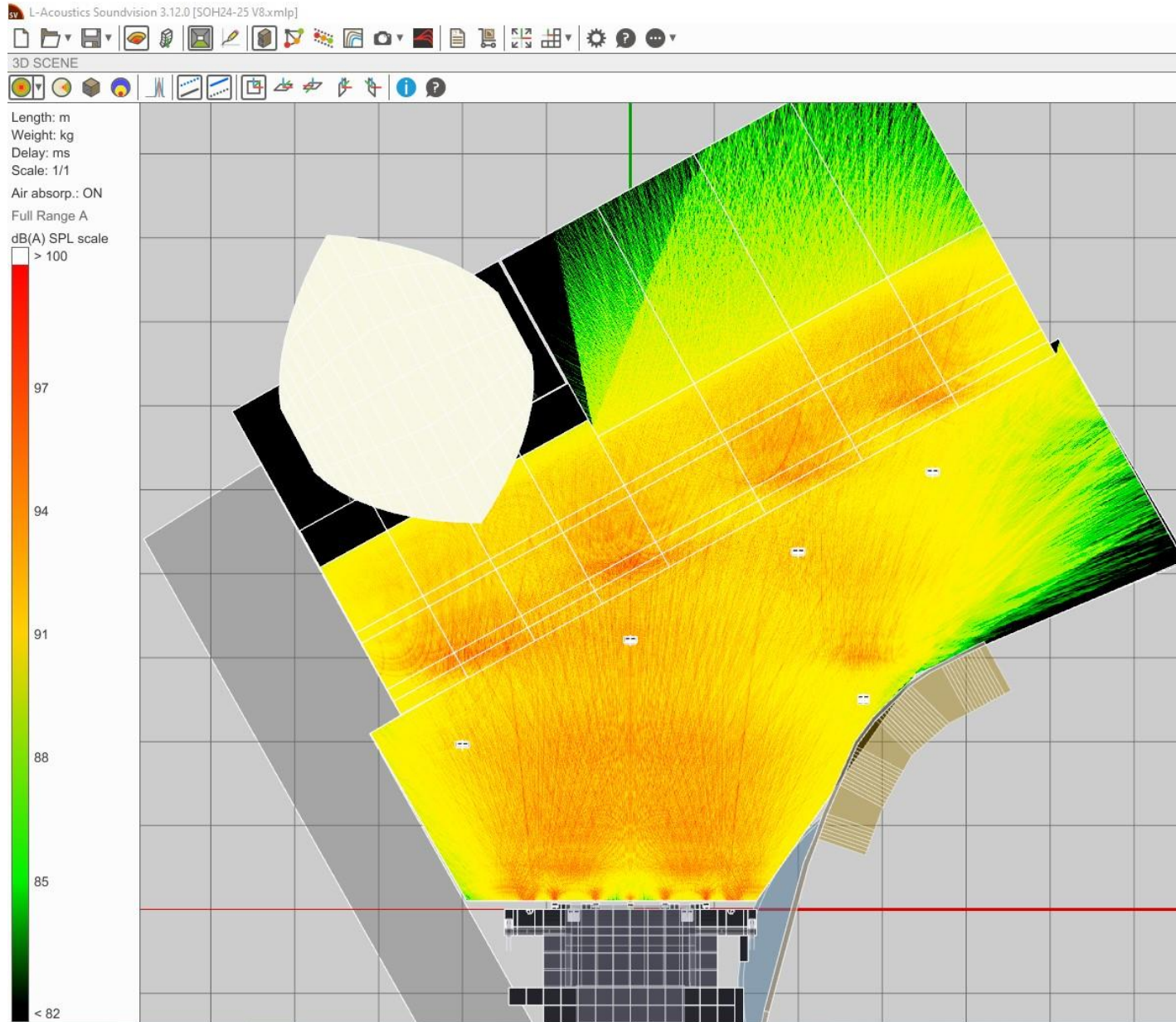


Fig. 4. Music at the House Forecourt – Proposed Front of Stage Mapped

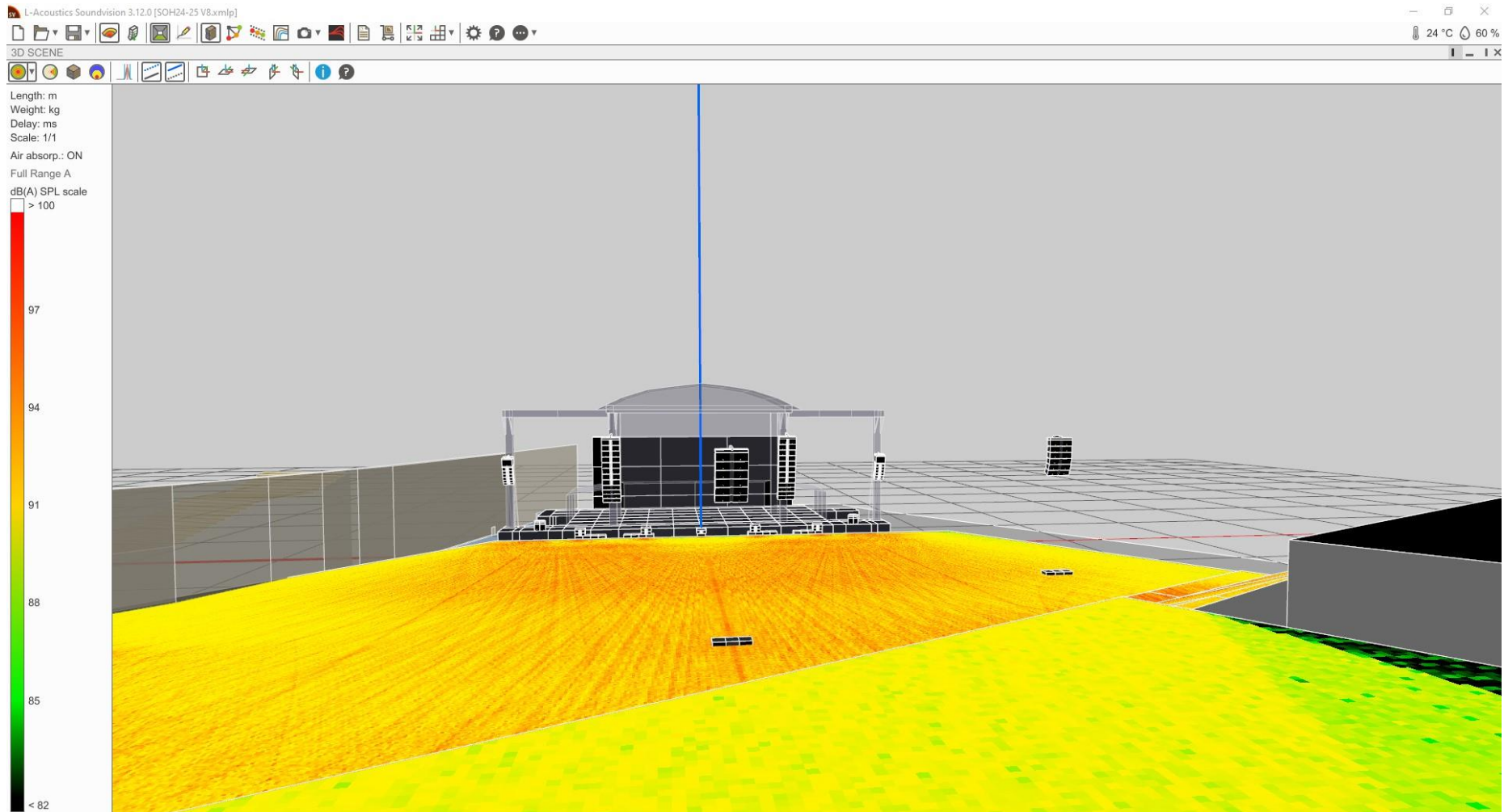


Fig. 5. Music at the House Forecourt – PA Layout

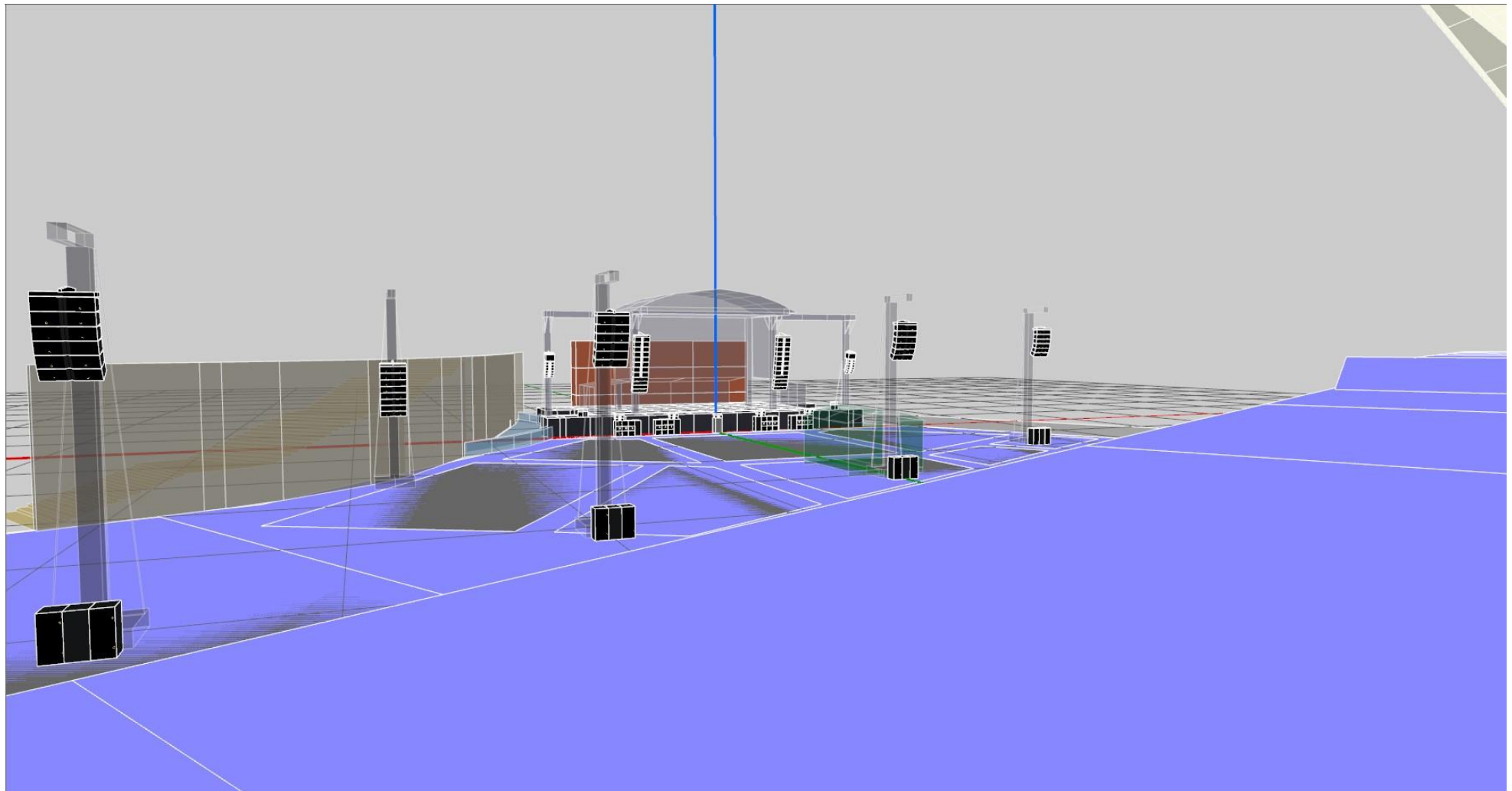


Fig 6. Music at the Forecourt – Site Map

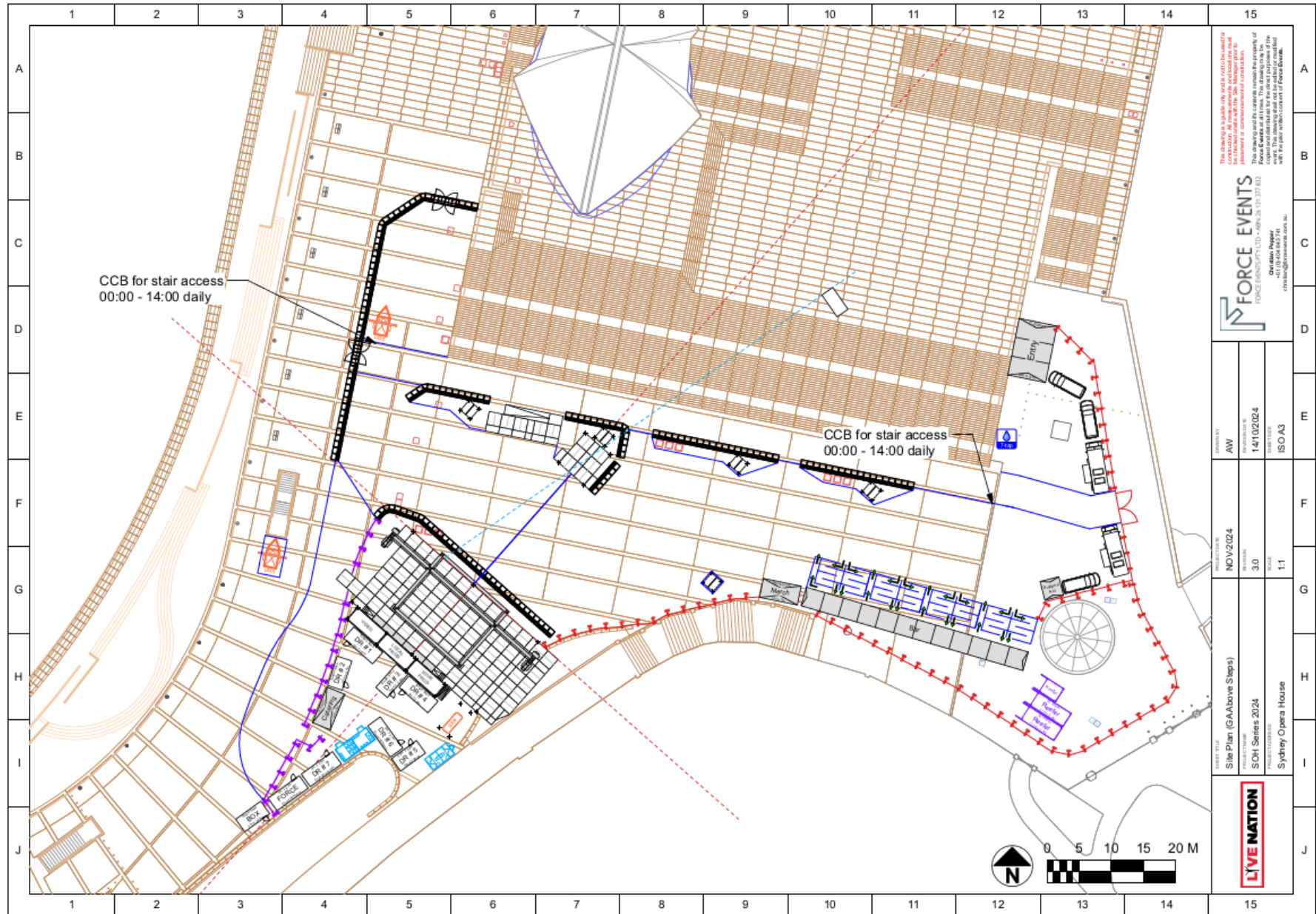
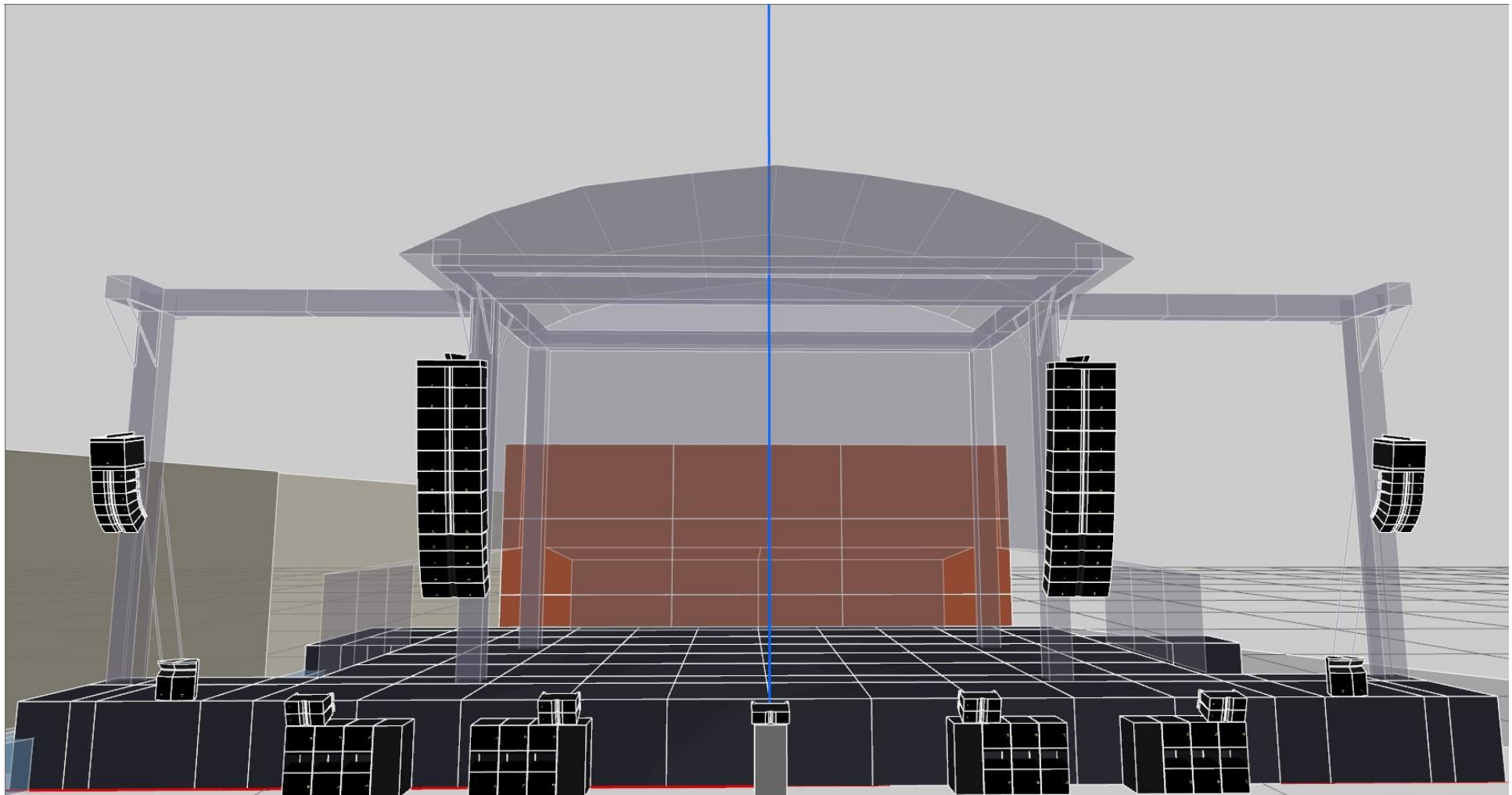


Fig. 7. Music at the House Forecourt - Stage PA



Proposed Equipment List – “Music at the House Forecourt” – Typical Large Event Configuration

	SOH Forecourt Series 2024 - FOH Speakers - Main
16	Enc, L-Acoustics, K1
4	Enc, L-Acoustics, K1-CHARIOT, (4) high dolly (K1/K1-SB)
4	Enc, Cover, L-Acoustics K1-CHARIOTCOV, (4) K1, K1SB
8	Enc, L-Acoustics, K2
2	Enc, L-Acoustics, K2-CHARIOT, (4) high dolly, (K2)
2	Enc, Cover, L-Acoustics K2-CHARIOTCOV, (4) K2
2	Amp rack, PakRak, L-Acoustics, Ca-Com (JPJ)
2	Case, L-Acoustics, MAIN Hang Speaker Cables, 075 ft - 025 m
1	Rig, case, L-Acoustics, BUMP Chariot (2 x K1-BUMP)
	SOH Forecourt Series 2024 - FOH Speakers - Side
12	Enc, L-Acoustics, KARA II
4	Enc, case, (3) L-Acoustics KARA II
2	Enc, L-Acoustics, SB18
2	Case, L-Acoustics, KARA Hang Speaker Cables (No Motor cables)
2	Case, L-Acoustics, KARA Rigging
2	Rig, Cable, Chain Motor, Wieland, 130 ft - 040 m
	SOH Forecourt Series 2024 - FOH Speakers - Subs & Infill
16	Enc, L-Acoustics, KS28
4	Enc, Cover, L-Acoustics KS28-CHARIOTCOV, (3-4) KS28
4	Enc, L-Acoustics, KS28-CHARIOT, (3-4) high dolly (KS28)
9	Enc, L-Acoustics, KARA II
3	Enc, case, (3) L-Acoustics KARA II
4	Enc, L-Acoustics, A15 WIDE
4	Amp Rack, L-Acoustics, LA-RAK II (3x LA12X) AVB
1	Case, L-Acoustics, SUB Cables
1	Case, L-Acoustics, INFILL Speaker Cables
	SOH Forecourt Series 2024 - FOH Speakers - Delays Steps
24	Enc, L-Acoustics, K2
6	Enc, Cover, L-Acoustics K2-CHARIOTCOV, (4) K2
6	Enc, L-Acoustics, K2-CHARIOT, (4) high dolly, (K2)
12	Enc, L-Acoustics, SB28
4	Amp Rack, L-Acoustics, LA-RAK II (3x LA12X) AVB
1	Amp rack, Sleeve, LA12x (1x LA12X) (Spare Amp)
3	Case, Power/Signal Loom, 2 x CEE 32A, 50m
2	Case, L-Acoustics, SIDE Hang Speaker Cables, 075 ft - 025 m
4	Speaker Cable, adapter, DOSUB-LA8, CA-COM to 4x NL4
2	Speaker Cable, DO10, CA-COM 030 ft - 010 m
2	Speaker cable, DO7, CA-COM 023 ft - 007 m
2	Measurement Tools, SSE Prosight Laser/Inclinometer Cable, XLR6, 30m
1	Case, 4 Wheel Packer, (FS)
1	Signal cable, adapter, DOMF, female to 6x FXLR3 fan in 040 ft - 012 m
1	Signal cable, DOM15, female to female, 050 ft - 015 m
2	Cable, JPJ, AES/EBU, 110ohm, 060 ft - 020 m
1	Cable, Network, EDS, RJ45, CAT6a Shielded, 050 ft - 015 m
1	Cable, Network, Ethercon Shielded, CAT5e, 050 ft - 015 m
1	AC cable, CEE 32A red, 030 ft - 010 m
1	AC cable, CEE 32A red, 015 ft - 005 m
4	Rig, Cable, Chain Motor, Wieland, 100 ft - 030 m
4	Rig, case, L-Acoustics K2-BUMP, APS

	SOH Forecourt Series 2024 - FOH Speakers - Delays Stage Right
8	Enc, L-Acoustics, K2
2	Enc, Cover, L-Acoustics K2-CHARIOTCOV, (4) K2
2	Enc, L-Acoustics, K2-CHARIOT, (4) high dolly, (K2)
1	Amp Rack, L-Acoustics, LA-RAK II (3x LA12X) AVB
1	Case, Power/Signal Loom, 1 x CEE 32A, 100m
1	Case, 4 Wheel Packer, (FS)
2	Measurement Tools, SSE Prosignit Laser/Inclinometer Cable, XLR6, 30m
3	Speaker Cable, DO25, CA-COM 075 ft - 025 m
3	Speaker Cable, DO.7, CA-COM 002 ft - 000.7 m
2	Rig, Cable, Chain Motor, Wieland, 100 ft - 030 m
1	Rig, case, L-Acoustics K2-BUMP, APS
	SOH Forecourt Series 2024 - FOH Speakers - Drive
1	Drive Rack, FOH, LM44 (3 x LAKE LM44), SM HMA
1	Case, Drive Multicore, SM HMA
1	Drive Rack, SR Distribution, LM44, Ethercon
1	Drive Rack, SL Distribution, LM44, SM HMA
2	Cablecase, MAD, Mini Caddy "Blacky"
	SOH Forecourt Series 2024 - Power Stage
1	Case, Power Isolator, Powerlock, 300Amp
1	Case, Powerlock Feeder, 300Amp 25m
1	AC distro, Mains, 250A Powerlock in / 8x 63red, 1x 50A Wilco out (INDU)
1	Case, Amplifier Power Distro (Ceeform) Packer
2	AC distro, 63red in / 3x 32red, 1x 32blue, 1x 16blue, 1x AUS 10A out (Amp Dist)
1	Case, Ceeform Cables, 63Amp (2 x 20m)
1	Case, Ceeform Cables, 63Amp (2 x 50m)
	SOH Forecourt Series 2024 - Power FOH
1	Case, Power Isolator & Feeder, Powerlock, 250Amp
1	AC distro, Mains, 160A powerlock in / 4x 50A Wilco out
4	AC cable, adapter, Wilco 32A male to CEE 32A red female
1	Wilco Cables, Various, 32A 3Ø Ceeform to 32A 3Ø Wilco 50ft
	SOH Forecourt Series 2024 - Rigging
5	Motor, CM Lodestar 2 ton, Wieland, 080 ft - 024 m chain (Main Hangs)
5	Case, Motor, EDS, Motor case, Vameldeck, (1x 2 ton or 2x 1 ton)
9	Motor, CM Lodestar 1 ton, Wieland, 060 ft - 018 m chain
5	Motor, CM Lodestar 1 ton, Wieland, 075 ft - 023 m chain (Delay Steps, Delay Stage Right, Side hangs)
5	Motor, AR, Case for (2) CM Lodestar 1 ton Series III
2	Motor, AR, Case for (1) CM Lodestar 1 ton, Series III
2	Case, Motor Control, 8way, Rack
2	Motor Control, JPJ 8way Motor Control
2	Motor Control, JPJ 8way Motor Control Pendant
2	Case, Motor Control, 16way
2	Motor Control, JPJ 16way Motor Control
2	Motor Control, Lodestar, Hand Pickle Controller, 1m, Wieland
1	Motor Control, Wilco Y-Split 32Amp
1	Rig, Rigging Case, 4-Point Gacflex
20	Rig, Acc, Burlap Bag
20	Rig, shackle-bow 3250kg SWL
10	Rig, Gacflex, Steel Core Sling, 006 ft - 001.8 m
1	Case, Wilco Cables, 30m + 50m
16	Motor, Chain Hoist Weather Cover 1T/2T
	SOH Forecourt Series 2024 - Wet Weather
2	Case, System, FS, Tarps Baskets, Steel
1	Case, System, FS, Tarps Packer

SYDNEY OPERA HOUSE – OUTDOOR EVENTS & ACTIVITIES

HERITAGE GUIDELINES & KEY PERFORMANCE INDICATORS

Purpose of Heritage Guidelines

The purpose of this document is to guide the scale, design and placement of event infrastructure on external areas, and to define and outline the spread of event free days throughout the year, so that significant values of Sydney Opera House are maintained and respected.

Zones for event infrastructure are identified and defined by primary views and vistas to and from the Opera House that should remain unobstructed.

These guidelines apply to any outdoor event or activity on the Sydney Opera House site (except maintenance and works), including community events. They are based on ***Respecting The Vision***, *Sydney Opera House – a Conservation Management Plan*, 4th edition, July 2017 (CMP).

Compliance with Heritage Guidelines

A 12 month period following formal approval is allowed for a transition to full compliance with these guidelines, noting that some components or colours may not be currently available.

Potential non-compliance issues:

- Every event set-up has different requirements and from time to time infrastructure, including security, may be required outside of the Event Infrastructure Zones. In such instances, agreement must be reached with either the Opera House's heritage consultant, the Eminent Architects Panel or the Conservation Council. Consideration must be given to reducing the impacts, particularly visual, on primary views and public access.
- Note that temporary security-related infrastructure is permissible across the site, inside and outside Event Infrastructure Zones, under clause 12 of the Opera House's Site Specific Exemptions under the Heritage Act 1977.

Nothing in this document detracts from any obligation to comply with all applicable regulatory requirements.

These guidelines are to be reviewed 24 months after formal approval to ensure objectives are being achieved.

Heritage Guidelines structure

The guidelines are set out in the following order:

- 1.0 Relevant CMP Policies
- 2.0 Outdoor performing arts & community events – generally
- 3.0 Outdoor performing arts & community events – whole of site – high impact on setting and heritage values
- 4.0 Outdoor performing arts & community events – not whole of site – high impact on setting and heritage values
- 5.0 Outdoor performing arts & community events – medium impact on setting and heritage values
- 6.0 Events / activation – low impact on setting and heritage values
- Figure 1 Plan showing Primary Views & Event Zones
- 7.0 Primary views towards Sydney Opera House on approach – images and descriptions

1.0 RELEVANT CMP POLICIES

1.1 CMP 4th Edition (July 2017)

Policy purpose & framework

- **Policy 1.0 – Policy context and interdependence**
Policies must only be considered with reference to the supporting discussion as it will make their context and meaning clear. They must not be considered in isolation from other policies related to them and are to applied in an integrated manner.

Policy 1.0 above sets the framework for reading and understanding all policies in the CMP.

1.2 Relevant CMP 4th Edition policies are as follows:

Section 4.1 The Primacy of Jørn Utzon's Vision

- Policy 1.2 – *Utzon concepts*

Section 4.2 Importance of setting

- Policy 2.1 – *Landmark qualities*
- Policy 2.3 – *Protect setting*

Section 4.3 Protecting the values

- Policy 3.1 – *World, National and State Heritage values*
- Policy 3.2 – *Primary use as performing arts centre*
- Policy 3.3 – *Responsibility*

Section 4.4 Utzon, Hall & the approach to change

- Policy 4.11 – *Significance, tolerance and opportunities for change*
- Policy 4.12 – *Levels of Significance – general policy*

Section 4.5 Open & uncluttered setting

- Policy 5.1 – *Permanent or semi-permanent structures or objects*
- Policy 5.2 – *Temporary or short-term installations and objects*
- Policy 5.3 – *Tarpeian Wall*

Section 4.6 Events & uses externally

- Policy 6.1 – *Events externally*
- Policy 6.2 – *Design quality*
- Policy 6.3 – *Commercial leases and other uses*
- Policy 6.4 – *Food and beverage externally*
- Policy 6.5 – *Seating and umbrellas for outdoor events*
- Policy 6.6 – *Shelter on Podium and Lower Concourse*
- Policy 6.7 – *Western Colonnade open and unobstructed*
- Policy 6.8 – *Exterior furniture and objects*
- Policy 6.9 – *Soft landscaping inappropriate*

Section 4.7 Conserving the exterior

- Policy 7.17 – *Fitouts in Lower Concourse*
- Policy 7.23 – *Covered (Vehicle) Concourse*

Section 4.14 Lighting

- Policy 14.1 – *Lighting and visitor experience*
- Policy 14.3 – *Temporary lighting projections*

Section 4.15 Signage

- Policy 15.1 – *Signage*
- Policy 15.3 – *Promotion and merchandising*

Section 4.16 Interpretation

- Policy 16.1 – *Interpretation*
- Policy 16.4 – *Interpretation impacts on use*

Section 4.18 Care of the fabric & housekeeping

- Policy 18.18 – *Housekeeping*
- Policy 18.19 – *Housekeeping – training and review*

Section 4.20 Managing the process of change

- Policy 20.2 – *Unacceptable uses*
- Policy 20.3 – *Lease and hire agreements*
- Policy 20.7 – *Heritage advice*
- Policy 20.8 – *Heritage awareness and training*

2.0 OUTDOOR PERFORMING ARTS & COMMUNITY EVENTS – Generally

2.1 Description

- Outdoor event (paid or free) or activity of any type or duration, whether or not requiring infrastructure including stage, structures, barriers, etc
Note – bump-in and bump-out times are to be included in the total event duration.
- Sydney Opera House maintenance and construction works / activities excluded

2.2 Key Performance Indicators – any outdoor event or activity

The purpose of these guidelines / key performance indicators is to minimise potential negative impacts for any outdoor event or activity

2.2.1 Views

- Large structures that may impact on views and vistas towards the Opera House are kept to a minimum, sufficient only to hold the event (these views and vistas are defined in Policy 2.3 in CMP 4th edition).
- Event infrastructure that is over 1.5m high on **Forecourt** and **Western Broadwalk** is located within the **Event Infrastructure Zones** described below and identified on Figure 1 attached and does not block **primary views 1a, 2 and 4 towards Sydney Opera House on approach** from the south east (as indicated on Figure 1 attached). Key elements are the shells and Podium from a distance expanding to full width of Monumental Steps from closer views.
- Key to outdoor **Event Infrastructure Zones** shown on Figure 1 attached:
 - Zone 1** (Forecourt) protecting primary views towards the Opera House on approach and access to full width of Monumental Steps –
 - Allowed zone for large structures such as covered stages, services etc, structures that potentially have a substantial visual impact and / or potentially restricted access.
 - Zone 2** (Forecourt) protecting view of shells and retaining access to full width of Monumental Steps, but allowing masking of eastern podium in primary views 2, 3 and 4 towards the Opera House on approach –
 - Extended zone for large structures such as covered stages, front-of-house control towers, etc (**only** where these will not fit into Zone 1) that have a substantial visual impact and / or potentially restricted access.
 - Zone 3** (Western Broadwalk – north) protecting principal views to and from Western Colonnade and Western Foyers –
 - Allowed zone for max 4m high structures such as covered stages, structures etc, that potentially have a substantial visual impact and / or potentially restricted access.
 - Umbrellas permitted only when associated with an event.
 - Zone 4** (Western Broadwalk – south) protecting principal views to and from Western Colonnade and Western Foyers –
 - Allowed zone for max 4m high structures that potentially have a substantial visual impact and / or potentially restricted access.
 - Umbrellas permitted only when associated with an event.
 - Zone 5** (Northern Broadwalk – cleavage space between Podium ends) protecting principal views to, from and across Northern Broadwalk –
 - Preferred area for service facilities associated with an event – appropriately screened from view.
 - Access to north door of Central Passage to be maintained.

- Low level fencing or barriers are no higher than 1.2m, are of a high design standard, not detracting, and of materials that will not damage or stain the granite paving or concrete. (Fencing and other infrastructure for events at the Opera House to be developed as a 'kit-of-parts' specific for SOH use. This may take some time to develop, but should be a high priority.)
- Fencing or barriers over 1.2. high, designed to block public vision across or into the Forecourt, Broadwalks or Podium are in principle not acceptable, regardless of the activity or event. If such screening over 1.2m high is **absolutely** necessary for security, it should be no higher than the minimum required for the event, only be in place for the minimum time before and during the performance, and removed as soon as it is over. The objective always to minimise the restricted area and loss of view. (Such fencing / barriers should be developed as a 'kit-of-parts' specific for SOH use, as described above. Staffing of perimeters to achieve security is preferred to blocking off primary view lines.)
- No structures or facilities are placed anywhere in the area south of the underground loading dock entry.
- No covered stage, marquee or shelter structure is erected anywhere on the Podium or Monumental Steps. (The Podium is elevated and visible from both short and longer views. Any covered structure on this platform will be visually too close to the shells. It is preferable to erect Front-of-House lighting or other tower structures for a Forecourt event, on the Forecourt itself and avoid the Monumental Steps or Podium)
- No stage, marquee, lighting or other structure is erected on the colonnade roof.
- No covered stage, marquee or partially / fully enclosed structure is erected anywhere to the west or immediate vicinity of the colonnade on the Western Broadwalk except in Zones 3 and 4. Minimal arrangement of separate temporary umbrellas permitted in this area.
- Northern Broadwalk – Any stage, marquee or partially / fully enclosed structure erected anywhere in this area for any event, is no higher than 8m above paving level (to prevent substantial masking of the Podium). Visual intrusion on views minimised, including across Broadwalk.
- Festoon lighting is avoided and if considered, only permitted within Zone 1 and at low level.
- No lavatories or support facilities are placed on the Podium or western part of the Forecourt, and not on the Broadwalks (except in Zone 5). Such facilities are preferably placed towards the south-east corner of the Forecourt – away from key view lines and public access routes, and are appropriately screened from view.
- Very strong preference that lavatory facilities are not placed anywhere in the Vehicle Concourse. If they are placed here, they are to be at the south eastern end, for the minimum period of time, and appropriately screened. (To avoid unpleasant environment for other visitors and patrons in this important semi-enclosed arrivals foyer space.)

2.2.2 Public access

- No infrastructure, furniture or use associated with the event encroaches onto or otherwise obstructs emergency access and egress routes.
- Public access to the majority of the Forecourt and Broadwalk areas is not denied for more than 3 consecutive days. As much as possible of these areas is made available for free public access outside of rehearsal and actual event times.
- Bump-in and bump-out times are planned to minimise disruption and maximise public access to as much of the external spaces as possible.

2.2.3 Design quality

- The design, placement and execution of all installations, infrastructure, signage and other objects are of exceptionally high quality, respect the unique location, character, quality and significance of Sydney Opera House and do not detract from or compete with it. (Infrastructure for events at the Opera House to be developed as a 'kit-of-parts' specific for SOH use.)
- The colour of all infrastructure and objects associated with the event are not white, off-white, highly reflective, or a light or distracting colour that may compete with the shells of the Opera House. (refer to note above)
- Preferred colour for any umbrella, marquee, covering or cladding on other structure seen in close relationship to the Podium or roof shells, is a muted colour equal or close to Dulux 'Coconut Husk'. Other colours must be muted and have prior approval from Sydney Opera House.

2.2.4 Impact on fabric

- When the event or activity is over, all traces of it are removed as quickly as possible, leaving the place without damage and as it was before.
- Paving and other fabric, including concrete and bronze is carefully and discretely protected from damage for the whole period of the event or activity. On conclusion of the event or activity, all protection is removed and the fabric inspected for damage.
- Food and beverage options that are likely to stain, discolour or otherwise damage the precast or solid granite paving are not offered.
- All damage to the fabric is rectified at the expense of the hirer, organisation, or persons responsible for the event.

2.2.5 Timing between events / activations (To minimise public perception of continuous activation of external areas.)

- A minimum of 11 days (including 2 weekends) with no more than Low Activation is provided between any two High or Medium Impact events or activations.
- A minimum of 2 periods of 30 consecutive days with no more than Low Activation is provided for each calendar year.

2.2.6 Seasonal spread of Low impact events / activation or event free days (– based on requirements of the SOH Conservation Council)

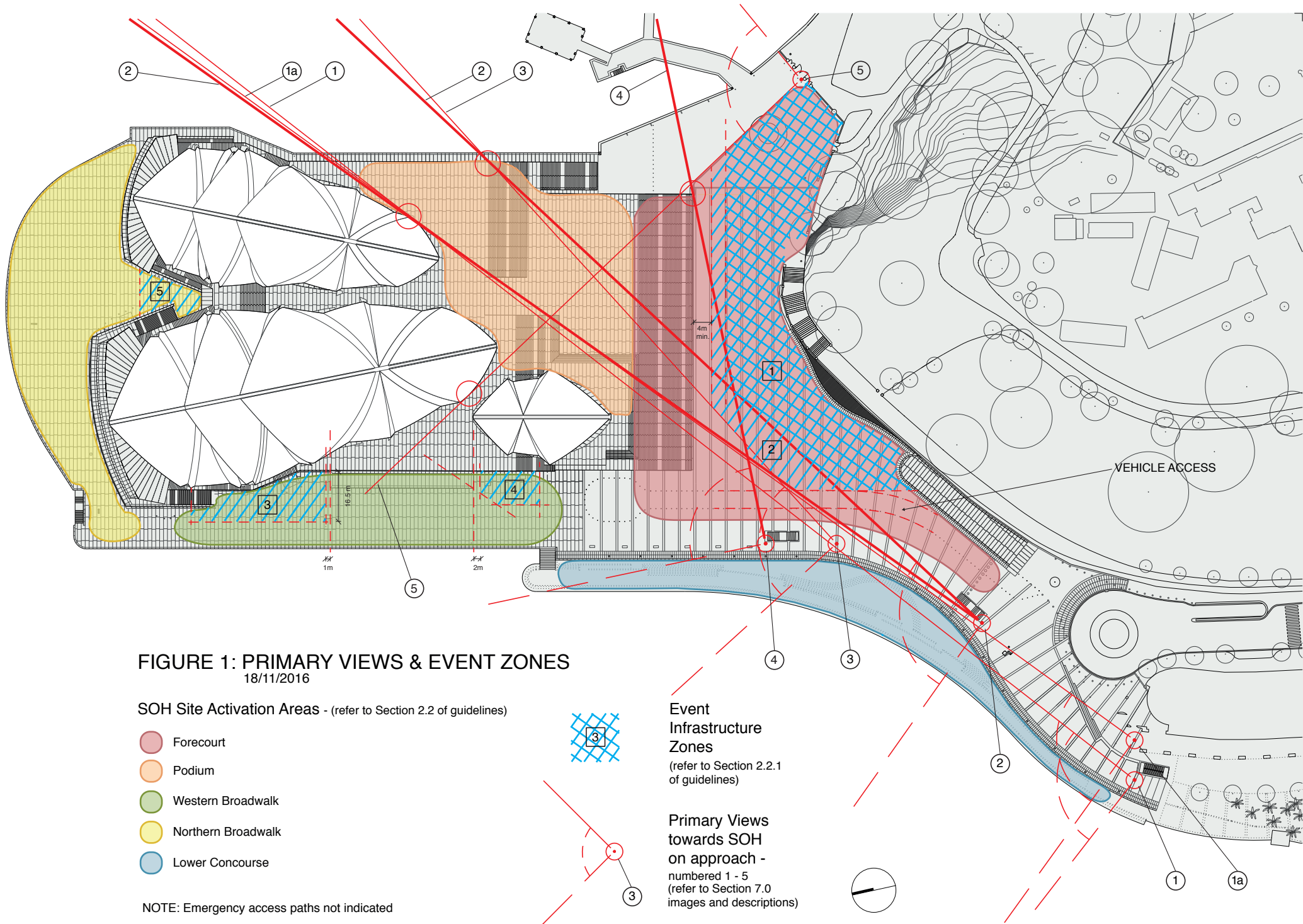
- Summer – at least 21 days, including 9 continuous days that include (where possible) 2 weekends during 1st half of January
- Autumn – at least 28 days, including (where possible) 9 continuous days that include 2 weekends during public school holidays
- Winter – at least 28 days, including (where possible) 9 continuous days that include 2 weekends during public school holidays
- Spring – at least 28 days, including (where possible) 9 continuous days that include 2 weekends during public school holidays

3.0 OUTDOOR PERFORMING ARTS & COMMUNITY EVENTS – Whole of site – High Impact on setting and heritage values	
<p>3.1 Description</p> <ul style="list-style-type: none"> • Event of any type or duration requiring covered stage and / or tall structures / staging towers for lighting, speakers, screens etc on at least one area of the site (refer Figure 1 attached). • Event of any type having a high impact on close or longer views (defined by Policy 2.3 in CMP 4th edition and Primary Views in Figure 1 below). • Restricted public access to whole of SOH site (refer to Figure 1 attached) 	<p>Examples</p> <ul style="list-style-type: none"> • New Year’s Eve
<p>3.2 Key Performance Indicators</p> <p>3.2.1 Generally</p> <ul style="list-style-type: none"> • Whole of site High Impact events to adhere as much as possible to guidelines / key performance indicators described in ‘2.0 OUTDOOR PERFORMING ARTS & COMMUNITY EVENTS – Generally’ above. Barrier fencing and location of lavatories may be an exception. • Whole of site High Impact events at the Opera House because of the status and public esteem of this place. These events have as their focus the building itself, either as the backdrop to activities, or the primary focus of them. All infrastructure should therefore avoid negative visual impacts wherever this is possible. 	

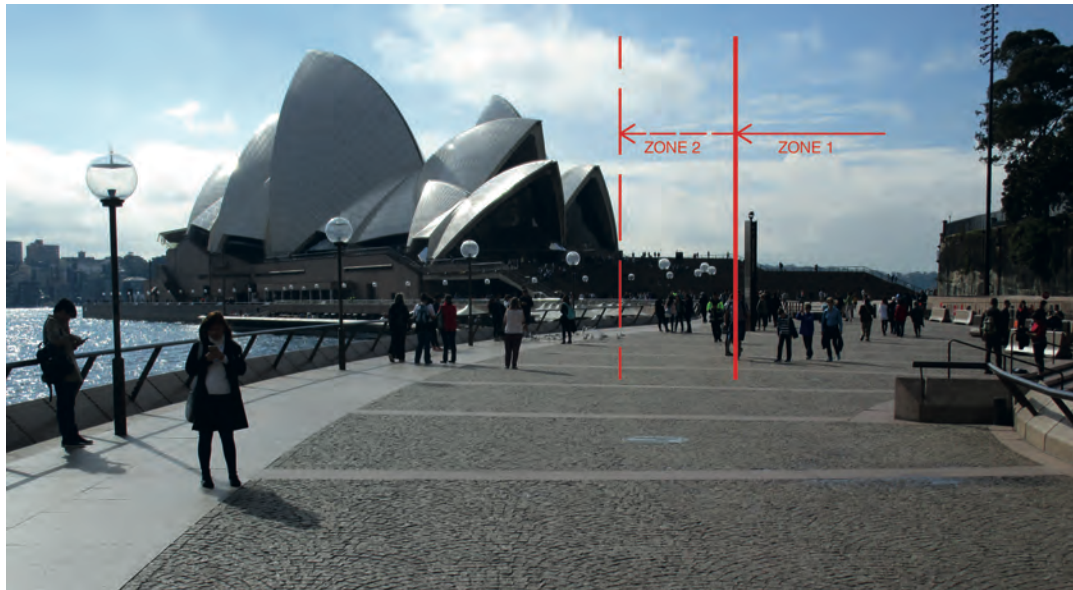
4.0 OUTDOOR PERFORMING ARTS & COMMUNITY EVENTS – High Impact on setting and heritage values	
<p>4.1 Description</p> <ul style="list-style-type: none"> • Event of any type or duration requiring covered stage and / or tall structures / staging towers for lighting, speakers, screens etc. • Event of any type having a high impact on close or longer views (defined by Policy 2.3 in CMP 4th edition and Primary Views in Figure 1 below). • Restricted public access to at least one area, but not whole of site (refer to Figure 1) 	<p>Examples</p> <ul style="list-style-type: none"> • Oprah • Australian Idol • Rock Concerts • Staged performances on the Forecourt
<p>4.2 Key Performance Indicators</p> <p>4.2.1 Generally</p> <ul style="list-style-type: none"> • The guidelines / key performance indicators for High Impact events are as described in ‘2.0 OUTDOOR PERFORMING ARTS & COMMUNITY EVENTS – Generally’ above 	

5.0 PERFORMING ARTS & COMMUNITY EVENTS – Medium Impact on setting and heritage values	
<p>5.1 Description</p> <ul style="list-style-type: none"> • Event of any type or duration requiring an uncovered stage and / or minimal small scale infrastructure, barriers etc. • Event of any type having a medium impact on close or longer views (defined by Policy 2.3 in CMP 4th edition and Primary Views in Figure 1 below). • Restricted public access to no more than one area of site (refer to Figure 1 attached) 	<p>Examples</p> <ul style="list-style-type: none"> • Sydney Running Festival • Greek National Day • Corporate Partnerships photo-shoot (not coinciding with another event) • SOHP Homeground • Opera Simulcast on Forecourt • Mad Max Promotional Event
<p>5.2 Key Performance Indicators</p> <p>5.2.1 Generally</p> <ul style="list-style-type: none"> • The guidelines / key performance indicators for Medium Impact events are as described in ‘2.0 OUTDOOR PERFORMING ARTS & COMMUNITY EVENTS – Generally’ above with additional performance indicators as follows: <p>5.2.2 Scale of infrastructure</p> <ul style="list-style-type: none"> • No structures or infrastructure at all on Podium, Monumental Steps or colonnade. • Forecourt & Northern Broadwalk – no structures above 5 metres • Western Broadwalk and other areas – no structures above 3 metres 	

6.0 EVENTS / ACTIVATION – Low Impact on setting and heritage values	
<p>6.1 Description</p> <ul style="list-style-type: none"> • Event of any type or duration requiring no stage, infrastructure, WCs or barriers etc. • Event of any type having no impact on close or longer views towards the place (defined by Policy 2.3 in CMP 4th edition and Primary Views in Figure 1 below). • Unrestricted public access to whole of site (refer to Figure 1 attached). • Audience drawing from the general public’s attendance • Free event. 	<p>Examples</p> <ul style="list-style-type: none"> • Impromptu dance or other performance e.g. Chooky Dancers on Western Broadwalk
<p>6.2 Key Performance Indicators</p> <p>6.2.1 Generally</p> <ul style="list-style-type: none"> • The guidelines / key performance indicators for Low Impact events / activation are as described in ‘2.0 OUTDOOR PERFORMING ARTS & COMMUNITY EVENTS – Generally’ above with additional performance indicators as follows: <p>6.2.2 Infrastructure</p> <ul style="list-style-type: none"> • No structures or infrastructure at all on any external areas. • No barriers or fencing. • No signage. 	

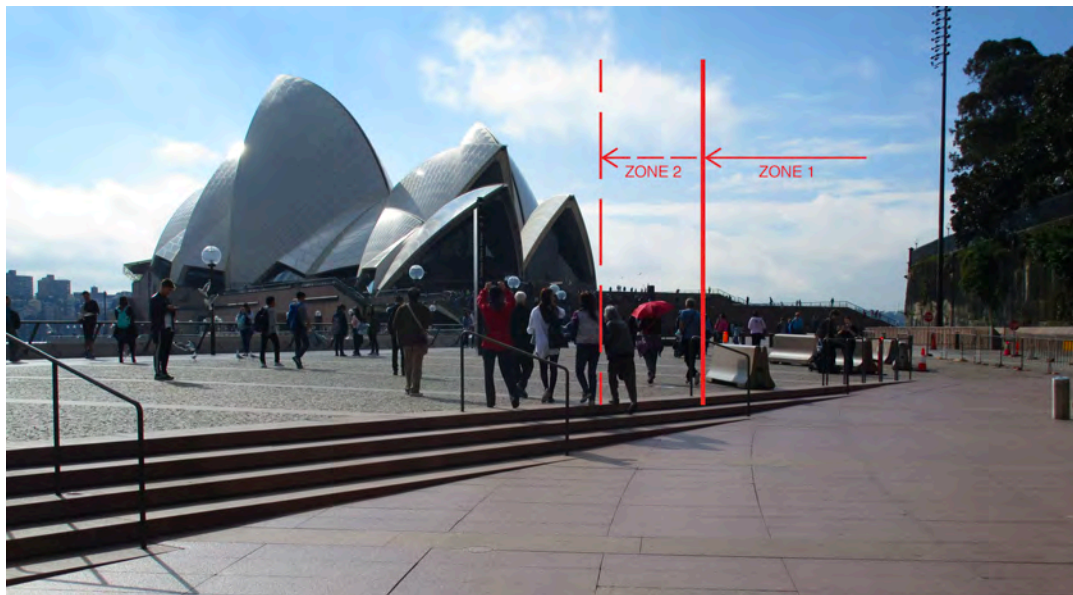


7.0 Primary Views toward Sydney Opera House on approach – refer to Figure 1



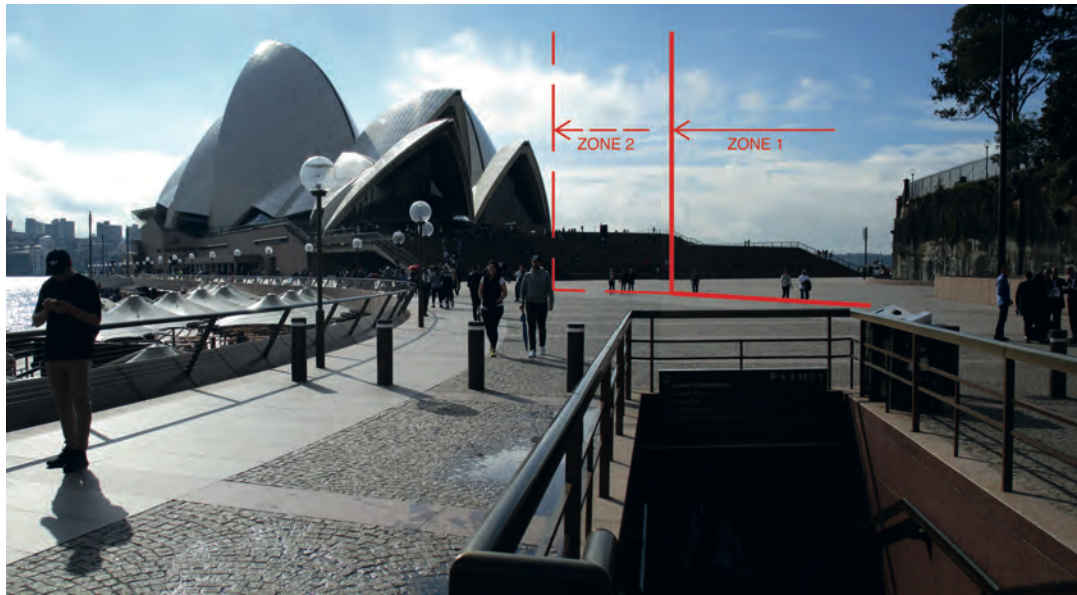
View 1 - from southern entry to site at top of steps from East Circular Quay.

- Full suite of roof shells visible at all times
- Full width of top of podium visible with infrastructure within Zone 1
- East half of Monumental Steps obscured with infrastructure within Zone 1



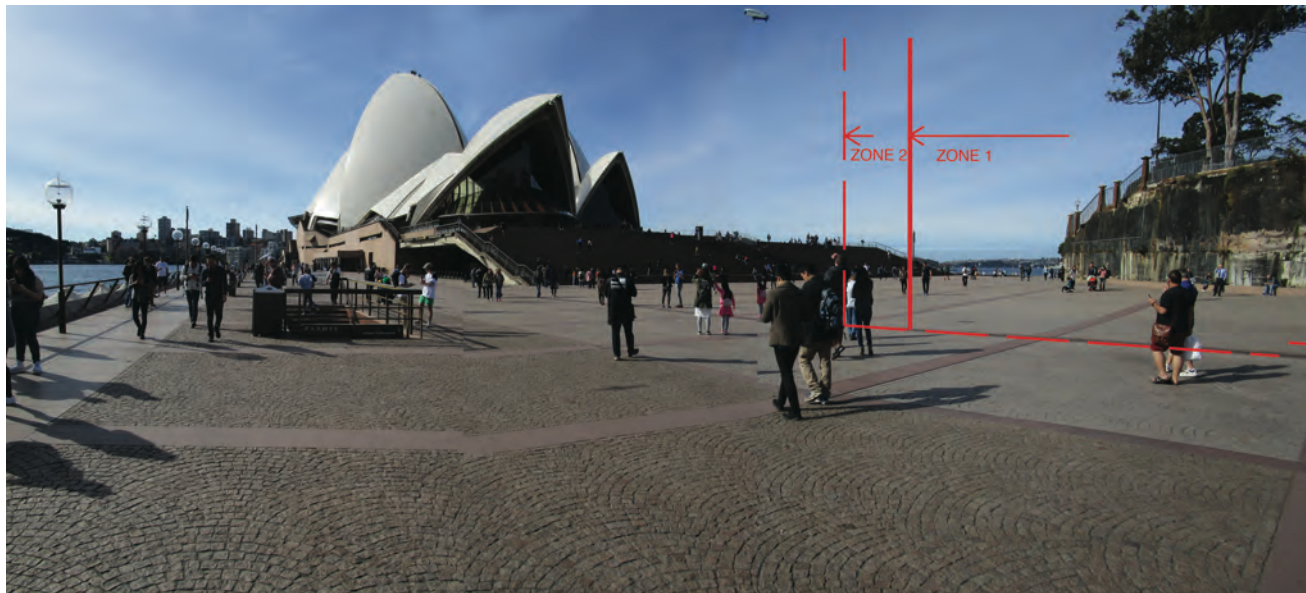
View 1a – from centerline of north end of west colonnade at N°1 Macquarie Street.

- Full suite of roof shells visible at all times
- Almost full width of top of podium visible with infrastructure within Zone 1
- East half of Monumental Steps obscured with infrastructure within Zone 1



View 2 – from SW corner of stair to lower concourse and carpark

- Full suite of roof shells visible at all times
- Full width of top of podium and majority of Monumental Steps visible with infrastructure within Zone 1.
- East half of Monumental Steps obscured with infrastructure within Zone 1



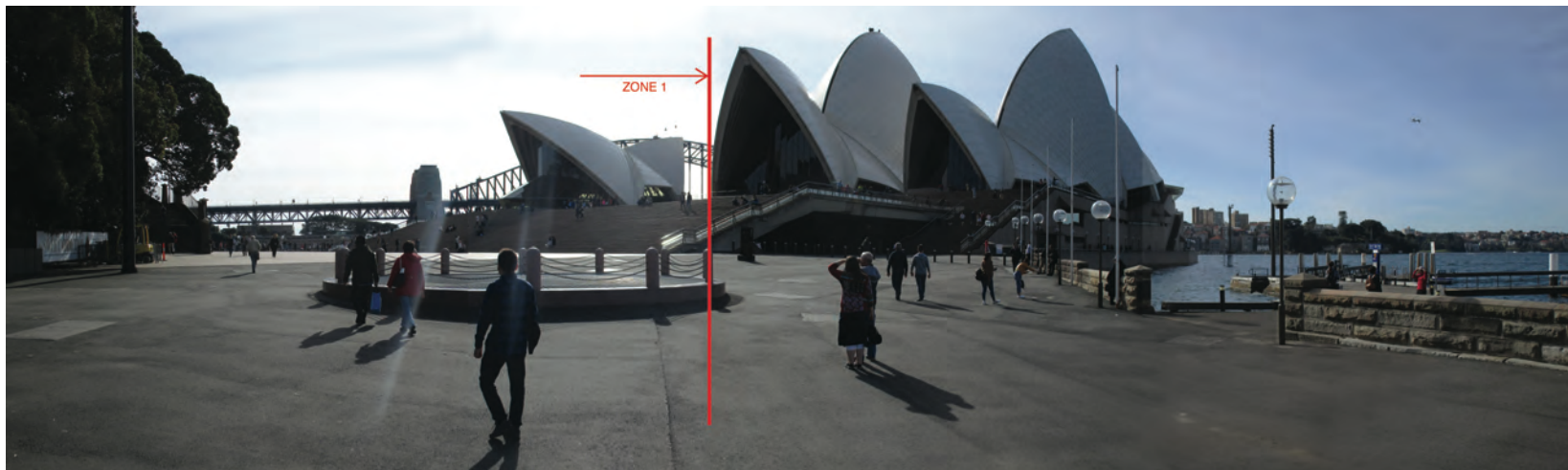
View 3 – from 3rd granite strip south of stair to lower concourse, Opera Bar and Opera Kitchen

- View opening up to reveal more of podium and Monumental Steps.



View 4 – from NW corner of stair from Opera Bar and Opera Kitchen

- View opens up to reveal full wall of Monumental Steps
- Full width of roof shells, podium and Monumental Steps visible at all times



View 5 – from main gate (west side) to Royal Botanic Gardens

- Full suite of Concert Hall and Joan Sutherland Theatre roof shells visible at all times. Bennelong roof shells may be obscured.



New South Wales

Sydney Opera House Trust By-law 2015

under the

Sydney Opera House Trust Act 1961

His Excellency the Governor, with the advice of the Executive Council, has approved the following By-law made by the Sydney Opera House Trust under the *Sydney Opera House Trust Act 1961*.

TROY GRANT, MP
Minister for the Arts

Explanatory note

The object of this By-law is to remake, with some amendments, the provisions of the *Sydney Opera House Trust By-law 2010*, which is repealed on 1 September 2015 by section 10 (2) of the *Subordinate Legislation Act 1989*.

This By-law:

- (a) expands the prohibition on taking food or drink into, or consuming food or drink within, an auditorium to outdoor auditoriums, and
- (b) creates an offence (maximum penalty \$1,100) of launching or landing any unmanned aerial vehicle, hang-glider, hot air balloon or parachute, or any other aircraft from or on Opera House premises, and
- (c) extends the offence of mooring a vessel to any part of the Opera House premises to launching a vessel from any part of the Opera House premises (maximum penalty \$1,100), and
- (d) empowers an authorised officer to remove or to direct a person to remove an unlawfully landed aircraft from the Opera House premises.

This By-law also makes provision with respect to the following:

- (a) the regulation of vehicles and cycles on the Opera House premises and the admission of persons to, and the behaviour of persons on, those premises,
- (b) the powers of authorised officers,
- (c) the banning of persons from the Opera House premises,
- (d) the exercise of functions of the Sydney Opera House Trust by authorised officers,
- (e) creating an offence of hindering or obstructing a person in the exercise of a function under the proposed By-law,
- (f) setting out the circumstances where a person's actions do not constitute an offence under the proposed By-law,
- (g) the allowances to which trustees are entitled,
- (h) savings and formal matters.

This By-law is made under the *Sydney Opera House Trust Act 1961*, including sections 13 and 28 (the general by-law making power).

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Sydney Opera House Trust By-law 2015

under the

Sydney Opera House Trust Act 1961

Part 1 Preliminary

1 Name of By-law

This By-law is the *Sydney Opera House Trust By-law 2015*.

2 Commencement

This By-law commences on 1 September 2015 and is required to be published on the NSW legislation website.

Note. This By-law replaces the *Sydney Opera House Trust By-law 2010* which is repealed on 1 September 2015 by section 10 (2) of the *Subordinate Legislation Act 1989*.

3 Definitions

(1) In this By-law:

auditorium means any part of the Opera House premises that is used as a chamber music hall, cinema, concert hall, drama theatre or opera theatre, and includes any other part of the Opera House premises (whether indoors or outdoors) while that part is being used for the conduct of a performance or event.

authorised officer means each of the following persons:

- (a) a police officer,
- (b) the Chief Executive Officer,
- (c) a person employed in the Public Service who is assigned to an authorised officer role by the Chief Executive Officer (either generally or in relation to a particular provision or provisions of this By-law),
- (d) any person authorised for the time being by the Chief Executive Officer or the Trust to exercise the functions of an authorised officer (either generally or in relation to a particular provision or provisions of this By-law).

Chief Executive Officer means the person employed in the Public Service as the Chief Executive Officer of the Opera House.

Opera House premises means the whole of the land comprised in Lot 4, Deposited Plan 787933, and Lot 5, Deposited Plan 775888, and includes any building, work or fixture on that land.

parking includes standing and waiting.

public area means any part of the Opera House premises that comprises open space or that is used for the purposes of a foyer, walkway or other facility of a public nature.

restricted area means any part of the Opera House premises that is not a public area or an auditorium, and includes any area from which the public is excluded under clause 6.

the Act means the *Sydney Opera House Trust Act 1961*.

vehicle means a vehicle that is built to be propelled by a motor that forms part of the vehicle.

- (2) Notes included in this By-law do not form part of this By-law.

Part 2 Regulation of vehicles, cycles and persons on Opera House premises

4 Vehicles and cycles

- (1) The Trust may refuse to admit a vehicle or cycle on to the Opera House premises.
- (2) A person must not cause a vehicle or cycle to enter the Opera House premises if admission is refused by the Trust.
Maximum penalty: 10 penalty units.
- (3) The Trust may, by means of notices or barriers, regulate the driving and parking of vehicles and the use of cycles on the Opera House premises.
- (4) A person must not cause a vehicle to be driven or parked, or a cycle to be used, in contravention of any such notice or in disregard of any such barrier.
Maximum penalty: 10 penalty units.
- (5) The Trust:
 - (a) may from time to time fix a scale of charges for the parking of vehicles on the Opera House premises, and
 - (b) may demand and receive the charges from any person parking a vehicle on the Opera House premises.

5 Request to undergo search as condition of entry

- (1) For the purpose of promoting safety and security on the Opera House premises, a person's entry to any part of those premises (whether or not on payment of an admission fee) is subject to the condition that the person must comply with any of the following requests made of the person:
 - (a) a request by an authorised officer that the person undergo a search conducted by electronic means (such as by passing an electronic detection device over or in close proximity to the person or by the person passing through a detection device),
 - (b) a request by an authorised officer that the person allow a search of articles in the person's possession and identify articles in the person's possession,
 - (c) a request by an authorised officer that the person remove his or her overcoat, coat or jacket or similar article of clothing and any gloves, shoes and hat (or other headwear), and allow an examination of those items,
 - (d) if the person enters in a vehicle—a request by an authorised officer that the person open the vehicle, or part of it, for inspection and allow the vehicle or part to be searched,
 - (e) a request by an authorised officer or by a member of staff of the Trust that the person leave any article in the person's possession in the temporary custody of the Trust while the person is on the Opera House premises (such as by checking the article into a cloakroom provided by the Trust for the purpose).
- (2) A request referred to in subclause (1) is not limited to being made at the time of entry or at a point of entry to the Opera House premises or part of the Opera House premises, and can be made at any time that a person is on those premises.

6 Exclusion of public from certain areas

The Trust may, by means of notices or barriers, exclude the public from any part of the Opera House premises.

7 Admission to auditoriums and restricted areas

- (1) A person must not enter an auditorium that is open for a ticketed performance or event unless the person is the holder of a ticket, or is the subject of a permit, authorising the person to enter the auditorium.
Maximum penalty: 10 penalty units.
- (2) A person must not enter a restricted area unless the person is the subject of a permit authorising the person to enter the restricted area.
Maximum penalty: 10 penalty units.
- (3) The Trust may grant a permit authorising a person or group of persons to enter an auditorium or restricted area.
- (4) A permit is to be in writing and is to specify the auditorium or restricted area to which it relates, when it is to have effect and for what purposes it is granted.
- (5) In this clause:
ticketed performance or event means a performance or event for which a ticket must be held for entry to the auditorium in which the performance or event is being conducted.

8 Prohibited activities in auditorium

- (1) A person must not take food or drink into, or consume food or drink within, an auditorium.
Maximum penalty: 10 penalty units.
- (2) During a performance in an auditorium, a person:
 - (a) must not take photographs or films, or operate an audio or video recorder, in the auditorium, and
 - (b) must not cause inconvenience to any other person in the auditorium.Maximum penalty: 10 penalty units.

9 Prohibited activities on Opera House premises

- (1) A person must not do any of the following on the Opera House premises:
 - (a) sell, hire, expose for sale or hire or solicit for sale or hire any service, article or thing,
 - (b) distribute any article or thing for commercial or promotional purposes,
 - (c) conduct, or cause or assist in the conduct of, an amusement, entertainment, instruction or performance, whether or not for money or other consideration,
 - (d) take photographs or films, or operate a video recorder, for commercial purposes,
 - (e) display or distribute any advertisement, sign, bill, poster or other printed matter,
 - (f) undertake any charitable collection,
 - (g) operate any radio or other electronic device, or play any musical instrument, at a volume likely to cause inconvenience to any other person,
 - (h) ride on or use any cycle, skateboard, roller skates or similar apparatus in a manner likely to cause inconvenience to any other person,
 - (i) operate or use a loudspeaker or public address system,
 - (j) allow any animal, reptile or bird that is under the person's care or control to be on the premises,

- (k) deface, damage, obscure or interfere with any sign or notice displayed on the premises,
- (l) launch or land any unmanned aerial vehicle, hang-glider, hot air balloon or parachute, or any other aircraft.

Maximum penalty: 10 penalty units.

- (2) Subclause (1) (j) does not prohibit a person who has a disability (within the meaning of the *Disability Discrimination Act 1992* of the Commonwealth) from bringing on to the Opera House premises an assistance animal (that is, an animal referred to in section 9 of that Act).
- (3) A person must not smoke in any area of the Opera House premises that is designated, by the use of signs, as a non-smoking area.

Maximum penalty: 5 penalty units.

Note. A person must comply with the *Smoke-free Environment Act 2000* regardless of whether there are signs designating an area to be non-smoking.

10 Interference with equipment

A person must not damage, tamper with, or otherwise interfere with the operation of, any equipment, fixture or fitting on the Opera House premises.

Maximum penalty: 50 penalty units.

11 Mooring, fishing and swimming

- (1) A person must not do any of the following:
 - (a) launch or moor a vessel from or to any part of the Opera House premises,
 - (b) fish from any part of the Opera House premises,
 - (c) swim to and enter on any part of the Opera House premises or swim from any part of those premises.

Maximum penalty: 10 penalty units.

- (2) It is not an offence if a person swims to or from any part of the Opera House premises, or launches or moors a vessel from or to any part of those premises, in an emergency.

Part 3 Powers of authorised officers

12 Directions to leave

- (1) An authorised officer may require a person who is in any auditorium or restricted area, or who is seeking entry to any auditorium or restricted area, to produce a ticket or permit authorising the person to enter the auditorium or area.
- (2) An authorised officer may direct a person to leave an auditorium or restricted area if the person is not authorised by a ticket or permit to be in the auditorium or area.
- (3) An authorised officer may direct a person to leave the Opera House premises or any part of those premises if the authorised officer believes on reasonable grounds that:
 - (a) the person is contravening or has contravened any provision of this By-law or is committing or has committed any other offence on the Opera House premises, or
 - (b) the person is failing or has failed to comply with a request referred to in clause 5, compliance with which is a condition of the person's entry to the Opera House premises or part of those premises, or
 - (c) the person is causing inconvenience or behaving in an offensive manner or in a manner likely to endanger the person or another person, or
 - (d) the person is about to contravene a provision of this By-law or commit any other offence on the Opera House premises.
- (4) A person must not fail to comply with a direction under this clause.
Maximum penalty: 50 penalty units.
- (5) An authorised officer may remove from the Opera House premises any person who fails to comply with a direction under this clause.
- (6) Reasonable force may be used to effect the person's removal.

13 Requirement to state name and address

- (1) An authorised officer who suspects on reasonable grounds that a person is contravening or has contravened any provision of this By-law or is committing or has committed any other offence on the Opera House premises may require the person to state his or her full name and residential address.
- (2) A person must not:
 - (a) without reasonable excuse, fail to comply with a requirement under this clause, or
 - (b) in purported compliance with such a requirement, furnish information that the person knows to be false or misleading in a material particular.Maximum penalty: 50 penalty units.
- (3) A person is not guilty of an offence against this clause unless it is established that the authorised officer warned the person that the failure to comply with the requirement is an offence.

14 Taking photographs of certain persons

An authorised officer who suspects on reasonable grounds that a person is contravening or has contravened any provision of this By-law or is committing or has committed any other offence on the Opera House premises may take a photograph or make another form of image of the person.

15 Powers in relation to aircraft, vehicles and vessels

- (1) An authorised officer may direct a person to remove from the Opera House premises any unlawfully landed aircraft, unlawfully parked vehicle or unlawfully moored vessel that is under the person's control.
- (2) A person must not fail to comply with a direction under this clause.
Maximum penalty: 10 penalty units.
- (3) An authorised officer may cause an unlawfully landed aircraft, unlawfully parked vehicle or unlawfully moored vessel to be removed from the Opera House premises if:
 - (a) the person in control of the aircraft, vehicle or vessel has failed to comply with a direction to remove the aircraft, vehicle or vessel, or
 - (b) the aircraft, vehicle or vessel is unattended and the authorised officer, after making reasonable inquiries, has been unable to identify a person as being in control of the aircraft, vehicle or vessel.
- (4) For the purpose of promoting safety and security on the Opera House premises, an authorised officer may cause any aircraft, vehicle or vessel to be removed from those premises at any time.
- (5) In this clause, an *aircraft* includes any unmanned aerial vehicle, hang-glider, hot air balloon or parachute, or any other aircraft.

Part 4 General

16 Banning from Opera House premises

- (1) The Trust may ban a person from the Opera House premises if it believes on reasonable grounds that:
 - (a) the person has contravened any provision of this By-law or has committed any other offence on the Opera House premises, or
 - (b) the person has failed to comply with a request referred to in clause 5, compliance with which is a condition of the person's entry to the Opera House premises or part of those premises, or
 - (c) the person has caused inconvenience or has behaved in an offensive manner or in a manner likely to endanger the person or another person.
- (2) A ban under this clause takes effect when written notice of the ban is served on the person and remains in force for the period specified in the notice, or if no such period is specified, for a period of 3 months.
- (3) The maximum period that may be specified in a notice under subclause (2) is 3 months unless there is a ban already in force in relation to the person, in which case the maximum period that may be specified is 12 months.
- (4) The Trust may remove a ban in relation to a person at any time by written notice served on the person.
- (5) A person must not enter the Opera House premises while a ban is in force in relation to the person.
Maximum penalty: 50 penalty units.
- (6) The Trust may delegate the exercise of any function of the Trust under this clause (other than this power of delegation) to the Chief Executive Officer, any other member of staff of the Trust or to any police officer.

17 Exercise of Trust's functions

A function that is conferred on the Trust by this By-law (other than a function conferred by clause 16) may be exercised by an authorised officer.

18 Hindrance or obstruction

A person must not hinder or obstruct any person in the exercise of a function under this By-law.

Maximum penalty: 10 penalty units.

19 Certain acts not to be offences

- (1) A person does not commit an offence under this By-law if the act giving rise to the offence was done:
 - (a) as part of a performance put on, or approved, by the Trust, or
 - (b) by a member of staff of the Trust in the course of his or her employment, or
 - (c) under the direction or with the consent of the Trust.
- (2) The consent of the Trust referred to in this clause may be given generally or in a particular case.

20 Allowances for trustees

The allowances to which a trustee is entitled under section 13 of the Act are the allowances for the time being fixed by the Governor.

21 Savings

Any act, matter or thing that, immediately before the repeal of the *Sydney Opera House Trust By-law 2010*, had effect under that By-law continues to have effect under this By-law.

			Paper use. Paper use in marketing of events (posters, pamphlets, "whats on" guides, seat drops, etc etc) leading to use of natural resources	<ul style="list-style-type: none"> suggestions for sustainable use of resources as part of event planning pack 	SOH Events & Venue Hirers	Effective	Insignificant	Unlikely			Reducing amount of printed marketing material reduces paper use and prevents additional litter	SOH Events & Venue Hirers					
11	Energy, Greenhouse and Resource Use	Resource use															
12	Waste	Waste management	Waste Theatre Lighting. Inappropriate disposal of lighting in general waste	<ul style="list-style-type: none"> lighting separated out from general solid waste disposed as per waste classification 	SOH Events & Venue Hirer	Partially Effective	Minor	Not Expected			Reliant on Event Staff to separate out from general waste	SOH Events & Venue Hirers					
13	Air Quality	Temporary toilet pump out	Odour from toilet pump out impacting	<ul style="list-style-type: none"> choose locations where sewer for temporary toilets use reliable truck/pump company that can guarantee no odour even flammies to ocean/river, location and controls around items of equipment 	SOH Events & Venue Hirer	Effective	Moderate	Possible				SOH Events & Venue Hirers					Pre-planning or events to address location and risk of plant items and spill kits. Processes for the storage and handling of chemicals to be followed to mitigate potential chemical spills
14	Water Quality	Mobile equipment	Spills from mobile equipment. Equipment, generators and machinery malfunction causing spills of fuels or oils to stormwater	<ul style="list-style-type: none"> controls/banding placed under generators and static equipment spill kits available 	SOH Events & Venue Hirer	Effective	Extreme	Unlikely				SOH Events & Venue Hirers					Pre-planning or events to address location and risk of plant items and spill kits. Processes for the storage and handling of chemicals to be followed to mitigate potential chemical spills
15	Water Quality	Fuels, Chemicals, liquid waste	Leak of fuel/chemicals from storage. Poor storage of fuel for generators for events, leading to leak of fuel to stormwater	<ul style="list-style-type: none"> fuel is generally brought on from offsite, not stored on site set-up of small amounts in temporary storage in a secure location 	SOH Events & Venue Hirer	Ineffective	Minor	Unlikely			Lack of space leading to temporary storage areas not established correctly	SOH Events & Venue Hirers					
16	Water Quality	Fuels, Chemicals, liquid waste	Spill during refuelling. Spill during decanting of oils or fuel, from storages	<ul style="list-style-type: none"> transfer of chemicals away from the drains/stormwater/Broadwalk/harbour's edge Work Method Statements to control activities using chemicals SEPP restrictions on external activities 	SOH Events & Venue Hirer	Effective	Moderate	Unlikely	Low		Management of oils/fuels aided by relatively smaller quantities compared to construction / maintenance works. Processes for the storage and handling of chemicals to be followed to mitigate potential chemical spills	SOH Events & Venue Hirers					
17	Noise and Vibration	Outdoor events	Noise. Noise from bump in, event and bump out of external events (e.g. major music events)	<ul style="list-style-type: none"> noise assessment for planned events event hours restricted noise pathway controls approval to use materials that will generate broadscale waste 	SOH Events & Venue Hirer	Partially Effective	Moderate	Possible	High		Restrictions on type and number of events stipulated in SEPP. Prior assessment of noise and vibration can determine impacts and possible controls that will be needed. Implementing additional	SOH Events & Venue Hirers					
18	Waste	Litter	Littering infringements caused by Event involving confetti, balloons fireworks, golf balls, tennis balls or other materials that may blow into harbour, overtopping bins, collection by cleaners and trucks losing waste	<ul style="list-style-type: none"> balloon numbers limited to less than 20 as per legislation collection and cleanup of scattered items which can transfer offsite Outdoor Event Guide has 'no 	SOH Events & Venue Hirer	Effective	Moderate	Unlikely	Medium		Approval holdpoint to manage and implement controls for activities that generate broadscale waste. Appropriate capacity and location of bins, and diligent cleaning staff should ensure litter is managed	SOH Events & Venue Hirers					
19	Water Quality	Litter	Litter (cigarettes). Cigarettes butts into stormwater or directly to harbour - staff & patrons	<ul style="list-style-type: none"> No Smoking areas established encourage proper disposal of cigarette butts collection and cleanup of scattered items which can transfer offsite 	SOH Events & Venue Hirer	Effective	Moderate	Unlikely	Medium		No smoking areas, bins in ther locations and diligent cleaning staff can manage cigarette butt litter	SOH Events & Venue Hirers					
20	Air Quality	Plant & Machinery	Exhaust. Exhaust emissions from trucks/generators/equipment	<ul style="list-style-type: none"> properly maintained efficiently operated plant remove smokey vehicles from site unless can be repaired 	SOH Events & Venue Hirer	Effective	Insignificant	Unlikely	Low		Operate trucks/generators/equipment efficiently for the period where they aid to complete the work	SOH Events & Venue Hirers					
21	Water Quality	Temporary toilets	Spill from temporary toilets. Overflow of portable toilets (sewerage to stormwater) or chemical spill or run off due to cleaning of portable toilets or overflow of toilets or pump	<ul style="list-style-type: none"> toilets located away from harbour's edge and Broadwalk as far as practicable Additional controls or contingency processes/measures determined as since been managers or contractors of Agreement/ Licences 	SOH Events & Venue Hirer	Effective	Moderate	Unlikely	Medium		Competant operator to manage the cleaning of toilets in a manner to not have spills that may run off-site. Contingency plan in place to manage toilets / blockages during events	SOH Events & Venue Hirers					
22	Compliance	Liquid waste disposal	Breaching sewer licence. Inappropriate or unlicensed discharge to sewer eg paint, painting equipment washing, chemicals (Venue Hirers, T&E)	<ul style="list-style-type: none"> SDS of all chemicals used onsite establish washout process in paint wash bay otherwise painters take wastes off-site 	SOH Events & Venue Hirer	Effective	Moderate	Unlikely	Medium		Compliance with SDS requirements and proper disposal removes compliance risks	SOH Events & Venue Hirers					
23	Waste	Waste management	E-waste. Inappropriate Disposal of electronic equipment including batteries	<ul style="list-style-type: none"> electronic equipment and batteries separated out from general solid waste separate waste receptical provided awareness signage 	SOH Events & Venue Hirer	Effective	Minor	Unlikely	Low		Waste batteries collection occurring in separate bin	SOH Events & Venue Hirers					
24	Energy, Greenhouse and Resource Use	Resource use	Paper use. Paper use in marketing of events (posters, pamphlets, "whats on" guides, seat drops, etc etc) leading to use of natural resources	<ul style="list-style-type: none"> suggestions for sustainable use of resources as part of event planning pack 	SOH Events & Venue Hirer	Effective	Insignificant	Unlikely	Low		Reducing amount of printed marketing material reduces paper use and prevents additional litter	SOH Events & Venue Hirers					
25	Waste	Waste management	Waste Theatre Lighting. Inappropriate disposal of lighting in general waste	<ul style="list-style-type: none"> lighting separated out from general solid waste disposed as per waste classification 	SOH Events & Venue Hirer	Ineffective	Minor	Unlikely	Low		Reliant on Event Staff to separate out from general waste	SOH Events & Venue Hirers					
26	Air Quality	Temporary toilet pump out	Odour from toilet pump out impacting	<ul style="list-style-type: none"> choose locations where sewer for temporary toilets use reliable truck/pump company that can guarantee no odour 	SOH Events & Venue Hirer	Effective	Moderate	Possible	High			SOH Events & Venue Hirers					