

NH Architecture

Kingston Arts Precinct

Noise Management Plan

Reference: 294419-AC02_v1-3 SDA Noise Management Plan_Issue

Rev 02 | 25 June 2025

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 295012

Arup Australia Pty Ltd | ABN 76 625 912 665

Arup Australia Pty Ltd
Sky Park, One Melbourne Quarter
699 Collins Street
Docklands
VIC, 3008
Australia
arup.com

Document Verification

Project title Kingston Arts Precinct
Document title Noise Management Plan
Job number 295012
Document ref 294419-AC02_v1-3 SDA Noise Management Plan_Issue
File reference Acoustics

Revision	Date	Filename	Acoustics		
Rev 01	20 December 2024	Description	Pre-application entity circulation		
			Prepared by	Checked by	Approved by
		Name	Sylvia Jones	Glenn Wheatley	Sylvia Jones
		Signature			
Rev 02	25 June 2025	Filename	Acoustics		
		Description	Issue for SDA Submission		
			Prepared by	Checked by	Approved by
		Name	Sylvia Jones	Helen Searle	Sylvia Jones
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			

Issue Document Verification with Document



Contents

1.	Introduction	1
2.	Site description	1
3.	Noise standards	2
3.1	Noise zone standards	2
3.2	Outdoor concerts	3
3.3	Entertainment areas	3
4.	Noise guidance	4
5.	Noise generation at The Site	5
6.	Noise impacts on The Site	5
7.	Summary	8
7.1	Recommendations	8

Tables

Table 1: Environment Protection Regulation – Noise Zone Standards	2
Table 2: Road traffic noise impacts on The Site	5
Table 3: Activities, Noise Standards and Mitigation Measures	6

Figures

Figure 1: Kingston Foreshore Land uses (Source: ACT Territory Plan map viewer)	1
Figure 2: Kingston Foreshore Noise Zones (source: Noise standards in the ACT map viewer)	2
Figure 3: Kingston Arts Precinct Concept Plan – Indicative Noise Sources	7

1. Introduction

The Kingston Arts Precinct has the potential to re-shape Canberra's cultural landscape, creating a new destination for Canberra's visual arts within the existing and growing community of the Kingston Foreshore.

The introduction of new land uses presents challenges from a noise perspective. The future precinct must find a pathway to realise its vision as *A leading arts destination, celebrating a rich living history and vibrant community life, through discovery, connection and collaboration* while balancing the amenity of its users and neighbours beyond.

Arup is the project's acoustic consultant. This report describes the current and proposed noise environment of the Kingston Arts Precinct, presents the relevant noise standards, and reviews the opportunities and challenges to achieve compliance and manage broader community expectations. The project is currently in a master planning phase and as such is noted that it is still under design development.

2. Site description

The Kingston Arts Precinct (The Site) is within Section 49 Kingston, located off Eastlake Parade bound by Giles Street and Wentworth Avenue. The site is home to existing heritage buildings and currently provides ground level parking for the area, which is used intensively on Sundays when the Old Bus Depot Market operates. It is proposed that The Site will be redeveloped to include a new Arts Precinct (Territory Asset), a multideck carpark, and a mixed use residential parcel.

Surrounding land uses include:

- CZ5 (Mixed Use) to the immediate south, east and north of the site which includes residential uses and commercial uses (typically food and dining), and PRZ1 (Urban open space) and DES (Designated) further beyond
- DES (Designated) to the immediate northwest
- Road zone to the immediate west (Wentworth Avenue), and CF (Community facilities) and RZ5 (High density residential) further beyond.

The Site and surrounding land uses are shown in Figure 1.



Figure 1: Kingston Foreshore Land uses (Source: ACT Territory Plan map viewer)

3. Noise standards

Noise in the ACT is regulated by the *Environment Protection Act 1997* [1] and the *Environment Protection Regulation 2005* [2] (The Regulation), which aim to protect people from undue noise while facilitating business and social activities.

3.1 Noise zone standards

The ACT is divided into noise zones, as shown on the Noise Zone Map [3]. The different noise zones set the allowed noise levels (noise zone standards) which are referenced in The Regulation. They are based on the zoning for each area as outlined in the Territory Plan [4]. Further information is available on Access Canberra's Noise Standards webpage [5].

The Site, presented in Figure 2, is classified as:

- Noise Zone F, which applies the highest noise zone standard of adjoining zones for the time period. Adjoining land surrounding The Site is classified as:
 - Noise Zone G, ie 45 dBL_{A10} 'Day', 35 dBL_{A10} 'Night'



Figure 2: Kingston Foreshore Noise Zones (source: Noise standards in the ACT map viewer)

It is noted that the Kingston Group Centre (i.e. the commercial area surrounding 'Green Square' to the south west) is classified as Noise Zone C1, i.e. 55 dBL_{A10} 'Day', 45 dBL_{A10} 'Night'.

The Noise Zone Standards are presented in Table 2.2 and 2.2A of The Regulation; the relevant zones are summarised in the following table for clarity.

Table 1: Environment Protection Regulation – Noise Zone Standards

Noise Zone	Monday – Thursday		Friday – Saturday			Sunday / Public Hol
	7am-10pm	Other hours	7am-10pm	10pm-11pm	Other hours	
Zone C1	55	45	55	55	45	55
Zone F	Highest noise zone standard of adjacent zones					
Zone G	45	35	45	35	35	45

The Regulation requires that noise emission levels be measured using the statistical parameter L_{10} .

The compliance point for a parcel of land held under a territory lease is any point as near as practicable to the boundary of the parcel of land. Noise in excess of the Noise Zone Standard at the compliance point is taken to cause environmental harm in an *affected place*. An *affected place*, means a place (other than a road or road related area) where a person is affected by the noise. A person is not affected by noise unless the person complains about the noise to an authorised officer.

The legislation does not apply to noise generated by aircraft, vehicles on public roads, animals, and people.

The Site – which is currently in a mixed-use urban environment – references the most onerous noise zone standard (Zone G). This has onerous implications on noise control requirements for operational / commercial activities conducted on The Site, particularly at night.

3.1.1 Internal noise limits (at the noise sensitive receiver)

The EPA Guideline for the Preparation of Noise Management Plans [6] introduces additional criteria: *Where a residential development is proposed in an area with a noise standard higher than Zone G in the Regulation, the development must meet the ‘design sound level ranges’ recommended for residential buildings of AS/NZS 2107. Commercial accommodation developments should meet AS/NZS 2107 for sleeping areas.* (This is in addition to meeting the permitted noise standard at the site boundary.)

Since Noise Zone G applies to The Site, then no further measures to mitigate noise impact are imposed on future noise sensitive development. The onus is on the noise-emitters on The Site to reduce emissions to comply with Noise Zone G at the boundary of future noise sensitive developments.

3.2 Outdoor concerts

Outdoor concerts must meet the noise zone standards.

Large (>2000 people) outdoor concerts held on the Site are unlikely to comply with noise zone standards at the boundary. In this case, environmental authorisations can be used, which potentially permit outdoor concert events to emit noise in excess of the noise zone limit. This is detailed in the *Outdoor concert noise - Environment protection policy* [7] (The Outdoor Concert Policy), on Environment protection policies and guidelines webpage [8].

The Outdoor Concert Policy sets trigger limits at **50 dBL_{A10}**. Higher noise levels are permitted for a reduced number of events based on a varying scale and a credit-based system but are not to exceed **65 dBL_{A10}**. The limits apply at a compliance location in or near existing residential properties most affected by the noise.

Authorisation can be sought to hold large (>2000) outdoor concerts using a credit-based system that increases the relevant noise limit to a maximum of 65 dBL_{A10}. Smaller (<2000) concerts must still comply with the relevant noise zone standard (45 dBL_{A10} ‘Day’, and 35 dBL_{A10} ‘Night’).

Both scenarios are likely to have onerous implications on noise control and management for events held on The Site and may even preclude some types of events altogether.

3.3 Entertainment areas

It is recognised in the ACT that there is a desire to balance the positive benefits of the live entertainment and night-time economy with the potential for noise impacts in the surrounding community. Misalignment of land use and regulation can make achieving this balance challenging. For example, the Live Music Office and Music ACT’s *Cool Little Capital* (2015) paper [9] documents existing land use conflict impacts in the Kingston Foreshore.

The ACT Government’s *Entertainment Action Plan* [10] (the EAP) which built upon the *Urban Sounds* discussion paper [11], provides detail regarding the strategic intent, objectives, and characteristics of an entertainment area. The ACT Government has commenced investigating ways to implement the EAP and include Entertainment Precincts in the Territory Plan.

Kingston is identified in the EAP as a potential location for an entertainment area.

In December 2023 the ACT Government released a discussion paper *Noise in entertainment precincts* [12], however this paper focussed on the City Centre Entertainment Precinct only; no further updates to other potential entertainment areas were noted.

The ACT Government has recognised the need to balance precinct activation while preserving amenity in Kingston, but has not yet implemented strategies within the existing planning frameworks to define and achieve the desired outcomes.

4. Noise guidance

The ACT Government had introduced design guides to help the interpretation and application of the Territory Plan's assessment outcomes. These include:

- The Urban Design Guide (UDG) [13], to address public space, streetscape and built form interface outcomes at a range of scales.
 - This document outlines strategies to achieve a reasonable level of protection from known sources of noise.
- The Housing Design Guide (HDG) [14], to address housing and built form outcomes at a range of densities, excluding single residential dwelling.
 - This document includes a section on Noise and Acoustic Comfort

5. Noise generation at The Site

The types of activities associated with The Site that are expected to generate noise, which would require assessment against relevant noise standards, are described in Table 3 on the following page, and presented conceptually in Figure 3.

Noise levels for the noise emitting activities on the Site are subject to further assessment during design development and depend on specific selections, siting and building form. All noise emissions generated at The Site that are covered by the Noise Zone Standards will be designed to achieve the noise limit at the boundary. This includes:

- Mechanical services and ventilation equipment
- Workshop activities that produce noise
- Indoor performances that include music noise, and commercial operations that include background music

6. Noise impacts on The Site

The *Roads ACT Noise Management Guidelines 2018* document requires assessment of road traffic noise impacts on new developments on existing roads.

The Kingston Arts Precinct will include noise sensitive development that is in proximity to Wentworth Avenue, a major collector road. The development must therefore consider noise mitigation strategies so that external noise levels meet the noise targets defined in the Guidelines, as described in Table 2 below, or satisfy the internal noise levels detailed in Australian Standard AS/NZS 2107:2016 : *Acoustics – Recommended design sound levels and reverberation times for building interiors*.

The external noise targets are described as follows:

- Residential and community facilities: 60 dBL_{Aeq(15 hour)} during the daytime
- Residential and community facilities: 55 dBL_{Aeq(9 hour)} during the night time
- Commercial facilities: 72 (assumed to be dBL_{Aeq(15 hour)})

Based on the predicted traffic volumes in year 2027, the external noise levels predicted at the boundary are presented in Table 2. The predicted levels are also presented in Figure 3.

Table 2: Road traffic noise impacts on The Site

Location	Predicted road traffic noise level	Complies with external noise targets?	Additional acoustic mitigation required to proposed development
Eastlake Parade: Mixed residential	58 dBL _{Aeq(15 hour)} 55 dBL _{Aeq(9 hour)}	Yes	None
Eastlake Parade: KAP Building 1	58 dBL _{Aeq(15 hour)} 55 dBL _{Aeq(9 hour)}	Yes	None
Wentworth Avenue: KAP Building 3	68 dBL _{Aeq(15 hour)} 65 dBL _{Aeq(9 hour)}	Exceeds where this is considered a community facility	Building 3 fabric designed to satisfy the internal noise levels detailed in AS2107. This outcome is expected to be achieved with standard building construction.
Printers Way: KAP carpark entrance	52 dBL _{Aeq(15 hour)} 49 dBL _{Aeq(9 hour)}	Yes	None

Table 3: Activities, Noise Standards and Mitigation Measures

Activities		Relevant Noise Standards	Proposed noise mitigation measures
Normal operations			
      	Mechanical services and ventilation	Noise Zone Standards outlined in Section 3.1.	Quiet equipment with acoustically designed attenuation, shrouds, and/or enclosures. Battery operated (electric) forklifts; broadband reverse alarms. Design of building form and finishes to minimise noise generation and propagation.
	Workshop/craft/maker-space activities		
	Food and beverage, retail operations		
	Commercial vehicles, buses, loading/unloading activities		
	Commercial waste collection. Landscaping and maintenance activities.	Noise Zone Standards outlined in Section 3.1 – can be exceeded where special conditions are met.	Manage operations within prescribed operating times and total continuous duration; maintain equipment in good working order.
	Pedestrians, patrons (unlicensed venues), play spaces, and animals	No applicable noise standard.	Design of building form and finishes to minimise propagation.
	Patrons (licensed venues)	Liquor Regulation 2010.	Risk assessment management plan details what noise mitigation measures are in place.
	Additional private vehicles travelling to visit the site, on public roads.	Roads ACT Noise Management Guidelines.	Considered planning/movement/entrances to minimise noise impact.
Events			
  	Indoor performances.	Noise Zone Standards outlined in Section 3.1.	Design of building fabric, form and finishes to minimise noise generation and propagation.
	Outdoor concerts, Festivals, exhibitions/events, celebrations.	Noise Zone Standards outlined in Section 3.1. Outdoor Concert Policy detailed in Section 3.2.	Maximise distance from noise source to sensitive receivers with direct line-of-sight. Selection and orientation of sound system and ‘delay’ speakers; ‘sound shells’ or solid barriers behind the performers to minimise noise spill to unintended receivers. Design of building form and finishes to minimise noise generation and propagation. Quiet equipment with acoustically designed attenuation, shrouds, and/or enclosures.
	Markets, dining experiences. Temporary power generators.		
Development			
	Building works during the construction phase.	Noise Zone Standards outlined in Section 3.1 – can be exceeded where special conditions are met.	Manage works within prescribed operating times and total continuous duration.

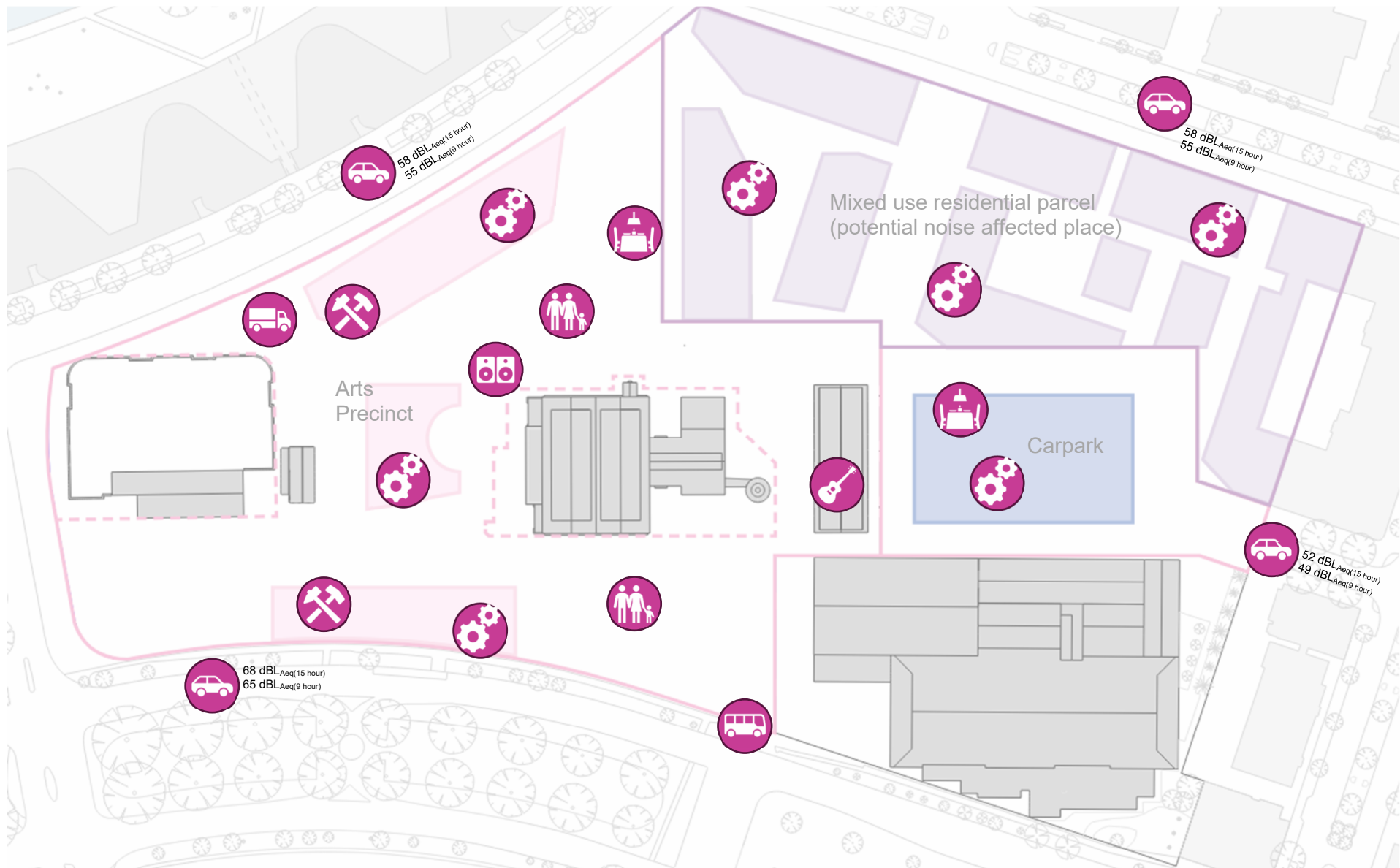


Figure 3: Kingston Arts Precinct Concept Plan – Indicative Noise Sources

7. Summary

Noise in the ACT is regulated using the Noise Zone Standards, which were established based on consideration of the land use zones and expectations regarding the noise environment.

Additional guidance is provided in the Urban Design Guide and the Housing Design Guide, which provide strategies to mitigate unwanted noise.

7.1 Recommendations

Noting that the development is still undergoing design that will impact the noise assessment, the following recommendations are made:

- Suitable building controls and management measures must be developed and integrated into the design for the future Arts Precinct, the Multideck Carpark and the mixed used residential parcel to meet the noise limits at the boundary, which are:
 - Noise Zone G, ie 45 dBL_{A10} ‘Day’, and 35 dBL_{A10} ‘Night’
- Where residential development or commercial accommodation is proposed,
 - The development should follow the Noise and Acoustic Comfort principals outlined in the Housing Design Guide (HDG) [14]
 - In particular, the use of wintergardens and balconies to block line-of-site to noise sources will be an effective noise reduction strategy at the interface between the mixed use residential parcel and Territory Assets.
 - The development should meet the ‘design sound level ranges’ recommended for residential buildings of AS/NZS 2107. Commercial accommodation developments should meet AS/NZS 2107 for sleeping areas.

References

- [1] ACT Government, “Environment Protection Act 1997,” ACT Legislation Register, 1997.
- [2] ACT Government, “Environment Protection Regulation 2005,” ACT Legislation Register, 2005.
- [3] ACT Government, “Noise Standards in the ACT,” [Online]. Available: <https://actgov.maps.arcgis.com/apps/webappviewer/index.html?id=44e571e9994341c285969ae430d40126>.
- [4] ACT Government - Environment, Planning and Sustainable Development Directorate, “Territory Plan,” [Online]. Available: <https://www.planning.act.gov.au/professionals/our-planning-system/the-territory-plan>.
- [5] Access Canberra, “Noise Standards,” [Online]. Available: <https://www.accesscanberra.act.gov.au/noise-management/noise-standards>.
- [6] EPA, “Guidelines for the preparation of Noise Management Plans for development applications,” 2023.
- [7] Environment ACT, “Outdoor Concert Noise - Environment Protection Policy,” ACT Government, 2001.
- [8] Access Canberra, “Environment protection policies and guidelines,” [Online]. Available: <https://www.accesscanberra.act.gov.au/city-services/environment-protection-authority/environment-protection-policies-and-guidelines>.
- [9] Music ACT & Live Music Office, “Cool Little Capital,” 2015.
- [10] ACT Government - Environment, Planning and Sustainable Development Directorate, “Entertainment Action Plan,” Australian Capital Territory, October 2019.
- [11] ACT Government, “Urban Sounds: A discussion paper about managing mixed use precincts in a dynamic city,” Australian Capital Territory, 2016.
- [12] ACT Government, “Noise in entertainment precincts - Discussion Paper,” Dec 2023.
- [13] ACT Government, “ACT Planning - Urban Design Guide,” [Online]. Available: https://www.planning.act.gov.au/__data/assets/pdf_file/0004/2324677/ACT-Urban-Design-Guide.pdf.
- [14] ACT Government, “ACT Planning - Housing Design Guide,” [Online]. Available: https://www.planning.act.gov.au/__data/assets/pdf_file/0003/2324676/ACT-Housing-Design-Guide.pdf.

Profession

Acoustic Consultant

Current position

Associate | Acoustics, AV &
Theatre Consulting Skills
Network Leader Australasia

Joined Arup

2001

Years of experience

20+

Qualifications

B.E (Hons) (Mech)

Professional associations

MIEAust

Member, Australian
Acoustical Society

Member Company
Representative, Association
of Australasian Acoustical
Consultants

Sylvia Jones

Project Acoustic Lead

Sylvia is passionate about good acoustic design and the positive impact this can have on people's lives. She has been involved in a broad range of engineering projects in Australasia, and developed a comprehensive knowledge of building acoustic engineering.

Project experience

- Kingston Arts Precinct, ACT (current)
 - Melbourne Recital Centre and MTC Theatre Project, VIC
 - State Library of Victoria, Melbourne, VIC
 - Queensland University of Technology, Creative Industries Precinct Phase 2, Brisbane, QLD
 - Art Centre Melbourne Business Case, VIC
 - The Hedberg, Hobart, TAS
 - Princes Wharf Shed 1 Redevelopment, Hobart, TAS
 - Han Gang Art Island, Seoul, South Korea
 - Box Hill Central North Precinct, VIC
 - Alba Springs Thermal Spa and Retreat, VIC
 - Immigration Museum: The Long Room, Melbourne, VIC
-