

Project: Sirius Building, 2-60 Cumberland Street, The Rocks

Project No: 301350202

To: Sirius Developments Pty Ltd, John Green

Date: 16 February 2021

From: Brandon Notaras

RE: Air-cooled Chiller Noise Impact and Mitigation

1. Introduction

Concerns regarding the potential noise impacts to the nearby tenants and residents of surrounding sites has been raised during the submissions to State Significant Development Application (SSD-10384). Resident, Mr. John Curtis has raised a specific concern of the operation of the pool plant located to the south of the proposed development, neighbouring the site boundary of 88 Cumberland Street, The Rocks.

The concern is:

"My name is John Curtis, sole Director of Sitruc Pty Limited the owner of Unit 1, 88 Cumberland Street. This unit is at the northern boundary of 88 Cumberland Street which is directly next to the Sirius development. It is on level 4 being the residential level.

I object most strongly to serious detrimental impact the Sirius development will have on my apartment in the following areas:

- 1. Shadowing due to certain height breaches*
- 2. Loss of northern view corridors*
- 3. Building up against the unit will create privacy issues*
- 4. The pool/entertainment area is very close and will create noise/quiet enjoyment issue*
- 5. There is basement excavation hard up against our northern boundary. I require details for proper comment and dilapidation report to protect my property*
- 6. Request conditions in the construction management plan will detrimentally impact my quiet enjoyment of my property."*

The purpose of this technical memorandum is to outline any specific mitigations to demonstrate that the requirements and criteria set by the NSW EPA Noise Policy for Industry (NPI) have been met and to address Point 4 of the listed submission response.

2. Acoustic Criteria

2.1 EPA Noise Policy for Industry (NPI)

The NSW EPA Noise Policy for Industry (NPI) has been applied to address the noise emissions from the development to the surrounding noise-sensitive receivers. The NPI sets out noise criteria to control the noise emission from industrial noise sources generated by the proposed development. Operational noise emissions from the development shall be addressed following the guideline in the NSW NPI.

The calculation is based on the results of the unattended ambient and background noise monitoring, addressing two components:

- Controlling intrusive noise into nearby residences (Intrusiveness Criteria)
- Maintaining noise level amenity for particular land uses (Amenity Criteria)

Once both criteria are established, the most stringent for each considered assessment period (day, evening, night) is adopted as the project noise trigger levels (PNTL).

As outlined in the Acoustic Logic Development Application Report dated 21/10/2020 the criteria for external noise emissions for Mr John Curtis residence has been summarised in Table 1 below.

Table 1: Project noise trigger levels for industrial noise emissions

Receiver	Period	Descriptor	Project Noise Trigger Levels dB(A)
Residential Receivers	Day	L _{Aeq,15min}	58
	Evening		48
	Night		43

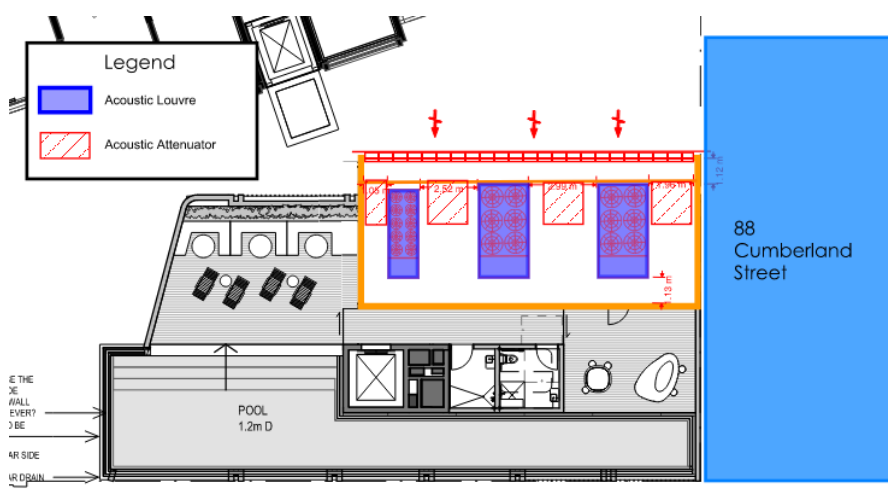
3. Noise and Vibration Controls

While at the date of this this memo, design has not been finalised, there are two options being considered. Both options have been assessed and noise and vibration controls have been provided to ensure that the project target noise level is met, as outlined in Table 1.

3.1 Option 1 – Ducted Intakes

For this design option, acoustic attenuators are proposed to attenuate noise emissions from air-cooled chillers at the intake interface of the plantroom, and acoustic louvres are proposed to attenuate discharge noise emissions from the air-cooled chillers. See Figure 1 for further information.

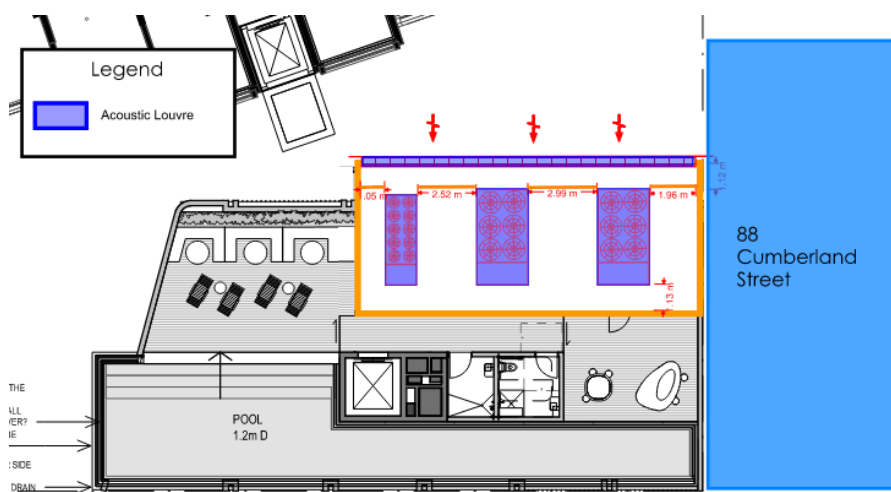
Figure 1: Option 1: Pool Building Design



3.2 Option 2 – Louvred Intake Wall

For this design option, acoustic louvres are proposed to attenuate noise emissions from air-cooled chillers at the intake interface of the plantroom, and acoustic louvres are proposed to attenuate discharge noise emissions from the air-cooled chillers. See Figure 2 for further information.

Figure 2: Option 2: Pool Building Design



4. Conclusion

In conclusion, both design options outlined within this memo are predicted to comply with the noise requirements outlined by the NSW EPA's Noise Policy for Industry (NPI).

As these assessments have been conducted to the site boundary and not the façade of the neighbouring site, the proposed operation of the air-cooled chillers servicing the pool building within the proposed development is not expected to exceed the night-time (most stringent) NPI criteria outlined in Table 1.