

Memorandum

ARUP

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Subject	Responses to DPIE SSDA acoustics comments	

This memo provides responses to SSDA acoustics-related issues raised by NSW Department of Planning, Industry and Environment (DPIE) and NSW Environment Protection Authority (EPA) regarding submission related to the acoustic assessment for the Fort Street Public School SSDA (SSD 10340 Response To Submissions).

Item 6: Operational noise impacts

Issue raised:

Construction and Operational Noise—Provide revised Acoustic Assessment report that considers all anticipated operational noise impacts, due to the increase in student numbers and redevelopment of existing buildings.

Arup response:

Regarding operational noise impacts, the student population is proposed to increase from 220p to 550p, which would equate to an approximate increase of 3-4 dB (assuming an equal energy basis per student). Given this relatively marginal potential increase, and given the high ambient environmental noise levels, the likelihood of there being a significant impact from student activity noise on nearby premises is very low. Furthermore, there is no specific noise criteria applicable to student activity. On this basis, further investigation relating to school activity noise is not considered to be warranted. With respect to other sources (PA system, school bell, activity within buildings) implications have been discussed in the Acoustic Report. Assessment of these is more appropriately undertaken at detailed design stage and can be certified prior to issue of the construction certificate.

Regarding construction noise impacts, construction noise criteria are provided in the SSDA Acoustic Assessment Report (*AC03_v4_FSPS SSDA Acoustic Assessment Report.pdf*, issued by Arup), along with in-principle mitigation and management measures. Given the site context, construction noise from the development is not anticipated to have a significant negative impact on the surrounding area. Furthermore, only preliminary information would be available regarding proposed construction methods, that would otherwise be subject to review by the contractor.

Memorandum

Accordingly, a Construction Noise and Vibration Management Plan is recommended to be prepared by the Main Contractor prior to commencement of site works, which is a standard conditional requirement for development of this type.

Item 46: Rooftop noise barriers

Issue raised:

Acoustics—DPIE may wish to consider the implications of acoustic recommendation to install a 3m high acoustic barrier on the roof and have plant recessed into the roofscape.

Arup response:

The item raised does not direct a response from the proponent as it appears to be for consideration of DPIE. The recommendation for a noise barrier was based on preliminary design information for the mechanical design, noting that such a barrier would likely require approval given its impact on the built form. Depending on the final plant selection and mechanical design, the recommended noise barrier may not be required. However, prohibiting the installation of the barrier may limit opportunity to comply with the project noise targets. It is expected that resolution of the acoustic/mechanical design would be subject to further detailed design that could be deferred to prior to the issue of the construction certificate.

Item 48: Construction hours

Issue raised:

Construction Noise—The construction hours being sought will need to be amended/restricted to 8.00am to 1.00pm on Saturdays as the City's Construction Code of Practice CBD is inappropriate for an SSD application and the site is outside the Code's CBD area.

Arup response:

It is noted that the School site sits *just* outside the CBD area boundary defined in City of Sydney's (Cos) *Construction Code of Practice*. It is considered that the Code's boundary location is informed by noise amenity at surrounding receivers, and thus the nearest receivers to the subject site exhibit high ambient noise levels consistent with the City CBD. Furthermore, the primary noise-sensitive receivers in relation to the site are those located to the south which lie inside CoS's CBD area. Residences in the Millers Point area are otherwise acoustically shielded from the site due to the topography. Consistent with other major projects in the City of Sydney LGA, it is therefore considered reasonable to adopt the CoS's *Construction Code of Practice* extended Saturday construction hours.

Item 55: Construction hours

Issue raised:

Construction Noise—The EPA notes that no justification has been provided for extended construction hours, particularly on Saturday and the City of Sydney Code of Practice, which the EIS seeks to be consistent with, is not referenced in the SEARs. Accordingly, the EPA recommends that construction be limited to the

Memorandum

standard hours of work in the Interim Construction Noise Guideline (ICNG), unless it can comply with the noise affected management level of RBL + 5 dB or justification be provided in accordance with section 2.3 of the ICNG.

Further consideration of feasible and reasonable mitigation, particularly for work scheduled outside of the recommended standard hours of work is required in addition to the mitigation outlined in Section 6.3.2 of the Acoustic Assessment (Appendix Z) and adopted in any consent requirements.

The EPA notes that there is no assessment of likely construction vibration impacts to human comfort. Nonetheless, in the EPA's opinion, construction vibration impacts are not anticipated.

Arup response:

Refer to response to Item 48 above for justification regarding extended Saturday construction hours. Regarding determination of detailed mitigation and management measures, this would be more appropriately determined by the main contractor once engaged. It would be sought to have this requirement conditioned on the development, with the option of requiring the CNVMP to be approved by DPIE for the extended work hours.

Item 56: Operational noise

Issue raised:

Operational Noise—Because it is anticipated that mechanical services plant may also be operational during the night, it is recommended that all mechanical services plant be designed to achieve 50 dB $L_{Aeq15min}$ at the closest noise sensitive receiver/s. This is based on the project noise trigger level for the night-period of 45 dB $L_{Aeq15min}$ + 5 dB (refer Table 7 of the Acoustic Assessment).

Provide further detail on design, siting and noise mitigation strategies for the PA system / school bell, as no assessment has been presented on the likely impacts, even though no change is anticipated to the PA system b school bell.

The EPA recommends that limitations are placed on permitted hours and frequency of use, particularly for any outdoor spaces such as the rooftop, to manage potential noise impacts on the community.

Arup response:

The operational noise criteria quoted is consistent with that in the SSDA Acoustic Assessment Report. Regarding mechanical services equipment, the design will address the proposed operating hours. Only equipment that is to operate during that period should be required to comply, not all equipment.

Regarding the school PA system and bell, details regarding any changes to these were not available at the time of conducting the SSDA acoustic assessment and are still subject to further detailed design. The principles to be adopted for any changes to the PA and bell system shall include:

- Target compliance with the environmental noise limits while being informed by benchmarking of the current system noise level outputs.

Memorandum

- Provide coverage only to required external areas, delineating between the needs of the system for emergency use and general announcements.
- The sound level output of the system shall be minimised as far as practicable for general announcements and bell operation, while high output could be allowed for emergency use.
- Provide increased number of speakers rather than increased speaker sound power to achieve required coverage.
- Loudspeaker locations, type and directivity characteristics shall be specified to minimise noise spill to the surrounding area.
- Limitations on the permitted hours of operation shall be informed by noise emission output and should not limit operations during school hours.

Item 119

Issue raised:

Construction vehicle traffic is a concern as it generates noise, dust and additional traffic. Kent Street should not be used as a point of access/egress for construction vehicles. It is rejected and other options for non-residential streets are available. The contractor should be prohibited in its contract to use Kent Street. The road is narrow and the number of trucks per day will increase risk of accidents causing injury and death. Construction vehicles should use Hickson Road, Argyle Street and Watson Road as their travel route. Heavy vehicle temporary parking is an existing issue and all future heavy vehicles should drive straight to their sites and not be allowed to layover on residential streets.

Arup response:

It is considered that the primary issue relates to non-acoustic factors. Should the vehicular access be maintained, the main contractor would be required to evaluate potential noise impacts and appropriately manage impacts either through physical mitigation measures or managing frequency of movements to and from site.

Item 131: Ongoing engagement and consultation

Issue raised:

Noise and Vibration—MAAS requests ongoing engagement and consultation during planning and construction phases to ensure potential subsidence or structural damage to sensitive heritage structures on the Sydney Observatory site are mitigated to the greatest extent possible.

Arup response:

Appropriate engagement and consultation would occur in the development of the detailed Construction Management Plan for the works. This would typically form a conditional requirement and could specifically refer to the need to consult and address potential impacts upon the Sydney Observatory site.