MEMORANDUM

250439 - 81-83 George St & 1 Barrack Ln, Parramatta - Response to DoE Comments – R2

TO:	Katherine McIntosh	**DATE:**	20 March 2026
COMPANY:	Mecone		
EMAIL:	kmcIntosh@mecone.com.au		
FROM:	JackL@pwna.com.au		
SUBJECT:	81-83 George St & 1 Barrack Ln, Parramatta – Response to DoE Comments – R2		

The following memorandum provides Pulse White Noise Acoustic's (PWNA) responses to Department of Education (DoE) comments on the previously submitted Noise and Vibration Impact Assessment (NVIA) (Ref: *250439 - 81-83 George St & 1 Barrack Ln, Parramatta - SSDA Acoustic Assessment - R8, dated 7th November 2025).*

The DoE's commentary is reproduced below:

> *DoE - 5*
>
> *Inclusion in the Heritage Impact Statement and proposal of measures to conserve and protect the shared heritage item of the Convict Barracks wall. A 3m setback for the development will enable future access to the wall but does not address the construction impacts of such major works on the wall, and it is considered that the impact statement did not provide adequate controls for construction works to preserve it in its current condition. As the convict wall represents the boundary between the department's property and the proposed development, impacts to this heritage significant structure would also have operational impacts to the boundary of the school; a 3m exclusion zone is completely inadequate to prevent these impact.*
>
> *DoE-11*
>
> *Noise and vibration assessments are to assess construction noise impacts and consider the school as a sensitive receiver.*
>
> *If noise and vibration exceedances at the school are identified, mitigation measures should be developed consistent with NSW EPA construction noise guidelines. The mitigation measures should seek to maintain internal noise levels for classrooms required by the department's Educational Facilities Standards and Guidelines (EFSG).*
>
> *Real-time noise and vibration monitoring should be installed along the school boundary during demolition and excavation works.*
>
> *Where necessary, respite periods should be provided during the school day to limit impacts to student learning. Consideration should also be given to potential wellbeing impacts, particularly for younger students who may experience anxiety or sensory overload in response to prolonged construction noise.*

PWNA response:

Given the close proximity of the site to the identified heritage items, the vibration criteria, mitigation measures, monitoring requirements, and management recommendations set out in the submitted Noise and Vibration Impact Assessment (NVIA) are also intended to apply to the heritage items identified below in Table 1.

The NVIA specifically addresses vibration impacts on establishing minimum safe working distances for construction plant and activities. These distances are based on accepted cosmetic damage criteria from BS 7385: Part 2 and DIN 4150: Part 3 (refer Table 20 of the NVIA). The site specific minimum working distance should be validated prior the start of the construction work for any identified heritage items.

In addition, the recommendations provided in this supplementary memorandum are to be implemented in conjunction with, and as an extension of, the mitigation and management framework established in the NVIA, document reference: *250439 - 81-83 George St & 1 Barrack Ln, Parramatta-SSDA Acoustic Assessment – R7, dated 29th October 2025*.

For the SSDA, a revised, project-specific Construction Noise and Vibration Management Plan (CNVMP) is recommended to be prepared prior to Construction Certificate (CC) approval. The CNVMP shall incorporate appropriate vibration management measures, including monitoring at the heritage items, consistent with the intent of the previous plan.

Summary of listed heritage items surrounding the project boundary

A review of the State Heritage Inventory and Schedule 5 of the Parramatta Local Environmental Plan (LEP) 2023 was undertaken to identify the listed Heritage items. These heritage items are indicated in Figure 1 below.

Figure 1 **Map identifying locations of heritage items and proximity to site.**

Heritage listed items located adjacent to the project area are also summarised in Table 1 below.

Table 1 Summary of listed heritage items surrounding the project boundary

Receiver	Level of significance
Perth House and Stables at 85 George Street, Parramatta	State and local
Warders Cottage at 3 Barrack Lane (1 Barrack Lane is part of curtilage of the item)	State and local
Convict Barracks Wall	Local
Convict Drain (This will be investigated by an archaeology team prior to demolition of the current contemporary buildings)	State

Heritage buildings and structures will be assessed against the screening levels stated in Table 2 of this memorandum. Heritage items should not be assumed to be more sensitive to vibration unless they are found to be structurally unsound.

Heritage items located within close proximity to the site will be assessed by a structural engineer as part of the pre-construction surveys. In the event that an item is deemed structurally unsound during these surveys, then the more stringent DIN4150 heritage criteria will be applied to this item.

Vibration monitoring for the heritage items conducted during the demolition and construction stages of the project, shall be undertaken in accordance with the recommendations provided in the project's Construction Noise and Vibration Management Plan (CNVMP) before issue of the Construction Certificate (CC).

Vibration Monitoring – Heritage Items

Vibration monitoring of the heritage items is to be undertaken as part of the proposed demolition and construction on the site. Vibration monitoring is to be carried out until such time as the structural works at or below ground level, have been completed.

Details of the proposed monitoring include the following:

The equipment to be installed will include systems which will measure, record and alert in real time vibration levels during all approved construction activities on the site. Details of the methodology include:

1. **Monitoring Locations** – To ensure vibration impact on the heritage items identified in Table 1 of this memorandum are within the recommended screening level, the following is proposed:
    a. Install one vibration logger at a representative ground-level location at each heritage item (refer to Table 1 of this memorandum). The vibration monitor is to be positioned at a conservative location representative of the structural foundation of the heritage item, to accurately capture ground-borne vibration transmission from the construction and demolition works.
    b. The physical monitor will be placed at surface level inside a waterproof case. This case will contain the battery, power, computer, and communication systems.
    c. Details of the vibration logger is included in the image below and may include a solar panel for power if required.

Figure 2 Example of vibration logger

2. The vibration monitoring to be installed at the locations discussed above are to include the following parameters:
    a. Vibration monitoring to include continuous vibration logging during periods when demolition and construction activities are in operation.

b. Monitors set to record maximum vibration levels including Peak Particle Velocity (PPV) magnitudes.

c. Monitors are required to be SMS enabled such that any events recorded above 'alert levels' can be instantaneously sent to suitable contractor representative.

d. The vibration trigger, alert and alarm levels are indicated below in **Table 2**.

Table 2 Required Response to Vibration Events

Location/ Receiver Type	Event Type		
	Trigger	Alert	Alarm, Stop Work
Heritage Item	2.5 mm/s	4 mm/s	5 mm/s
Note 1: See Section below for response to Event Types			

e. Vibration monitoring should be undertaken during demolition and construction of the building structure, including installation of concrete to the ground floor as a minimum. Subject to agreement with the relevant stakeholders, monitoring requirements may be reviewed or reduced where monitoring results demonstrate that no adverse vibration impacts have occurred during construction.

In the event results are received above 'alert levels' detailed in Table 2, above the following response detailed in below, will be required.

Table 3 Required Response to Vibration Events

Event Type	Required Response
Trigger level (2.5 mm/s Peak Particle Velocity)	All events above the trigger level are required to be recorded by the vibration monitors.
Alert (4 mm/s Peak Particle Velocity)	Temporarily cease the vibration generating activity and assess the reason for vibration exceedances. Modify the related construction practice to prevent future exceedances. Keep records of subsequent breaches to demonstrate that vibrations for modified activity do not reach Alarm Level. All Alert events are to be SMS messaged and/or emailed to the building contractor, site manager, subcontractor and acoustic consultant in real time.
Alarm (5 mm/s Peak Particle Velocity)	**Stop Work Event** All Alarm events are to be SMS messaged and/or email to a relevant subcontractor and acoustic consultant in real time. The activity generating the vibration levels is to be stopped immediately. Suitable representatives of the building contractor, the relevant Subcontractor, Heritage Consultant and acoustic consultant should be notified via email or text message. Vibration monitoring report to be completed.

Event Type	Required Response
	Once a Stop Work event is triggered, the construction activity generating the vibration must not recommence until an action plan has been agreed and implemented by the construction team and the relevant subcontractor. All vibration-generating activities are to be reviewed and reassessed by the construction team and relevant subcontractor to identify and implement measures to reduce potential impacts on heritage items. Where it is anticipated that a particular item of plant may exceed the heritage screening criteria presented in Table 2 of this memorandum, appropriate mitigation measures stated in the project's Construction Noise and Vibration management Plan are to be implemented prior to recommencement of works.

Vibration Monitoring – Reporting

The proposed construction vibration monitoring methodology outlined above including pre-construction assessments, real-time monitoring with alerts for heritage structures effectively safeguards the heritage items from demolition and construction vibration.

The results of vibration monitoring would be reported on a monthly basis, including monthly reports. Monthly vibration reports will be prepared to demonstrate compliance with the project heritage vibration screening criteria and will be undertaken in accordance with this memorandum and the project CNVMP.

As a minimum, and where relevant, the following information should be included in vibration monitoring reports for individual monitoring events:

a) Details of the vibration monitoring methodology.

b) Relevant vibration management screening level for heritage items in relation to the project CNVMP.

c) Description of the nearest affected heritage item location.

d) Description of the vibration monitoring instrumentation used.

e) The results of monitoring at each monitoring location, including a comparison with the relevant project CNVMP.

f) Vibration monitoring results summary describing any vibration intensive activities where heritage screening level have been triggered.

g) Details of corrective action applicable to vibration criteria exceedances and confirmation of its successful implementation. Where corrective action has not yet been implemented, it may be shown as pending and the status of its implementation will be carried forward to following reports.

h) The location of the construction works in relation to the monitoring position.

i) Details of the various construction equipment in use during the measurement period.

j) A clear statement outlining the project's compliance or non-compliance with the noise/vibration management levels.

k) Strategies for minimising noise/vibration impacts, and the appropriate actions to implement the mitigation and or management strategies.

Attended Vibration Monitoring

In addition to the permanent monitoring described above, an attended site survey can be undertaken to supplement the long-term vibration monitoring. Short-term attended vibration monitoring is generally used to provide an immediate assessment of new works or equipment, and would include the following:

a) Attended vibration surveys resulting from proposed activities prior to commencing works on the site and within close proximity of the heritage items. Vibration assessments should include attended vibration measurements of proposed activities to be undertaken on the site such as hydraulic hammering, auger piling and the like.

b) Vibration surveys would be undertaken when activities are being conducted on the site and outside of the recommended safe working distances for vibration intensive plant stated in Table 20 of Section 5.3 of the SSDA Noise and Vibration impact assessment, document reference: *250439 - 81-83 George St & 1 Barrack Ln, Parramatta- SSDA Acoustic Assessment – R7*, dated 29th October 2025.

c) Testing would then be undertaken at a similar distance to that required to the heritage items to confirm compliance with the heritage screening criteria prior to commencing within close proximity to the heritage structure.

Response for DoE-11

In response to the Department of Education's comments regarding student wellbeing, construction noise impacts will be managed in accordance with the Interim Construction Noise Guideline (ICNG) and relevant applicable NSW noise management guidelines.

Where construction activities are predicted or measured to exceed the Highly Noise Affected Level (HNAL), all reasonable and feasible noise mitigation measures will be implemented in accordance with ICNG to minimise noise emissions at source and receiver. This approach is intended to reduce the extent and duration of high noise impacts, thereby limiting potential disruption to student learning and associated wellbeing effects.

In addition, proactive consultation will be undertaken with the affected educational receiver to identify and accommodate sensitive periods, such as examinations, formal assessments, or other critical academic activities. Where reasonably practicable, high-noise works exceeding the HNAL will be scheduled outside these nominated sensitive periods, or alternative mitigation and management measures will be implemented in consultation with the school.

Regards,

Jack Liang

Acoustic Engineer

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AAAC Member Firm, AAS Member