Department of Planning, Housing and Infrastructure

Our ref: SSD-57107216-PA-45

Michele Nettlefold
Manager Land and Approvals - Ops
AGL Macquarie Pty Limited
200 George Street
Sydney, NSW, 2000

03/07/2026

Tomago BESS – Out of Hours Work Application (OOHWA)

Dear Ms. Nettlefold

Thank you for submitting the OOHWA in accordance with Condition B16, Schedule 2 of the consent for the Tomago BESS (SSD-57107216). I also acknowledge your response to the Department's review comments and request for additional information.

I note the OOHWA has been prepared in consultation with TfNSW and Port Stephens Council with no issues and contains the information required by the conditions of approval.

Accordingly, as nominee of the Planning Secretary, I approve the revised OOHWA (Rev v1.7, 30 June 2026).

Please ensure you make the document publicly available on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Charissa Pillay on 02 99955944.

Yours sincerely

Iwan Davies
Director
Energy Assessments

As nominee of the Planning Secretary

Extension of Construction Hours Construction Noise Impact Statement

Tomago Battery Energy Storage System

Fluence Energy Pty Ltd

Level 26, 1 Bligh Street
Sydney, NSW 2000

Prepared by:

SLR Consulting Australia Pty Ltd

SLR Project No.: 630.032707.00001

2 July 2026

Revision: v1.7

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
v1.7	2 July 2026	Jonathan Caine	Martin Davenport	Stephen Shoesmith

Basis of Report

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Fluence Energy Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid. SLR may have used AI in the preparation of this document.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

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Appendices

1.0 Introduction

This Construction Noise Impact Assessment Statement (CNIS) has been prepared by SLR Consulting Australia Pty Ltd (SLR) on behalf of Fluence Energy Pty Ltd (the Client) to support an application under Condition B16 of Development Consent SSD-57107216 for extended Saturday construction hours of the Tomago Battery Energy Storage System to be constructed at 6 Old Punt Road, Tomago NSW (the Project).

SLR prepared a Construction Noise and Vibration Management Plan (*Construction Noise and Vibration Management Plan, Tomago Battery Energy Storage System, 630.032707.00001-R01-v2.2* dated 11 February 2026) (the CNVMP) for the Project.

This CNIS has been prepared to satisfy the requirements and procedures of the CNVMP and the SSD 57107216 conditions of consent including demonstrating that noise impacts can be adequately managed through the implementation of feasible and reasonable noise mitigation measures.

The site layout for the Tomago BESS is shown in Figure 1.

The nearest most potentially affected noise sensitive receivers are shown in Figure 2.

The full development footprint of the Project is shown in Figure 3.

This report uses specialist acoustic terminology. An explanation of common terms is provided in Appendix A.

For reference, information about construction noise and vibration mitigation measures and the OOH Works Protocol set out in the CNVMP are included in Appendix B.

Construction noise validation monitoring was conducted by EMM in April 2026 detailed in *Tomago BESS Construction noise validation monitoring* dated May 2026, included in Appendix D.

2.0 SSD-57107216 Conditions of Consent

Conditions B14, B15, B16 and B17 of SSD 57107216 relate to construction and construction noise and have been reproduced in Table 1.

Table 1 SSD 5710216 Conditions of Consent

Condition Requirement	Where addressed in this report
AMENITY	
Construction, Upgrading and Decommissioning Hours **B14.** Unless the Planning Secretary agrees otherwise, the Applicant may only undertake construction, commissioning, upgrading or decommissioning activities on site between: (a) 7 am to 6 pm Monday to Friday; (b) 8 am to 1 pm Saturdays; and (c) at no time on Sundays and NSW public holidays.	Standard construction hours assessment conducted as part of the CNVMP. Proposed extension of hours described in B14 addressed in Section 3.0 of this report.

Condition Requirement	Where addressed in this report
Variation of Construction Hours **B16.** The hours of construction activities specified in Condition B14 of this approval may be varied with the prior written approval of the Planning Secretary. Any request to alter the hours of construction must be: **(a)** considered on a case-by-case or activity-specific basis;	This report forms part of a request to alter hours of construction. Construction activities described in Section 3.0 of this report.
(b) accompanied by details of the nature and justification for activities to be conducted during the varied construction hours;	Details of nature and justification provided in Section 3.0
(c) accompanied by written evidence that appropriate consultation with potentially affected sensitive receivers and notification of Councils (and other relevant agencies) has been and will be undertaken;	Noise sensitive receiver consultation requirements addressed in Section 7.3 Evidence of notification undertaken with Council and relevant stakeholders (M1 Extension Project team & Sweetwater Grove) addressed in Appendix C
(d) accompanied by evidence that all feasible and reasonable noise mitigation measures have been put in place; and	Feasible and reasonable noise mitigation measures provided in Section 7.0
(e) accompanied by a noise impact assessment consistent with the requirements of the Interim Construction Noise Guideline (DECC, 2009), or latest version.	This entire report. Assessment criteria in Section 5.0 Assessment results in Section 6.2 Mitigation Measures in Section 7.0 Conclusion in Section 8.0

3.0 Project Description

3.1 Proposed Extension of Hours

The CNIS relates only to the extension of the existing approved construction hours under Condition B14 through an application for a variation of construction hours under Condition B16.

The proposed extension of hours includes Saturday 7:00 am – 8:00 am and 1:00 pm – 6:00 pm. No other changes to construction methodologies are proposed for these out of hours (OOH) works.

The existing approved construction hours for the Project are:

- *7 am to 6 pm Monday to Friday;*
- *8 am to 1 pm Saturdays; and*
- *at no time on Sundays and NSW public holidays.*

The proposed extended construction hours for Saturday are as follows:

- *7 am to 6 pm Saturdays*

Saturday OOHW construction hours are sought for the remaining construction and commissioning period of the Project, currently anticipated until 30 September 2027.

Construction activities proposed during extended Saturday hours are consistent with those currently approved to be undertaken during approved weekday hours. No change to plant, equipment, or noise profile is proposed, and works will continue to be undertaken in accordance with existing mitigation measures and applicable guidelines. All noise mitigation measures including those detailed in the noise and vibration management plan, shall be maintained, see Appendix B.

The proposed variation does not introduce any material change to noise emissions beyond those already assessed under the Development Approval.

3.2 Construction Work Activities

The construction of the Project is expected to take place over multiple construction stages, including:

- Site establishment, including enabling works, land clearing, constructing access tracks, compacting and grading
- Structural, civil, mechanical and electrical works, installation of plant
- Transmission connection
- Commissioning
- Demobilisation

3.3 Justification of OOH works

The proposed extension of Saturday working hours is intended to support the safe and effective delivery of construction activities while minimising potential impacts on the surrounding environment and local road network. The extended Saturday construction hours are intended to:

- Reduce the number of concurrent activities and associated SIMOPS (simultaneous operations) risks by providing additional working windows.

- Improved site safety outcomes through lower peak workforce densities.
- Improve overall construction efficiency and project delivery.
- Reduce potential community impacts over the long term by shortening of the overall construction program where practicable.
- Support timely delivery of a State Significant Development renewable energy project and earlier energization of critical renewable infrastructure.
- Improve workforce attraction and retention by providing greater flexibility in available working hours.
- Allow more effective resourcing of construction activities, resulting in improved productivity, reduced programme pressures and safer site operations.

The additional working window would allow construction activities and workforce movements to be distributed over a longer period, reducing peak workforce congestion and minimising the potential for queuing on Old Punt Road. This approach would support safer site access and egress arrangements for both construction personnel and road users.

4.0 Nearest Receivers

The nearest residential receivers (individual properties and receiver areas) surrounding the Project are detailed in Table 2.

The nearest most potentially affected receivers are located at the caravan park at 819 Tomago Road, Tomago, approximately 950m to the south-west of the Project.

Table 2 Nearest Sensitive Receivers as per the SSDA Consent and NVIA

Receiver	NCA	Address	Approx. Distance from Works (m)	Direction from Site	Receiver Type
R1, R2	3	Sweetwater Grove, 819 Tomago Road, Tomago	950 m	SW	Caravan Park (Residential)
R3	3	34 Old Maitland Road, Hexham	2300 m	SW	Residential
R4	3	209 Maitland Road Hexham	2400 m	SW	Residential
R5	3	211 Maitland Road Hexham	2400 m	SW	Residential
R6	3	213 Maitland Road Hexham	2400 m	SW	Residential
R7	1	1 Woodlands Close Tarro	3400 m	W	Residential
R8	1	1 Anderson Drive, Tarro	3400 m	W	Residential
R9	1	13 Woodberry Road, Tarro	3400 m	W	Residential
R10	2	14 Nilands Lane, Woodberry	3400 m	NW	Residential
R11, R12	2	135 Oakfield Road, Woodberry	2400 m	NW	Residential
R13	1	2171 Pacific Highway, Heatherbrae	2000 m	NE	Residential
R14	3	47 School Drive, Tomago	2500 m	SE	Residential
R15	3	374 Tomago Road, Tomago	2600 m	SE	Residential

The receivers contained in Table 2 are not all of the receivers in the area, but are representative of the nearest residential receivers to the Project. That is, compliance with the

relevant construction noise and vibration criteria at these locations would lead to compliance with other residential receivers in the study area.

Residential receivers and other sensitive buildings are shown in Figure 2.

Scale: 1:4,000 at A4
Coordinate System: GDA2020 MGA Zone 56

Date Drawn: 09-Dec-2025
Project Number: 630.032707

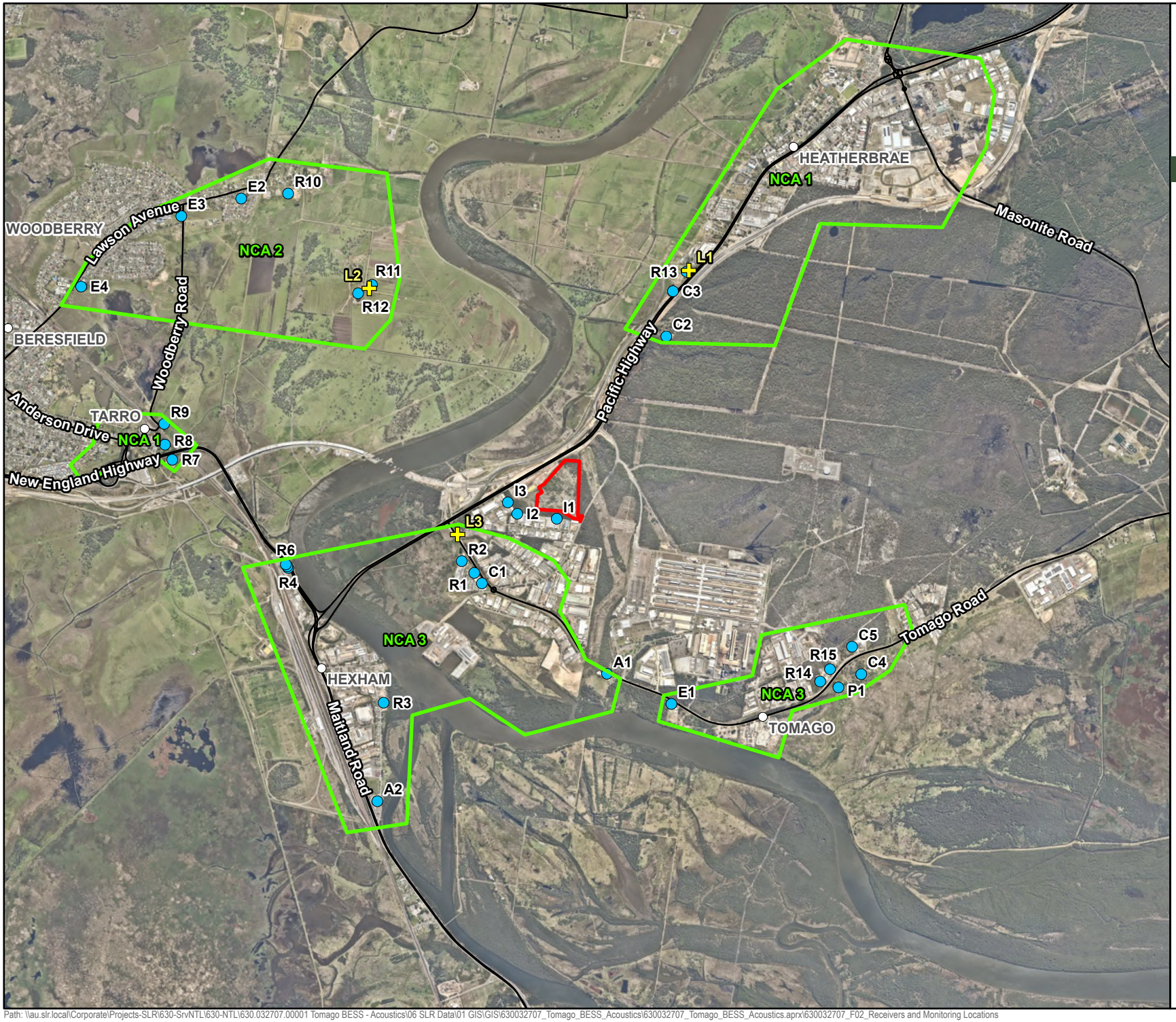
Data Source: NearMap September 2025

SLR

SITE LAYOUT

FIGURE 1

\\au.slr.local\Corporate\Projects-SLR\630-SrvNTL\630-NTL\630.032707.00001 Tomago BESS - Acoustics\06 SLR Data\01 GIS\GIS\630032707_F1_SITE_LAYOUT_01.mxd



TOMAGO BESS

SITE LOCATION, SURROUNDING RECEIVERS AND NOISE MONITORING LOCATIONS

FIGURE 2

LEGEND

- Major Road
- Noise Logging Location
- Receiver Location
- BESS Site Boundary
- NCA

0 0.5 1 km

Coordinate System:	GDA2020 MGA Zone 56
Scale:	1:45,000 at A4
Project Number:	630.032707
Date Drawn:	09-Dec-2025
Drawn by:	JH

SLR

Path: \\au.slr.local\Corporate\Projects-SLR\630-SrvNTL\630-NTL\630.032707.00001 Tomago BESS - Acoustics\06 SLR Data\01 GIS\GIS\630032707_Tomago_BESS_Acoustics\630032707_Tomago_BESS_Acoustics.aprx\630032707_F02_Receivers and Monitoring Locations

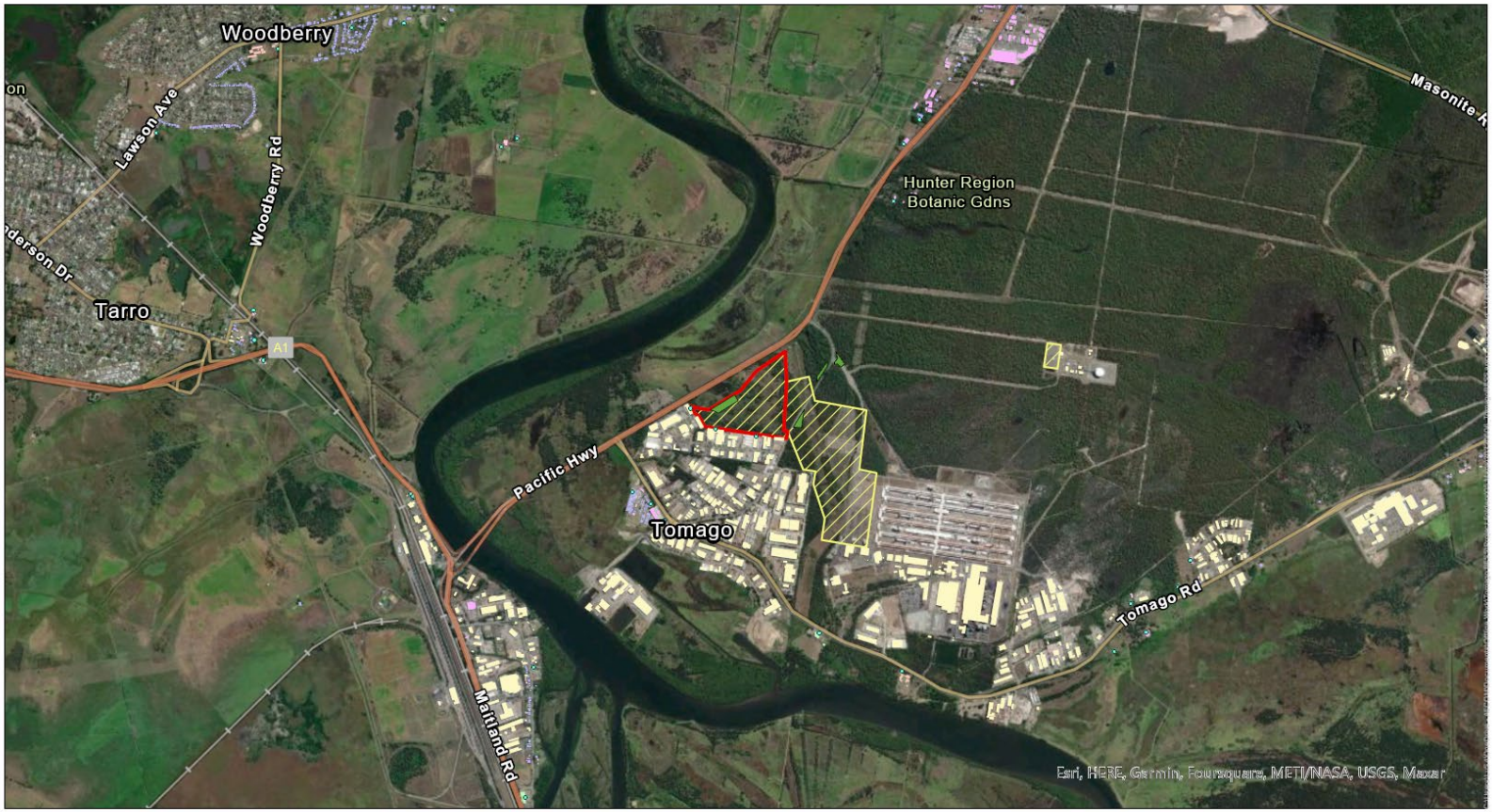


Figure 1 - Site Location and Assessment Receivers

Figure 3 Development Footprint and Context

5.0 Assessment Criteria

5.1 Residential Receptors

For works outside of the standard hours the Interim Construction Noise Guideline 2009 (ICNG) provides guidance on Noise Management Levels (NML) that apply to the works shown in Table 3.

Table 3 ICNG NMLs for Residential Receivers (OOHW)

Time of Day	NML $L_{Aeq(15minute)}$	How to Apply
Outside Standard Construction Hours	Noise affected RBL + 5 dB	A strong justification would typically be required for works outside the recommended standard hours. The proponent should apply all feasible and reasonable work practices to meet the noise affected level. Where all feasible and reasonable practises have been applied and noise is more than 5 dB above the noise affected level, the proponent should negotiate with the community.
Note 1: The RBL is the Rating Background Level and the ICNG refers to the calculation procedures in the NSW *Industrial Noise Policy* (INP). The INP has been superseded by the NSW EPA *Noise Policy for Industry* (NPfI).		

5.2 NML Summary

The construction NMLs for the Project for the extended hours are shown in Table 4**.**

Table 4 NML Summary

NCA	RBL[1]	Noise Management Level (NML) $L_{Aeq(15minute)}$ dBA
	Daytime	Saturday OOHW - Daytime (7am – 8am and 1pm – 6pm)
NCA1	46	51
NCA2	37	42
NCA3	52	57
Note 1: Rating Background Level		

5.3 Construction Road Traffic

No changes to the volume of construction traffic are proposed for the Project. As outlined in the CNVMP, construction traffic on public roads is expected to negligible (i.e. less than 2 dB) along the primary haulage routes and as a result no further assessment has been conducted for road traffic impacts.

5.4 Sleep Disturbance

The proposed works occur commence at 7:00 am and finish at 6:00 pm on Saturdays, this period is within the NSW EPA Noise Policy for Industry 2017 day period and is wholly outside of the NPfI night-time period. Notwithstanding the above, to provide a conservative assessment of potential sleep disturbance impacts, a sleep disturbance impact assessment for works during the proposed Saturday hours has been conducted.

A method for assessing sleep disturbance is contained in the NSW EPA Noise Policy for Industry (NPfI). Although the NPfI sleep disturbance criteria relates to industrial noise, it is also considered relevant for reviewing potential impacts from construction noise as a screening criteria to identify the need for further assessment. The NPfI notes that a detailed maximum noise level assessment should be undertaken where a project results in night-time noise levels which exceed 52 dBA L_{AFmax} or the prevailing background noise level plus 15 dB, whichever is the greater.

For works proposed during the extended Saturday OOHW construction hours requiring approval by the Planning Secretary, the sleep disturbance screening level (SDNL) of daytime RBL plus 15 dB will be applied. The sleep disturbance screening criteria for nearby residential receivers is shown in Table 5.

Table 5 Sleep Disturbance Screening Level Criteria

NCA	Noise Level	
	RBL (Daytime)	SDNL L_{Amax}
NCA1	46	61
NCA2	37	52
NCA3	52	67

6.0 Noise Impact Assessment

6.1 OOHW Construction Hours Assessment

As this CNIS relates to an extension of construction hours only with no alterations to the construction methodology. Details of the modelled scenarios and plant and equipment are contained within the CNVMP which have been reproduced in Table 6.

Table 6 Construction Scenarios

Equipment	Sound Power Level (SWL, dBA)	Construction Scenario and Total Scenario SWL, dBA				
		Enabling Works 123	Structure Works 123	Transmission Connection 120	Commissioning 108	Demobilisation 113
		Number of Equipment in Scenario				
Backhoe	104	-	1	1	-	1
Chainsaw	114	1	-	1	-	-
Concrete saw	117	-	1	-	-	-
Concrete pump	109	-	1	-	-	-
Crane	104	-	1	1	1	1
EWP	97	-	1	1	1	-
Excavator	107	1	1	1	-	-
Front End Loader	113	1	1	-	-	-
Generator	99	1	1	1	1	1

Equipment	Sound Power Level (SWL, dBA)	Construction Scenario and Total Scenario SWL, dBA				
		Enabling Works 123	Structure Works 123	Transmission Connection 120	Commissioning 108	Demobilisation 113
		Number of Equipment in Scenario				
Grader	110	1	1	-	-	-
Truck (flatbed)	103	1	1	1	1	1
Rock Breaker	118	1	1	-	-	-
Roller	107	1	1	1	-	1
Scraper	113		1	-	-	-
Drilling Rig	114	-	-	1	-	-
Truck - Medium Rigid	103	1	1	-	-	1
Truck & Dog	108	1	1	-	-	-
Light Vehicle	95	-	1	-	-	-
Water Truck	107	1	-	1	-	1
Tub Grinder/ Mulcher	116	1	-	1	-	-

These construction phases are considered representative of the worst-case noise levels that are likely to occur during construction.

6.1.1 Noise Sources with a potential for Sleep Disturbance

The sources with a potential for sleep disturbance that have been modelled are shown in Table 7.

Table 7 Maximum Noise Level Sources

Maximum Noise Source	Sound Level L_{AFmax} dBA
Mobile Plant (reversing alarm)	114
Trucks	118

6.2 Construction Noise Predictions

The assessment shows the predicted impacts based on the exceedance of the OOH NMLs, as per the categories in Table 8.

Predictions were made based on plant and equipment operating in typical work locations, in repetitive work cycles. For each receiver the noise level predicted indicates the noise level

when all the plant and equipment are in use. For the majority of the construction works it is expected that noise levels will be significantly lower than those predicted in Table 8.

Table 8 Exceedance Band and Impact Colouring

Exceedance of NML	Subjective Classification[2]	Impact Colouring
No exceedance	Negligible	
1 to 10 dB	Low Impact	
11 to 20 dB	Moderate Impact	
21 to 30 dB	High Impact	
Highly Noise Affected[1]	Very high Impact	
Note 1: Daytime: Greater than 75 dBA at residential receivers during standard construction hours. Note 2: The subjective response would vary and depends on the period in which the impacts occur (i.e people are generally more sensitive to impacts during the evening and night-time).		

The predicted airborne noise impacts from the OOH construction works are summarised in Table 9..

Table 9 Predicted OOH Construction Noise Levels – Proposed Extended Construction Hours

Receiver ID	NCA	Predicted $L_{Aeq(15minute)}$ Construction Noise Impact (dBA)					OOH NML $L_{Aeq(15minute)}$ dBA	Exceedance
		Enabling Works	Structure Works	Transmission Connection	Commissioning	Demobilisation	Saturday OOHW Daytime (7am-8am and 1pm-6pm)	Saturday OOHW Daytime (7am-8am and 1pm-6pm)
R1	3	47 - 50	50 - 54	48 - 51	45 - 48	47 - 50	57	-
R2	3	32 - 36	36 - 40	33 - 37	31 - 34	32 - 36	57	-
R3	3	37 - 40	40 - 44	38 - 41	35 - 38	37 - 40	57	-
R4	3	37 - 40	42 - 45	38 - 41	35 - 39	37 - 40	57	-
R5	3	37 - 40	42 - 45	38 - 41	35 - 39	37 - 40	57	-
R6	3	35 - 38	39 - 42	35 - 38	33 - 36	34 - 38	57	-
R7	1	31 - 34	36 - 38	32 - 35	29 - 32	31 - 34	51	-
R8	1	31 - 34	35 - 38	31 - 34	29 - 32	30 - 33	51	-
R9	1	30 - 33	34 - 37	31 - 34	28 - 31	30 - 33	51	-
R10	2	30 - 32	33 - 36	30 - 33	28 - 31	29 - 32	42	-
R11	2	35 - 38	39 - 42	36 - 39	33 - 36	35 - 38	42	-
R12	2	35 - 39	39 - 42	36 - 39	34 - 37	35 - 38	42	-
R13	1	39 - 42	42 - 45	39 - 43	37 - 40	39 - 42	51	-
R14	3	31 - 34	34 - 37	29 - 33	29 - 32	29 - 33	57	-
R15	3	31 - 35	34 - 37	30 - 33	29 - 33	30 - 33	57	-

The results of the predicted impacts presented in Table 9 comply with the NMLs can readily be met at all receivers during the Saturday OOH daytime (7 am – 8 am, 1 pm - 6 pm) period.

The impacts presented above are based on all equipment working simultaneously. There would frequently be periods when construction noise levels are much lower than the worst-case levels predicted and there would be times when no equipment is in use and no impacts occur.

Notwithstanding compliance with the NMLs, feasible construction noise mitigation measures should be applied to the works with a view to minimising potential noise impacts as far as practicable.

Construction noise validation monitoring conducted by EMM during earthworks construction stage at the Project also indicates that relevant OOH daytime NMLs would not be exceeded at the nearest noise sensitive receivers. For the full validation monitoring report, see Appendix D.

6.3 Cumulative Construction Noise Impacts

Cumulative construction noise impacts can occur where multiple work activities are being completed near to a particular receiver at the same time. There is potential for cumulative construction impacts from multiple construction activities being completed in different areas of the Project (i.e. enabling works and structure works) or other projects (i.e. M1 extension works).

Concurrent construction work using similar levels of construction equipment being completed near to a particular area could theoretically increase the worst-case noise levels in this report by around 3 dB (i.e. a logarithmic adding of two sources of noise at the same level).

The likelihood of worst-case noise levels being generated by two different work activities at the same time is, however, considered low and rather than increase construction noise levels, the impact of concurrent work would generally be a limited to a potential increase in the duration, of noise impacts on the affected receivers.

In practice, construction noise levels in any one location would vary and would be frequently much lower than the worst-case scenario assessed due to construction staging moving work around and, in many cases, only a few items of equipment being used at any one time.

The contractor will take feasible and reasonable steps to arrange consultation and coordination with other construction projects when they become aware of them and if they have the potential to impact the same receivers concurrently, to minimise cumulative impacts of noise and vibration and maximise respite for affected sensitive receivers

6.4 Sleep Disturbance Impact Assessment

Maximum noise levels from the Project site were predicted to the nearest noise sensitive receivers and compared against the Sleep Disturbance Screening Level criteria. Results of the sleep disturbance assessment are shown in Table 10.

Table 10 Sleep Disturbance Predictions – Saturday Daytime Extended Hours

Receiver	NCA	Maximum Noise Level L_{Amax} dBA		Compliant?
		Predicted	SDSL	
R1	3	40	67	Yes
R2	3	36	67	Yes
R3	3	28	67	Yes

Receiver	NCA	Maximum Noise Level L_{Amax} dBA		Compliant?
		Predicted	SDSL	
R4	3	29	67	Yes
R5	3	28	67	Yes
R6	3	26	67	Yes
R7	1	25	61	Yes
R8	1	22	61	Yes
R9	1	23	61	Yes
R10	2	21	52	Yes
R11	2	28	52	Yes
R12	2	28	52	Yes
R13	1	33	67	Yes
R14	3	24	67	Yes
R15	3	24	67	Yes

The Sleep Disturbance assessment results indicate that the Project will be compliant with the Sleep Disturbance Screening criteria at all the identified residential receivers and would therefore indicate compliance with residential receivers further from the Project.

Therefore, a detailed Sleep Disturbance noise assessment is not considered to be required and no adverse sleep disturbance impacts are anticipated as a result of the Saturday daytime OOH construction works.

7.0 Noise Mitigation and Management Measures

7.1 Standard Construction Noise Mitigation

Standard construction noise mitigation and management measures are recommended for the OOH works, including applicable measures detailed in Section 8.1 of the CNVMP, see Appendix B.

Specific to the OOH works in this CNIS, the following reasonable and feasible noise mitigation and management measures are recommended:

- The highest noise generating works will, where practicable, be scheduled to occur during less sensitive periods of the day (e.g. Saturday 8 am – 1 pm).

In addition, the relevant complaints management, contingency measures and incident response protocol contained in the CNVMP would continue to be applicable and be implemented where appropriate.

7.2 Additional Construction Noise Mitigation Measures

As referenced and implemented in the CNVMP, the Transport for NSW *Construction Noise and Vibration Guideline (Public Transport Infrastructure)* 2026 (CNVG), provides advice regarding additional noise mitigation measures for the construction including advice for use in OOH Period 1 which is the relevant period for the works described this CNIS is shown in Table 11.

Table 11 Recommended Triggers for Additional Mitigation Measures – Airborne Noise

Construction hours	Receiver perception	dB(A) above RBL[2]	dB(A) above NML	Additional management measures
OOHW Period 1 7 am – 8 am 1 pm-6 pm	Noticeable	5 to 10	5	-
	Clearly Audible	> 10 to 20	5 to 15	PN
	Moderately intrusive	> 20 to 30	15 to 25	PN, V, SN, RO
	Highly intrusive	> 30	25	PN, V, SN, RO, RP[3], DR[3]

Note 1: Legend:

PN = Periodic notification SN = Specific notification, individual briefings, or phone call

V = Verification monitoring AA = Alternative accommodation DR = Duration Reduction

RO -= Project-Specific respite offer RP = Respite period

Note 2: SWLs used for the purpose of estimating noise impact shall be increased by 5dBA where works will include: power saws for the cutting of timber, masonry and steel; grinding of metal, concrete or masonry; rock/line drilling; bitumen milling and profiling; jack hammering, rock hammering and rock breaking; or impact piling as a correction factor for noise with special audible characteristics. It is noted that this correction factor is automatically calculated under Step 2 of the Construction Noise Estimator Tool (see Appendix E).

Note 3: Respite periods and duration reduction are not applicable when works are carried out during OOHW Period 1 Day only (i.e., Saturday 7am-8am & 1pm-6pm,

The predicted construction noise impacts presented in Table 9 comply with the NMLs during the daytime OOHW period. Therefore, additional noise mitigation measures outlined in Table 11 are not required.

If alterations to construction activities are made and it is predicted that the NMLs at noise sensitive receivers are likely to be exceeded, the additional mitigation measures listed in Table 11 may be required.

It's noted that construction noise validation monitoring has been completed by EMM in April 2026 (see Appendix D) and concludes that noise from the site is significantly below the recommended NMLs.

Notwithstanding predicted noise levels being significantly below the CNVG threshold for verification monitoring, operator attended noise monitoring will be conducted at R1 (the nearest residential receiver) at the commencement of Saturday OOH works to verify predicted noise levels.

In accordance with the CNVMP, attended noise monitoring will also be undertaken in response to formal complaints. The location and extent of attended monitoring in response to complaints will be determined in consultation with Project staff and would be dependent on the activities taking place.

7.3 Noise Sensitive Receiver Consultation Recommendations

In relation to SSD-57107216 Condition of Consent 16(c), while the construction noise predictions and implementation of additional CNVG mitigation measures indicate that notification for identified potentially affected noise-sensitive receivers regarding extended Saturday work hours is not required, it has been requested as part of the Port Stephens Council (PSC) notification process that the nearest sensitive receiver (Sweetwater Grove) be notified by way of a mail drop. The notification will include relevant information regarding the

proposed works, including construction hours and the contact details of a nominated representative to receive and address any complaints or enquiries.

8.0 Conclusion

SLR has undertaken a construction noise impact statement for the proposed OOH extended Saturday hours for the Tomago BESS Project.

Noise levels from the proposed extended hours construction works were predicted to comply with the OOHW noise management levels at all receivers for the extended Saturday hours 7:00 am – 8:00 am and 1:00 pm – 6:00 pm. Notwithstanding, construction noise mitigation and management measures, including those outlined in the CNVMP and described in Appendix B, have been recommended for the OOH works to further manage noise impacts.

No additional noise impacts are anticipated as a result of traffic noise or cumulatively with neighbouring projects.

The Projects Saturday OOHW hours are proposed to only take place during the NPfI-defined day period, notwithstanding, a sleep disturbance screening test was conducted, and no exceedance of daytime sleep disturbance screening levels is predicted.

Appendix A Acoustic Terminology

Extension of Construction Hours Construction Noise Impact Statement

Tomago Battery Energy Storage System

Fluence Energy Pty Ltd

SLR Project No.: 630.032707.00001

2 July 2026

1. Sound Level or Noise Level

The terms 'sound' and 'noise' are almost interchangeable, except that 'noise' often refers to unwanted sound.

Sound (or noise) consists of minute fluctuations in atmospheric pressure. The human ear responds to changes in sound pressure over a very wide range with the loudest sound pressure to which the human ear can respond being ten million times greater than the softest. The decibel (abbreviated as dB) scale reduces this ratio to a more manageable size by the use of logarithms.

The symbols SPL, L or LP are commonly used to represent Sound Pressure Level. The symbol LA represents A-weighted Sound Pressure Level. The standard reference unit for Sound Pressure Levels expressed in decibels is 2×10^{-5} Pa.

2. 'A' Weighted Sound Pressure Level

The overall level of a sound is usually expressed in terms of dBA, which is measured using a sound level meter with an 'A-weighting' filter. This is an electronic filter having a frequency response corresponding approximately to that of human hearing.

People's hearing is most sensitive to sounds at mid frequencies (500 Hz to 4,000 Hz), and less sensitive at lower and higher frequencies. Different sources having the same dBA level generally sound about equally loud.

A change of 1 dB or 2 dB in the level of a sound is difficult for most people to detect, whilst a 3 dB to 5 dB change corresponds to a small but noticeable change in loudness. A 10 dB change corresponds to an approximate doubling or halving in loudness. The table below lists examples of typical noise levels.

Sound Pressure Level (dBA)	Typical Source	Subjective Evaluation
130	Threshold of pain	Intolerable
120	Heavy rock concert	Extremely noisy
110	Grinding on steel	
100	Loud car horn at 3 m	Very noisy
90	Construction site with pneumatic hammering	
80	Kerbside of busy street	Loud
70	Loud radio or television	
60	Department store	Moderate to quiet
50	General Office	
40	Inside private office	Quiet to very quiet
30	Inside bedroom	
20	Recording studio	Almost silent

Other weightings (eg B, C and D) are less commonly used than A-weighting. Sound Levels measured without any weighting are referred to as 'linear', and the units are expressed as dB(lin) or dB.

3. Sound Power Level

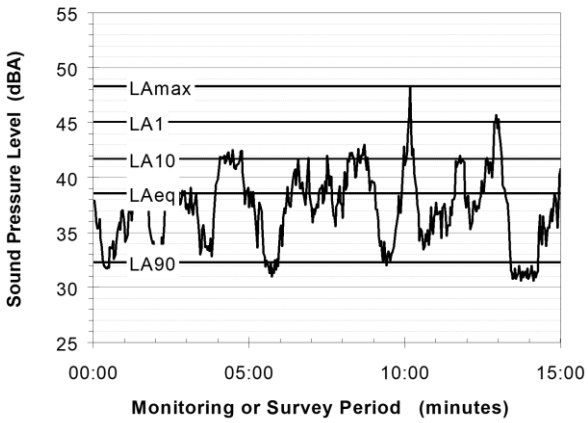
The Sound Power of a source is the rate at which it emits acoustic energy. As with Sound Pressure Levels, Sound Power Levels are expressed in decibel units (dB or dBA), but may be identified by the symbols SWL or LW, or by the reference unit 10^{-12} W.

The relationship between Sound Power and Sound Pressure is similar to the effect of an electric radiator, which is characterised by a power rating but has an effect on the surrounding environment that can be measured in terms of a different parameter, temperature.

4. Statistical Noise Levels

Sounds that vary in level over time, such as road traffic noise and most community noise, are commonly described in terms of the statistical exceedance levels LAN, where LAN is the A-weighted sound pressure level exceeded for N% of a given measurement period. For example, the LA1 is the noise level exceeded for 1% of the time, LA10 the noise exceeded for 10% of the time, and so on.

The following figure presents a hypothetical 15 minute noise survey, illustrating various common statistical indices of interest.



Of particular relevance, are:

LA1 The noise level exceeded for 1% of the 15 minute interval.

LA10 The noise level exceeded for 10% of the 15 minute interval. This is commonly referred to as the average maximum noise level.

LA90 The noise level exceeded for 90% of the sample period. This noise level is described as the average minimum background sound level (in the absence of the source under consideration), or simply the background level.

LAeq The A-weighted equivalent noise level (basically, the average noise level). It is defined as the steady sound level that contains the same amount of acoustical energy as the corresponding time-varying sound.

LAmax The A-weighted maximum sound pressure level of an event measured with a sound level meter.

5. Frequency Analysis

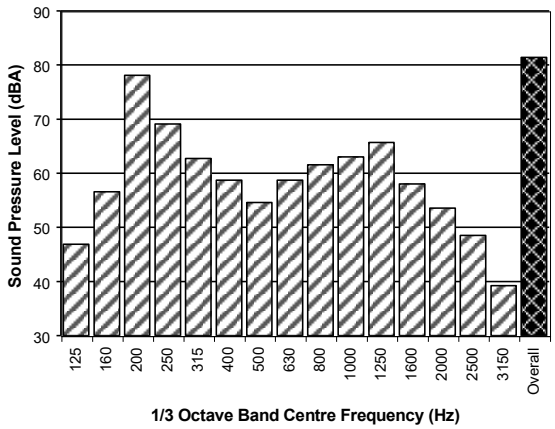
Frequency analysis is the process used to examine the tones (or frequency components) which make up the overall noise or vibration signal.

The units for frequency are Hertz (Hz), which represent the number of cycles per second.

Frequency analysis can be in:

- Octave bands (where the centre frequency and width of each band is double the previous band)
- 1/3 octave bands (three bands in each octave band)
- Narrow band (where the spectrum is divided into 400 or more bands of equal width)

The following figure shows a 1/3 octave band frequency analysis where the noise is dominated by the 200 Hz band. Note that the indicated level of each individual band is less than the overall level, which is the logarithmic sum of the bands.



6. Annoying Noise (Special Audible Characteristics)

A louder noise will generally be more annoying to nearby receivers than a quieter one. However, noise is often also found to be more annoying and result in larger impacts where the following characteristics are apparent:

- **Tonality** - tonal noise contains one or more prominent tones (ie differences in distinct frequency components between adjoining octave or 1/3 octave bands), and is normally regarded as more annoying than 'broad band' noise.
- **Impulsiveness** - an impulsive noise is characterised by one or more short sharp peaks in the time domain, such as occurs during hammering.
- **Intermittency** - intermittent noise varies in level with the change in level being clearly audible. An example would include mechanical plant cycling on and off.
- **Low Frequency Noise** - low frequency noise contains significant energy in the lower frequency bands, which are typically taken to be in the 10 to 160 Hz region.

7. Vibration

Vibration may be defined as cyclic or transient motion. This motion can be measured in terms of its displacement, velocity or acceleration. Most assessments of human response to vibration or the risk of damage to buildings use measurements of vibration velocity. These may be expressed in terms of 'peak' velocity or 'rms' velocity.

The former is the maximum instantaneous velocity, without any averaging, and is sometimes referred to as 'peak particle velocity', or PPV. The latter incorporates 'root mean squared' averaging over some defined time period.

Vibration measurements may be carried out in a single axis or alternatively as triaxial measurements (ie vertical, longitudinal and transverse).

The common units for velocity are millimetres per second (mm/s). As with noise, decibel units can also be used, in which case the reference level should always be stated. A vibration level V, expressed in mm/s can be converted to decibels by the formula 20 log (V/Vo), where Vo is the reference level (10^{-9} m/s). Care is required in this regard, as other reference levels may be used.

8. Human Perception of Vibration

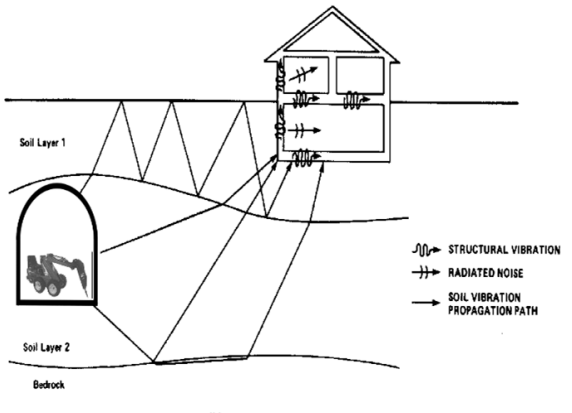
People are able to 'feel' vibration at levels lower than those required to cause even superficial damage to the most susceptible classes of building (even though they may not be disturbed by the motion). An individual's perception of motion or response to vibration depends very strongly on previous experience and expectations, and on other connotations associated with the perceived source of the vibration. For example, the vibration that a person responds to as 'normal' in a car, bus or train is considerably higher than what is perceived as 'normal' in a shop, office or dwelling.

9. Ground-borne Noise, Structure-borne Noise and Regenerated Noise

Noise that propagates through a structure as vibration and is radiated by vibrating wall and floor surfaces is termed 'structure-borne noise', 'ground-borne noise' or 'regenerated noise'. This noise originates as vibration and propagates between the source and receiver through the ground and/or building structural elements, rather than through the air.

Typical sources of ground-borne or structure-borne noise include tunnelling works, underground railways, excavation plant (eg rockbreakers), and building services plant (eg fans, compressors and generators).

The following figure presents an example of the various paths by which vibration and ground-borne noise may be transmitted between a source and receiver for construction activities occurring within a tunnel.



The term 'regenerated noise' is also used in other instances where energy is converted to noise away from the primary source. One example would be a fan blowing air through a discharge grill. The fan is the energy source and primary noise source. Additional noise may be created by the aerodynamic effect of the discharge grill in the airstream. This secondary noise is referred to as regenerated noise.

Appendix B CNVMP Mitigation Measures & OOH Works Protocol

Extension of Construction Hours Construction Noise Impact Statement

Tomago Battery Energy Storage System

Fluence Energy Pty Ltd

SLR Project No.: 630.032707.00001

2 July 2026

9.0 Mitigation and Management Measures

The ICNG acknowledges that due to the nature of construction works it is inevitable that there will be impacts where construction is near to sensitive receivers.

9.1 Standard Mitigation and Management Measures

The mitigation and management measures that would be applied the Project are detailed in Table 12.

Table 12 Environmental Management Controls for Construction Noise and Vibration

Measure	Person Responsible	Timing/ Frequency	Reference /Notes
Project Planning			
Use quieter and less vibration emitting construction methods where feasible and reasonable.	Project Manager, Site Manager and Environmental Manager	Ongoing	Best Practice, NV-4
The construction activities will be primarily carried out during the following times of day: Monday to Saturday 7:00 am to 6:00 pm Activities that may be undertaken outside of aforementioned hours will be completed in accordance with an Out of Hours Works procedure and include: Receipt of deliveries Emergency situations where work is required to prevent harm to persons, property and environment Testing and commissioning. Works generating high noise and/or vibration levels where feasible will be scheduled during less sensitive time periods.			
Truck routes to site will be limited to major roads.			
Site Layout			
Compounds and worksites will be designed to promote one-way traffic and minimise the need for vehicle reversing.	Project Manager, Site Manager and Environmental Manager	Ongoing	Best Practice, N-1
Where practicable, work compounds, parking areas, and equipment and material stockpiles will be positioned away from noise-sensitive locations and take advantage of existing screening from local topography.			
Equipment that is noisy will be started away from sensitive receivers where practicable.			
Training			
Training will be provided to all personnel on noise and vibration requirements for the project. Inductions and toolbox talks to be used	Project Manager and Site Manager	Ongoing, before scenario commencement	Best Practice, NV-3

Measure	Person Responsible	Timing/ Frequency	Reference /Notes
to inform personnel of the location and sensitivity of surrounding receivers. The induction will at least include: • All relevant proposal specific and standard noise and vibration mitigation measures • Relevant approval conditions • Permissible hours of work • Any limitations on high noise generating activities • Location of nearest sensitive receivers • Construction employee parking areas • Designated loading/unloading areas and procedures • Site opening/closing times (including deliveries) Environmental incident procedures			
Plant and Equipment Source Mitigation			
All plant and equipment must be maintained in a proper and efficient condition, operated in a proper and efficient manner, and feature standard noise amelioration measures where applicable	Project Manager, Site Manager and Environmental Manager	Ongoing, checks to be conducted before commencing a new noise generating activity.	Best Practice, N-1
Where practicable, tonal reversing alarms (beepers) will be replaced with non-tonal alarms (squawkers) on all equipment regularly in use onsite and for any out of hours works (subject to occupational health and safety requirements).			
Noisy equipment will be sited behind structures that act as barriers, or at the greatest distance from the noise-sensitive area. Equipment will be oriented so that noise emissions are directed away from any sensitive areas, where possible.			
Noise generating equipment will be regularly checked and effectively maintained, including checking of hatches/enclosures regularly to ensure that seals are in good condition and doors close properly against seals.			
Noise monitoring spot checks of equipment will be completed to ensure individual items are operating as expected.			
Dropping materials from a height will be avoided.			
Loading and unloading will be carried out away from noise sensitive areas and receivers, where practicable.			

Measure	Person Responsible	Timing/ Frequency	Reference /Notes
Dedicated loading/unloading areas are to be shielded if close to sensitive receivers			
Delivery vehicles are to be fitted with straps rather than chains for unloading, wherever possible			
Trucks will not queue outside residential properties. Truck drivers will avoid compression braking as far as practicable.			
Truck movements will be kept to a minimum, ie trucks are fully loaded on each trip.			
Complaints Management			
Where complaints are received, work practices will be reviewed and feasible and reasonable practices implemented to minimise any further impacts	Environment Manager and Environmental Manager.	When triggered	Best Practice
Monitoring			
Attended noise and/or vibration monitoring will be conducted (as per requirements in Section 9.4) .	Project Manager, Site Manager Environmental Manager and external appropriately qualified acoustic consultant as required.	Noise monitoring, see Section 9.4 Vibration monitoring, see Section 9.4	Best Practice
Attended noise and/or vibration monitoring will be conducted(as per requirements in Section 9.4) in response to any complaints received to verify that levels are not substantially above the predicted levels.			
Vibration			
If vibration generating works are required within the minimum cosmetic damage working distances impacts are considered likely to exceed the criteria. In which case, the following steps are to be undertaken: • Different construction methods with lower source vibration levels will be investigated and implemented, where feasible Attended vibration measurements (as per requirements in Section 9.4) will be undertaken at the start of the works to determine actual vibration levels at the item. Works will cease if the monitoring indicates vibration levels are likely to, or do, exceed the relevant criteria.	Environmental Manager	As required	Best Practice
Where works are required within the cosmetic damage minimum working distances. Where works are required within the cosmetic damage minimum working distances, building condition surveys and public infrastructure dilapidation surveys (refer Condition A15(b)) will be completed before and after the works to ensure no cosmetic damage has occurred), building condition surveys and public infrastructure dilapidation surveys (refer			

Measure	Person Responsible	Timing/ Frequency	Reference /Notes
Condition A15(b)) will be completed before and after the works to ensure no cosmetic damage has occurred			

9.2 Additional Mitigation Measures

The construction noise predictions in the CNVMP indicate that no noise sensitive receivers are predicted to be subject to construction noise levels above the NMLs.

However, if alterations to construction activities are made and it is predicted that the NMLs at noise sensitive receivers are likely to be exceeded, additional mitigation measures may be required.

The CVNG provides further guidance on appropriate noise mitigation options depending on the level of exceedance predicted, shown in Table 13.

Table 13 Recommended Triggers for Additional Mitigation Measures – Airborne Noise

Time Period	dB(A) above RBL	dB(A) above NML	Additional Mitigation Measures Type[1]
Standard Hours: Mon – Fri (7am-6pm), Sat (8pm – 1pm), Sun/Pub Holiday (Nil)			
Noticeable	5 to 10	0	-
Clearly Audible	10 to 20	< 10	-
Moderately Intrusive	20 to 30	10 to 20	PN, V
High Intrusive	> 30	< 20	PN, V
75 dB(A) or greater	-	-	PN, V, SN
Note 1: PN = Project notification SN = Specific notification, individual briefings, or phone call V =Verification modelling DR = Duration reduction RP = Respite period RO = Project specific respite offer AA = Alternative accommodation			

9.2.1 PN Project Notification Procedure

In accordance with commitment NV-2 all sensitive receivers likely to be affected by noise during construction will be notified at least five days prior to commencement of works associated with the scenario that may have an adverse noise or vibration impact. The notification will include details of:

- The Project
- Construction period and construction hours
- Contact information for proposal management staff
- Complaint and incident reporting and how to obtain further information.

9.3 Out of hours works protocol

9.3.1 Construction hours

Most construction work will be undertaken during the construction hours stated in the SSD Conditions of Consents Condition B14, defined as:

- 7:00 am to 6:00 pm, Monday to Friday
- 8:00 am to 1:00 pm Saturdays; and
- At no time on Sundays and NSW Public Holidays.

However, the following exceptions can allow construction works to occur outside the recommended construction hours in accordance with Consent Conditions B15 and B16:

- **B15.** The following activities may be carried out outside the hours specified in Condition B14 above:

  Commissioning activities that are inaudible at non-associated receivers;

  The delivery or dispatch of materials, plant or equipment as requested by the NSW Police Force or other public authorities for safety reasons; or

  The emergency work to avoid the loss of life, property or prevent material harm to the environment.

- **B16.** The hours of construction activities specified in Condition B14 of this approval may be varied with the prior written approval of the Planning Secretary. Any request to alter the hours of construction must be:

  (a) considered on a case-by-case or activity-specific basis;

  (b) accompanied by details of the nature and justification for activities to be conducted during the varied construction hours;

  (c) accompanied by written evidence that appropriate consultation with potentially affected sensitive receivers and notification of Councils (and other relevant agencies) has been and will be undertaken;

  (d) accompanied by evidence that all feasible and reasonable noise mitigation measures have been put in place; and

  (e) accompanied by a noise impact assessment consistent with the requirements of the Interim Construction Noise Guideline (DECC, 2009), or latest version.

9.3.2 Justification of OOHW

Any works proposed to be undertaken out of standard construction hours, excluding those listed under Consent Condition B15, will require justification as to why the work needs to be undertaken as OOHW.

The following reasons may justify why work is required to be undertaken outside of standard construction hours, however, reasons are not limited to the below:

- Works predicted to cause noise levels that will not exceed NMLs
- Ensuring the safety of construction personnel
- Ensuring public safety
- In the event of an emergency to protect environmental harm
- Minimising disruption to road network users.

9.3.3 OOHW application and approval

Prior to undertaking OOHW, an OOHW application will be prepared by the Project Contractor and submitted to AGL requesting approval.

All OOHW applications will be accompanied by a Construction Noise Impact Statement (CNIS). The CNIS will assess any potential noise impact from the works and recommend any additional mitigation measures which may be required.

The OOHW application will include:

- Description of the works planned
- Timing of the works planned, including start and end time/date(s)
- Activities to be undertaken during the OOHW
- Justification for the OOHW
- Location of activities to be undertaken
- Plant and equipment involved in the activities
- A noise impact assessment consistent with the requirements of the ICNG
- Evidence that all feasible and reasonable noise mitigation measures have been put in place
- A description of how the construction works will be carried in accordance with Condition B17, i.e. minimise the noise generated by any construction, upgrading or decommissioning activities on site in accordance with best practice requirements outlined in the Interim Construction Noise Guideline (DECC, 2009) or its latest version;
- Written evidence that appropriate consultation with potentially affected sensitive receivers and notification of Councils (and other relevant agencies) has been and will be undertaken.

9.3.4 Application of mitigation measures

When the OOHW application has been reviewed and approved by AGL it will then be submitted to the Planning Secretary. Following submission to and subsequent approval from the Planning Secretary, any specific conditions that relate to the OOHW are to be:

- Actioned for implementation (such as any additional notification to the community)
- Tool-boxed to relevant workforce and site personnel before each shift to introduce/reinforce works restrictions, management measures and expected workforce behaviour
- Implemented during works and monitored by Project Contractor.

9.4 Monitoring

9.4.1 Construction Noise Monitoring

Attended construction noise monitoring will be conducted at the commencement of bulk earthworks associated with the BESS site and transmission connection. The purpose of the monitoring would be to validate that construction noise levels during these worst-case time periods are consistent with predicted noise levels and that appropriate noise mitigation measures are in place.

In addition, attended noise monitoring will be undertaken in response to any formal complaints. All monitoring will be completed by suitably qualified acoustic specialists. The location and extent of attended monitoring in response to complaints will be determined in consultation with Project staff and would be dependent on the activities taking place.

The monitoring will take place during the expected noisiest construction periods and be representative / indicative of the impacts at the potentially affected sensitive receivers. All items of acoustic instrumentation utilised will be designed to comply with IEC 61672.1-2013 Electroacoustics – Sound level meters (AS IEC 61672) and carry current calibration certificates.

A noise monitoring report will be prepared after each attended monitoring survey.

9.4.2 Construction Vibration Monitoring

Where vibration intensive works (such as impact hammering, vibratory rolling or piling) are required within the minimum working distances of sensitive receivers or structures, vibration will be monitored continuously for the duration of works within the minimum working distances.

Attended vibration measurements will be undertaken at the start of vibration intensive works within the minimum working distances to confirm the levels of vibration are below the applicable vibration limits.

Geophones will be installed by appropriately qualified personnel at the closest points of the sensitive structure to the vibration intensive works to continuously monitor vibration for the duration of the works. Should the works location change, the geophones will be relocated to remain at the closest point of the structure to the works.

The vibration monitoring equipment will have visible and audible alarms installed where operators of equipment can see/hear them:

- A warning vibration level of two-thirds (66%) of the applicable vibration limit will trigger a ‘warning’ alarm if exceeded.
- A ‘halt work’ alarm will trigger if vibration is measured equal to the applicable vibration limit.

Vibration monitoring data will be downloaded and reported at the following timeframes:

- Monthly during works (at a minimum).
- Within one week of an exceedance of the vibration limit alarm level.
- Upon completion of vibration monitoring.

All items of vibration instrumentation will be designed to comply with applicable guidelines and carry current calibration certificates.

9.4.3 Monitoring Reports

Noise and/or vibration monitoring reports will be stored on file and provided to the relevant regulatory authorities upon request. Monitoring reports would include the following details, at a minimum:

- Noise/vibration monitoring/measurement locations.
- Date, time and length of noise monitoring/measurements.
- Weather conditions during the measurements.
- Name and position of personnel undertaking measurements.

- Construction activities being undertaken during measurements.
- Locations of construction equipment and distance from monitoring location.
- Measured L_{Aeq} and L_{Amax} noise levels during construction works (for each activity) Along with a comparison to the predicted noise levels (noise monitoring only).
- Measured L_{A90} background noise level in absence of the construction works (noise monitoring only).
- Measured vibration levels during construction works (for each activity) along with a comparison to the relevant vibration criteria (vibration monitoring only).
- Measured vibration levels and relevant details of any of exceedance of the warning vibration level or vibration limits (vibration monitoring only).
- Measured background vibration level in absence of the construction works (vibration monitoring only).
- Operator observations noting any extraneous noise/vibration sources or other points of relevance.

9.5 Complaints Management

The construction contractor will adopt the following protocol for handling complaints. This protocol is intended to ensure that the issues are addressed in accordance with the EMS and Principal Requirements, and that appropriate corrective action is identified and implemented as necessary:

- Stakeholder, community complaints or concerns are to be referred to AGL:
  - AGL Complaints and Enquiries Hotline: 1800 039 600
    Email: AGLCommunity@agl.com.au
    Mail: Locked Bag 14120 MCMC
    Melbourne VIC 8001
- If feedback is received on site, or directly to the Contractor the Contractor Environmental Manager will not respond to complaints from the public or other stakeholders but will immediately (or as soon as practicable) forward details of complaints onto the AGL Environment Manager, who will assign a Case Manager from the Government and Community Relations Team. Information to be provided to AGL should include time, date, names, contact details of the complaint along with the reasons for the complaint.
- The Case Manager will contact the complainant or enquirer and make a preliminary assessment (level of feedback required) of the type of feedback needed to resolve the issue. For urgent feedback, the Case Manager will work with AGL team members with a target resolution time of 24-hours. AGL target feedback to the complainant or enquirer within five days for standard feedback, and 30 days for complex feedback.
- Where the complainant or enquirer does not consider their feedback resolved, AGL will escalate the issue to the Senior Manager of Government & Community Relations, who will act as the Case Manager and will respond to urgent, standard, and complex feedback.
- Where required, the Case Manager may consult with and bring in an independent third-party (e.g. technical expert, mediator) to assist with the investigation or resolution. If this does not lead to resolution, the complainant or enquirer may refer

the matter to an independent external body (e.g. NSW Land and Water Commissioner, State Planning Departments, Tribunals and Courts), and AGL will cooperate with the requirements and processes dictated by the external body.

- The Contractor will support AGL in investigating and addressing complaints. The Contractor must include a complaint and enquiry management procedure within their management plans or strategies, which should outline actions to be taken when a compliant or enquiry is received, and the roles and responsibilities of the core team requirement to implement the procedure.
- The Project Manager will investigate the complaint in order to determine whether a criterion exceedance has occurred or whether noise has occurred unnecessarily.
- If excessive or unnecessary noise/vibration have been caused, corrective action will be planned and implemented by the construction contractor.
- Follow up monitoring or other investigations will be carried out by the Project Manager and the construction contractor to confirm the effectiveness of the corrective action.

Appendix C Notification to Council and Relevant Agencies

Extension of Construction Hours Construction Noise Impact Statement

Tomago Battery Energy Storage System

Fluence Energy Pty Ltd

SLR Project No.: 630.032707.00001

2 July 2026

Notification undertaken with Councils and relevant stakeholders are detailed in Table 14.

Table 14 Stakeholder Notification Record

Agency	Notification Evidence
Port Stephens Council (PSC)	See attached email response from PSC dated 19/05/2026 See attached email from PSC dated 22/5/2026.
M1 Extension Project team	See attached email to M1 team dated 18/05/2026
TfNSW	See attached email from TfNSW dated 29/06/2026 noting no objections to Saturday duration extension.
Sweetwater Grove (Nearest Residential Receiver)	To be provided prior to extension of hours works commencing as per PSC request. Sweetwater Grove will be notified via a mail drop prior to the commencement of works. The notification will include details of construction hours and the contact details of a nominated representative to receive and address any complaints or enquiries.

Subject: RE: Request for Consultation - Tomago BESS
Sent: 19/05/2026, 4:04:12 PM
From: Courtney Sargent<Courtney.Sargent@portstephens.nsw.gov.au>
To: Mitch Stewart <AU MEL RSQ EC>; Stephen Shoesmith

Hi Mitchel,

Please take this email as confirmation that Council has been notified of the request to modify construction hours. Should we have any comments regarding the associated Extension of Construction Hours Construction Noise Impact Statement I will let you know.

Regards.

PORT STEPHENS COUNCIL

Courtney Sargent
Principal Development Planner

p 02 4988 0263
w portstephens.nsw.gov.au

From: Christopher Primrose <Christopher.Primrose@portstephens.nsw.gov.au>
Sent: Friday, 22 May 2026 10:35 AM
To: Mitch Stewart <AU MEL RSQ EC> <mitch.stewart@fluenceenergy.com>; Stephen Shoesmith <sshoesmith@slrconsulting.com>
Cc: Courtney Sargent <Courtney.Sargent@portstephens.nsw.gov.au>
Subject: RE: Request for Consultation - Tomago BESS

Hi Mitchel,

Courtney is on leave until Monday and has asked me to pass on the comments from Council's Environmental Health Officer in regards to the proposed changes to the approved construction hours on Saturday.

Council's Environmental Health Officer has advised that they do not envision any issues with adopting the proposed construction hours. However, they have requested that to support the construction time extension on Saturday that notice be provided to the nearest sensitive receivers (residential receivers only including Sweetwater Grove), preferably by way of mail drop, of the construction hours with a contact person to address any complaints received. For Sweetwater Grove they have suggested that the office would suffice rather than each individual occupier.

If you have any questions regarding this, please do not hesitate to reach out.

Kind regards,

PORT STEPHENS COUNCIL

Christopher Primrose
Development Planner

p 02 4988 0523
w portstephens.nsw.gov.au

Subject: Tomago BESS - Extension of Saturday Working Hours
Sent: 18/05/2026, 5:50:35 PM
From: Charlie Perry<CPerry@agl.com.au>
To: M12RT-southern@jhga.com.au
Cc: Monica Porte-JHG; Andrew Brajlih; Mitch Stewart <AU MEL RSQ EC>; m12rt@transport.nsw.gov.au; TMBSproject
Attachments: 630.032707.00001-R04-v1.1 - Saturday OOHW CNIS.pdf

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Hello,

Tomago BESS project (SSD-57107216) is proposing to extend site working hours on Saturdays from the current 8am – 1pm to a full day 7am – 6pm. Attached is the noise impact statement for this change which indicates no exceedance of the Out of Hours Noise Management Levels. We kindly request M1 Upgrade Project reviews this and raises any concerns by return email. If no response is received prior to 5pm Monday 1-Jun-2026 we will proceed on the basis there are no objections from the M1 Upgrade Project to this change.

Regards,

Charlie Perry
Senior Project Manager - Battery
Energy Assets - Construction

m: 0407 577 386
e: cperry@agl.com.au

Join the change

Subject: Tomago BESS - Extension of Saturday Working Hours
Sent: 18/05/2026, 5:50:35 PM
From: Charlie Perry<CPerry@agl.com.au>
To: M12RT-southern@jhga.com.au
Cc: Monica Porte-JHG; Andrew Brajlih; Mitch Stewart <AU MEL RSQ EC>; m12rt@transport.nsw.gov.au; TMBSproject
Attachments: 630.032707.00001-R04-v1.1 - Saturday OOHW CNIS.pdf

---

Hello,

Tomago BESS project (SSD-57107216) is proposing to extend site working hours on Saturdays from the current 8am – 1pm to a full day 7am – 6pm. Attached is the noise impact statement for this change which indicates no exceedance of the Out of Hours Noise Management Levels. We kindly request M1 Upgrade Project reviews this and raises any concerns by return email. If no response is received prior to 5pm Monday 1-Jun-2026 we will proceed on the basis there are no objections from the M1 Upgrade Project to this change.

Regards,

Charlie Perry
Senior Project Manager - Battery
Energy Assets - Construction

m: 0407 577 386
e: cperry@agl.com.au

Join the change

Martin Davenport

From: Scott Dews <Scott.Dews@transport.nsw.gov.au>
Sent: Monday, 29 June 2026 2:13 PM
To: Maris Steele
Cc: Charlie Perry; Stephen Shoesmith; Andrew Brajlih; Hamid Shilani; Sebastian Holvast; HOFFMAN Paul
Subject: Re: Tomago BESS - Extension of Saturday Working Hours notification
Attachments: 630.032707.00001-R04-v1.5.pdf

Hi Maris
I have no objections to Saturday duration days. Thanks for update.

I have cc'd both TfNSW principal and SWC representative for their awareness.

Regards

Scott Dews
0437167516

OFFICIAL

From: Maris Steele <MSteele@agl.com.au>
Sent: Monday, June 29, 2026 1:58 pm
To: Scott Dews <Scott.Dews@transport.nsw.gov.au>
Cc: Charlie Perry <CPerry@agl.com.au>; Stephen Shoesmith <sshoesmith@slrconsulting.com>; Andrew Brajlih <ABrajlih@agl.com.au>; Hamid Shilani <HShilani@agl.com.au>
Subject: Tomago BESS - Extension of Saturday Working Hours notification

Dear Scott

Tomago BESS project (SSD-57107216) is proposing to extend site working hours on Saturdays from the current 8am – 1pm to a full day 7am – 6pm. Attached is the noise impact statement for this change which indicates no exceedance of the Out of Hours Noise Management Levels. We kindly request Transport for NSW reviews this and raises any concerns by return email. If no response is received prior to 5pm Friday 10 -July-2026 we will proceed on the basis there are no objections from the TfNSW to this change.

Best regards,
Maris Steele
Environmental and Compliance Manager - Construction

m: 0498 233 152
e: msteele@agl.com.au

From: Charlie Perry <CPerry@agl.com.au>
Sent: Tuesday, 23 June 2026 3:59 PM
To: M12RT-southern@jhga.com.au; m12rt@transport.nsw.gov.au
Cc: Monica Porte-JHG <monica.porte@jhga.com.au>; Andrew Brajlih <ABrajlih@agl.com.au>; Mitch Stewart <AU MEL RSQ EC> <mitch.stewart@fluenceenergy.com>; TMBSproject <TMBSproject@agl.com.au>; Maris Steele <MSteele@agl.com.au>
Subject: RE: Tomago BESS - Extension of Saturday Working Hours

M1 team,

Just a follow up courtesy email to note that, having not received a response prior to 5pm Monday 1-Jun-2026 (or since then), we will proceed on the basis there are no objections from the M1 Upgrade Project to this extension of working hours on Saturdays for Tomago BESS project.

Regards,

Charlie Perry
Senior Project Manager - Battery Energy Assets - Construction

m: 0407 577 386
e: cperry@agl.com.au

From: Charlie Perry
Sent: Monday, 18 May 2026 5:51 PM
To: 'M12RT-southern@jhga.com.au' <M12RT-southern@jhga.com.au>
Cc: Monica Porte-JHG <monica.porte@jhga.com.au>; Andrew Brajlih <ABrajlih@agl.com.au>; Mitch Stewart <AU MEL RSQ EC> <mitch.stewart@fluenceenergy.com>; 'm12rt@transport.nsw.gov.au' <m12rt@transport.nsw.gov.au>; TMBSproject <TMBSproject@agl.com.au>
Subject: Tomago BESS - Extension of Saturday Working Hours

Hello,

Tomago BESS project (SSD-57107216) is proposing to extend site working hours on Saturdays from the current 8am – 1pm to a full day 7am – 6pm. Attached is the noise impact statement for this change which indicates no exceedance of the Out of Hours Noise Management Levels. We kindly request M1 Upgrade Project reviews this and raises any concerns by return email. If no response is received prior to 5pm Monday 1-Jun-2026 we will proceed on the basis there are no objections from the M1 Upgrade Project to this change.

Regards,

Charlie Perry
Senior Project Manager - Battery
Energy Assets - Construction

m: 0407 577 386
e: cperry@agl.com.au

Join the change

Appendix D Construction Noise Validation Monitoring Report

Extension of Construction Hours Construction Noise Impact Statement

Tomago Battery Energy Storage System

Fluence Energy Pty Ltd

SLR Project No.: 630.032707.00001

2 July 2026

Tomago BESS

Construction noise validation monitoring

Prepared for Integrated Environmental Management Australia Pty Ltd

May 2026

Tomago BESS

Construction noise validation monitoring

Integrated Environmental Management Australia Pty Ltd

E260424 RP#1

May 2026

Version	Date	Prepared by	Reviewed by	Comments
1	1 May 2026	Ingrid Smith	Katie Teyhan	Draft
2	11 May 2026	Ingrid Smith	Katie Teyhan	Final

Approved by

Katie Teyhan
Associate Director
11 May 2026

Level 10 201 Pacific Highway
St Leonards NSW 2065
ABN: 28 141 736 558

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Appendices

Tables

Figures

1 Introduction

1.1 Background

EMM Consulting Pty Limited (EMM) was engaged by Integrated Environmental Management Australia Pty Ltd (IEMA), on behalf of Fluence, to conduct attended noise monitoring of the Tomago Battery Energy Storage System (BESS) construction site located in Tomago, NSW.

The purpose of the survey was to quantify noise emissions from construction activity at the site and compare these against relevant limits and construction noise predictions provided in the Development Consent (SSD 57107216) Construction Noise and Vibration Management Plan prepared by SLR Consulting Australia dated 11 February 2026 (CNVMP).

Monitoring and reporting have been undertaken in accordance with the NSW EPA 'Noise Policy for Industry' (NPfI) issued in October 2017 and the 'Approved methods for the measurement and analysis of environmental noise in NSW' (Approved Methods) issued in January 2022.

1.2 Terminology and abbreviations

Definitions of terms and abbreviations that have been used in this report are provided in Table 1.1.

Table 1.1 Terminology and abbreviations

Term/descriptor	Definition
dB	Noise level measurement units are decibels (dB).
L_{Amax}	The maximum root mean squared A-weighted noise level over a time period. The "A" weighting scale is used to approximate how humans hear noise.
L_{A1}	The A-weighted noise level which is exceeded for 1 per cent of the time.
L_{A10}	The A-weighted noise level which is exceeded for 10 percent of the time.
L_{Aeq}	The energy average A-weighted noise level.
L_{A50}	The A-weighted noise level which is exceeded for 50 per cent of the time, also the median noise level during a measurement period.
L_{A90}	The A-weighted noise level exceeded for 90 percent of the time, also referred to as the "background" noise level and commonly used to derive noise limits.
L_{Amin}	The minimum A-weighted noise level over a time period.
AWS	Automatic weather station used to collect meteorological data, typically at an altitude of 10 metres
IA	Inaudible. When site noise is noted as IA then there was no site noise at the monitoring location.
NM	Not Measurable. If site noise is noted as NM, this means some noise was audible but could not be quantified.
Day	Monday – Saturday: 7 am to 6 pm, on Sundays and Public Holidays: 8 am to 6 pm.

Appendix A provides further information that gives an indication as to how an average person perceives changes in noise level, and examples of common noise levels.

2 Noise limits

2.1 Development Consent (SSD 57107216)

Requirements relating to noise from construction activities associated with the Tomago BESS project are provided in condition B17 of SSD-57107216 dated 11 February 2026. The relevant section of condition B17 is reproduced as follows:

> B17. The Applicant must:
>
> a) minimise the noise generated by any construction, upgrading, or decommissioning activities on site in accordance with best practice requirements outlined in the *Interim Construction Noise Guideline* (DECC, 2009) or its latest version; and

2.2 Construction Noise and Vibration Management Plan

2.2.1 Noise management levels

The CNVMP established noise management levels based on the guidelines presented in the Interim Construction Noise Guideline (ICNG) for construction work during standard construction hours. The ICNG does not provide strict noise limits but sets a recommended Noise Management Level (NML) for construction activities to regulate noise and instruct the adoption of all practicable reasonable and feasible mitigation measures. NMLs for residential land uses during standard construction hours are determined by the Rating Background Level (RBL) plus 10 dB. All other land uses have set NMLs as outlined by the ICNG. Unattended noise monitoring was conducted at three distinct residential noise catchment areas (NCA) to establish representative background noise levels for nearby affected sensitive receivers. The established NMLs for the project are provided in Table 7 of the CNVMP and reproduced in Table 2.1.

Table 2.1 Construction noise management levels

Receptor Type	Monitoring Location	Noise Management Level ($L_{Aeq(15minute)}$, dBA			
		Standard construction hours	Out of hours work		
		Day	Day	Evening	Night
NCA1 – Residential	L1	56	51	49	46
NCA2 – Residential	L2	47	42	42	42
NCA3 – Residential	L3	62	57	53	46
Commercial	-	70 when in use	-	-	-
Educational and Places of Worship	-	55 (external) when in use	-	-	-
Active Recreation Areas	-	65 when in use	-	-	-
Industrial	-	75 when in use	-	-	-

NCAs and assessment locations are shown in Figure 2 of the CNVMP and has been reproduced in Figure 2.1.

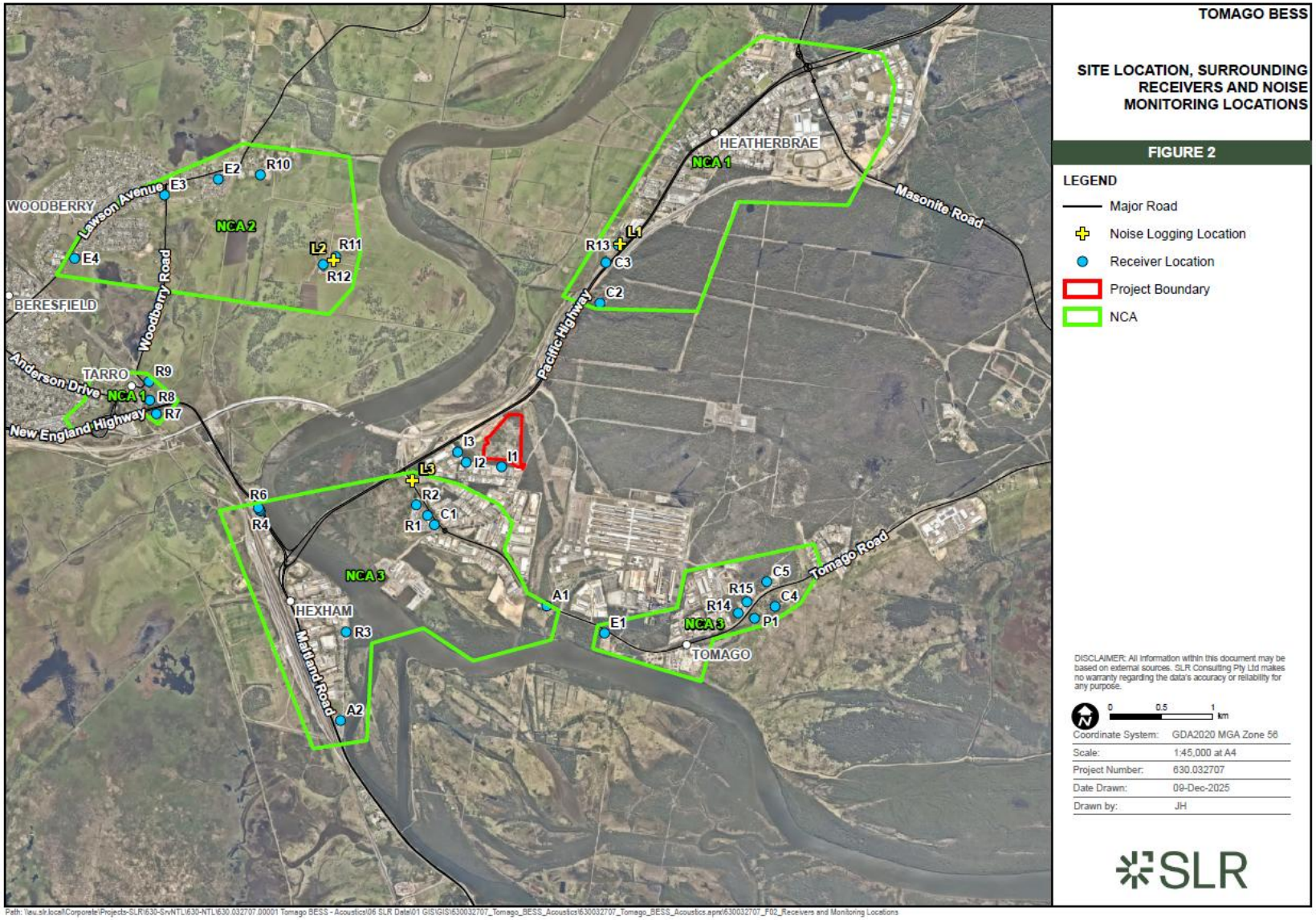

Figure 2.1 SLR modelling assessment locations

2.2.2 Monitoring requirements

The CNVMP recommended construction noise monitoring to be conducted at the commencement of bulk earthworks to validate construction noise levels are consistent with the predicted noise levels or lower. Recommendations regarding construction noise monitoring and reporting requirements are provided in Sections 8.4.1 and 8.4.3 of the CNVMP. The relevant sections have been reproduced as follows:

> 8.4.1 Construction Noise Monitoring
>
> Attended construction noise monitoring will be conducted at the commencement of bulk earthworks associated with the BESS site and transmission connection. The purpose of the monitoring would be to validate that construction noise levels during these worst-case time periods are consistent with predicted noise levels and that appropriate noise mitigation measures are in place.
>
> In addition, attended noise monitoring will be undertaken in response to any formal complaints. All monitoring will be completed by suitably qualified acoustic specialists. The location and extent of attended monitoring in response to complaints will be determined in consultation with Project staff and would be dependent on the activities taking place.
>
> The monitoring will take place during the expected noisiest construction periods and be representative/indicative of the impacts at the potentially affected sensitive receivers. All items of instrumentation utilised will be designed to comply with IEC 61672.1-2013.
>
> …
>
> 8.4.3 Monitoring Reports
>
> Noise and/or vibration monitoring reports will be stored on file and provided to the relevant regulatory authorities upon request. Monitoring reports would include the following details, at a minimum:
>
> - Noise/vibration monitoring/measurement locations.
> - Date, time and length of noise monitoring/measurements.
> - Weather conditions during the measurements.
> - Name and position of personnel undertaking measurements.
> - Locations of construction equipment and distance from monitoring location
> - Measured LAeq and LAmax noise levels during construction works (for each activity) along with a comparison to the predicted noise levels (noise monitoring only).
> - Measured LA90 background noise level in absence of the construction works (noise monitoring only).
> - Measured vibration levels during construction works (for each activity) along with comparison to the relevant vibration criteria (vibration monitoring only).
> - Measured background vibration level in absence of the construction works (vibration monitoring only).
> - Operator observations noting any extraneous noise/vibration sources or other points of relevance.

2.2.3 Predicted construction noise levels

Predicted noise levels are presented in Table 16 of the CNVMP. Relevant information is summarised in Table 2.2 based on a worst-case total construction sound power level of 123 dB.

Table 2.2 Predicted construction noise levels from CNVMP

ID	Address	Period	Predicted noise level
R1	Sweetwater Grove, 819 Tomago Road, Tomago	Standard construction hours	47-50
R2	Sweetwater Grove, 819 Tomago Road, Tomago	Standard construction hours	32-36
I1	6/8 Kennington Drive, Tomago	Standard construction hours	66-67

3 Methodology

3.1 Overview

Attended environmental noise monitoring was done in general accordance with Australian Standard AS1055 'Acoustics, Description and Measurement of Environmental Noise' and relevant NSW requirements. Meteorological data was obtained from the Williamtown RAAF automatic weather station (AWS) (station ID 061078) which allowed correlation of atmospheric parameters with measured site noise levels.

3.2 Attended monitoring locations

Representative locations were chosen based on relative proximity of the works to the nearest potentially affected noise sensitive receptors and their respective acoustic environment. As R1 and R2 are within the same residential estate, monitoring was performed at the entrance of the estate which is representative of both locations. The adopted noise limits have been based on the most stringent receiver at R2. Noise monitoring locations are detailed in Table 3.1 and shown on Figure 3.1. It should be noted that Figure 3.1 shows actual monitoring location positions, not necessarily the location of residences (residences are shown in Figure 2.1 in Section 2.2).

Table 3.1 Attended noise monitoring locations

ID	Description/address	Coordinates (MGA56)	
		Easting	Northing
NM1	819 Tomago Road, Tomago	378153	6367984
NM2	End of Abbott Lane, Tomago	378731	6368353
NM3	Southern boundary of site	378847	6368422

KEY

- Construction boundary
- Cadastral boundary
- Monitoring location

INSET KEY

- Major road
- NPWS reserve
- State forest

Attended monitoring locations

Tomago BESS
Construction Noise Validation Monitoring
Figure 3.1

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Source: EMM (2026); ABS (2021); DCSSS (2024); MetroMap (2026)

0 100 200 m
GDA2020 MGA Zone 56
N

\\emm.local\xdrive\2026\E260424- Tomago BESS\8 GIS\02_Maps\G001_MonitoringLocations\G001_MonitoringLocations_20260511_03.aprx 11/05/2026

3.3 Attended noise monitoring

Attended noise monitoring was conducted during the day period at each location for a duration of 15 minutes. Additional spot checks of noise from equipment on site was also undertaken ranging in duration to capture the typical nature of the equipment. Atmospheric conditions were also measured during each measurement.

Noise from various sources was noted during each measurement, and particular attention was paid to the extent of site's contribution (if any) to measured levels. At each monitoring location, the site-only $L_{Aeq,15minute}$ and L_{Amax} were measured directly or determined by other methods detailed in Section 7.1 of the NPfI.

If the exact noise levels from site could not be established due to masking by other noise sources in a similar frequency range, but site noise was determined to be at least 5 dB lower than relevant limits, then a maximum estimate of site noise may be provided. This is expressed as a 'less than' quantity, such as <20 dB or <30 dB.

The terms 'Inaudible' (IA) or 'Not Measurable' (NM) may be used in this report. When site noise is noted as IA, no site noise was audible at the monitoring location. When site noise is noted as NM, this means site noise was audible but could not be quantified. All results noted as NM in this report were due to one or more of the following:

- Site noise levels were extremely low and unlikely, in many cases, to be noticed.
- Site noise levels were masked by other more dominant noise sources that are characteristic of the environment, such as breeze in foliage or continuous road traffic noise, that cannot be eliminated by monitoring at an alternate or intermediate location.
- It was not feasible or reasonable to employ methods such as to move closer and back calculate. Cases may include rough terrain preventing closer measurement, addition/removal of significant source to receiver shielding caused by moving closer, and meteorological conditions where back calculation may not be accurate.

Measurements taken directly at the locations representative of noise sensitive receivers confirmed that existing ambient noise levels were generally too high to determine a noise contribution from the site. Measurements were subsequently taken at one point on the southern boundary of the site, where extraneous noise sources did not significantly contribute to the total noise level and construction noise from site was dominant. The relevant measurement point is indicated in Table 3.1 (measurement point NM3).

The site noise contribution at each noise sensitive location was determined as per condition 7.1 of the NSW Environmental Protection Authority's (EPA) 20017 Noise Policy for Industry (NPfI) requirements, which states that:

> Where direct measurement of noise at a compliance location is not practical because of poor signal-to noise ratios (that is, extraneous noise is louder than the noise under investigation), or where access to the location has been denied or is unavailable, measurements at intermediate locations between the source and the receiver location, where signal-to-noise ratios are higher, may be a viable option.

3.4 Modifying factors

Based on a detailed review and analysis of noise measurement data, there was no evidence of low frequency noise, tonality or any other modifying factors as defined in the NPfI (EPA 2017) at any monitoring location; therefore, modifying factor penalties were not applicable. All measurements were evaluated for potential modifying factors in accordance with the NPfI. Specific methodology for assessment of each modifying factor is outlined in Fact Sheet C of the NPfI.

3.5 Instrumentation and personnel

Attended noise monitoring was conducted by Ingrid Smith. Qualifications, experience, and competence is in accordance with the Approved methods and supportive documentation is available upon request.

Equipment used to measure environmental noise levels is detailed in Table 3.2. Calibration certificates are provided in Appendix B.

Table 3.2 Attended noise monitoring equipment

Item	Serial number	Calibration due date	Relevant standard
NTi XL3 sound level meter	A3A-01355-F0	05/03/2027	IEC 61672-1:2002
Svantek V36 calibrator	106879	26/06/2027	IEC 60942:2003

4 Results

4.1 Construction activities

During the monitoring period, acoustically significant construction activities were observed to include two loaders, localised truck movements removing stockpile material, a backhoe loader, and vibratory rollers. Additional light vehicles were present but not perceived to be audible. Whilst the measured equipment was determined to be the dominant noise, it is likely for the measurements to include extraneous noise from nearby industrial activity. The measurement distance has been detailed as the closest distance during the noisiest period of equipment operation. Measurements were taken from a safe distance and have been detailed in Table 4.1.

Table 4.1 Construction activities – 8 April 2026

Equipment	Measurement distance from equipment (m)	Measured spot-check L_{Aeq}, dB	Estimated sound power level (dB)
Loader 1	30	56	94
Loader 2	35	56	95
Backhoe loader	37	67	106
Trucks	15	NM[1]	n/a
Vibratory roller	15	70	102
		Total approximate sound power level	108

Note: 1. Equipment was not measurable due to masking by other equipment and dynamic movements.

4.2 Total measured noise levels

Overall noise levels measured at each off-site location during attended measurements are provided in Table 4.2.

Table 4.2 Total measured noise levels – 8 April 2026[1]

Location	Start date and time	L_{Amax} dB	L_{A1} dB	L_{A10} dB	L_{Aeq} dB	L_{A50} dB	L_{A90} dB	L_{Amin} dB
NM1[4]	08/04/2026 12:17	90	80	76	71	66	56	49
NM2[3]	08/04/2026 11:52	68	64	58	57	56	56	54
NM3[2]	08/04/2026 11:18	73	62	59	57	56	53	46

Notes:
1. Levels in this table are not necessarily the result of activity at site.
2. On-site, boundary measurement.
3. Constant noise from industrial operations, not related to construction activity at the site, was audible during measurement.
4. Constant noise from traffic along Tomago road, not related to construction activity at the site, was audible during measurement.

Atmospheric conditions measured by the operator during each measurement using a hand-held weather meter are summarised in Table 4.3. The wind speed, direction and temperature were measured at approximately 1.5 metres above ground. Attended noise monitoring is not done during rain, hail, or wind speeds above 5 m/s at microphone height. This data was collected over a short duration of typically 5 minutes; however, atmospheric conditions were observed to be relatively constant during the 15 minute noise sample.

Table 4.3 Measured (hand held meter) atmospheric conditions – 8 April 2026

Location	Start date and time	Temperature °C	Wind speed m/s	Wind direction ° Magnetic north [1]	Cloud cover 1/8s
NM1	08/04/2026 12:17	28	<0.5	-	0
NM2	08/04/2026 11:52	27	<0.5	-	0
NM3	08/04/2026 11:18	26	<0.5	-	0

Notes: 1. "-" indicates calm conditions at monitoring location.

4.3 Site only noise levels

4.3.1 Monitoring results

Table 4.4 provides measured site noise levels in the absence of other sources, where possible, and includes weather data from the Williamtown RAAF AWS.

Table 4.4 Site-only monitoring results – 8 April 2026

Location	Start Date and Time	Wind		Predicted noise levels, $L_{Aeq,15minute}$, dB	NMLs, $L_{Aeq,15minute}$, dB	Measured site levels, $L_{Aeq,15minute}$[1], dB	Compliance	
		Speed m/s	Direction[2]					
NM1	08/04/2026 12:17	3.4	175	37	62	IA	Yes	Yes
NM2	08/04/2026 11:52	2.1	219	67	75	35	Yes	Yes

Notes: 1. Site-only $L_{Aeq,15minute}$, includes modifying factor penalties if applicable.

2. Degrees magnetic north, "-" indicates calm conditions.

4.3.2 Calculated site noise levels

Table 4.4 summarises the site noise contributions at the noise sensitive receivers calculated from the site boundary measurement. All contributions are based on calculations from data captured at position NM3 (refer Table 4.1). This boundary measurement is considered to be a typical 15-minute operational sample of site noise and is validated by spot checks of operating equipment. Hence, the sample that produced the highest site contribution calculated at residences has been used. The calculated noise levels satisfy the noise management levels specified in the CNVMP at all receivers.

Table 4.5 Calculated site-only monitoring results

Location	Period	Predicted noise levels from CNVMP, $L_{Aeq,15minute}$ dB	NMLs, $L_{Aeq,15minute}$ dB	Calculated site levels, dB $L_{Aeq,15minute}$	Compliance
					NMLs
NM1	Day	37	62	31	Yes
NM2	Day	67	75	41	Yes

4.4 Discussion

Equipment captured during on-site construction validation monitoring had an estimated combined total sound power level of 108 dB. This estimation is significantly lower than the total sound power of 123 dB modelled in the CNVMP. A comparison of equipment onsite during the construction monitoring to that adopted in the model indicates that dominant noise sources such as rock breakers, tub grinders/mulchers, and chainsaws were not operational during the monitoring period. Generally, it is not expected that all equipment adopted in the noise model would be operating simultaneously and actual construction noise levels are typically lower than those predicted. Measured noise from site was calculated at NM1 and NM2 to be below the predicted levels by 6 dB and 26 dB, respectively, and at least 31 dB below the recommended NMLs. These results indicate that, even if additional plant and equipment was operating on site consistent with that adopted in the modelling for the CNVMP, that relevant NMLs would not be exceeded and the nearest noise-sensitive receptors.

Hence, it is expected that noise from construction activity at Tomago BESS complies with the NMLs stated in the CNVMP.

In accordance with the recommendations provided in the CNVMP, additional construction noise validation monitoring would only be required in response to a complaint.

5 Summary

EMM was engaged by Integrated Environmental Management Australia Pty Ltd, on behalf of Fluence, to conduct a validation noise survey of activities at the Tomago BESS construction site in Tomago, NSW. The survey purpose was to quantify the acoustic environment and compare site noise levels against the predicted results and noise management levels provided in the CNVMP.

Attended construction validation noise monitoring described in this report was done during the day period on 8 April 2026 at two monitoring locations off-site and one location on the site boundary. Additional spot checks of equipment operating on site was performed to validate boundary measurements.

Measured noise at monitoring locations was dominated by extraneous noise sources from traffic along Tomago Road, and industrial operations. The methods described in Section 7.1 of the NPfI were therefore adopted to calculate the site noise contribution at residential locations listed in the CNVMP where direct measurement was not practical.

Data analysis determined a 15 dB discrepancy between the sound power adopted for the initial modelling of construction noise (presented in the CNVMP), and the sound power estimated during construction validation noise monitoring. Calculated site noise levels and measured site noise levels were determined to be significantly below (comply with) the recommended NML and predicted noise levels, and it was determined that the operation of additional noisy equipment on-site (consistent with that adopted in the CNVMP) should not generate noise levels above the NMLs. Hence, it is expected that noise from construction activity at Tomago BESS complies with the NMLs stated in the CNVMP.

In accordance with the recommendations provided in the CNVMP, additional construction noise validation monitoring would only be required in response to a complaint.

Appendix A
Noise perception and examples

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A.1 Noise levels

Table A.1 gives an indication as to how an average person perceives changes in noise level. Examples of common noise levels are provided in Figure A.1.

Table A.1 Perceived change in noise

Change in sound pressure level (dB)	Perceived change in noise
up to 2	Not perceptible
3	Just perceptible
5	Noticeable difference
10	Twice (or half) as loud
15	Large change
20	Four times (or quarter) as loud

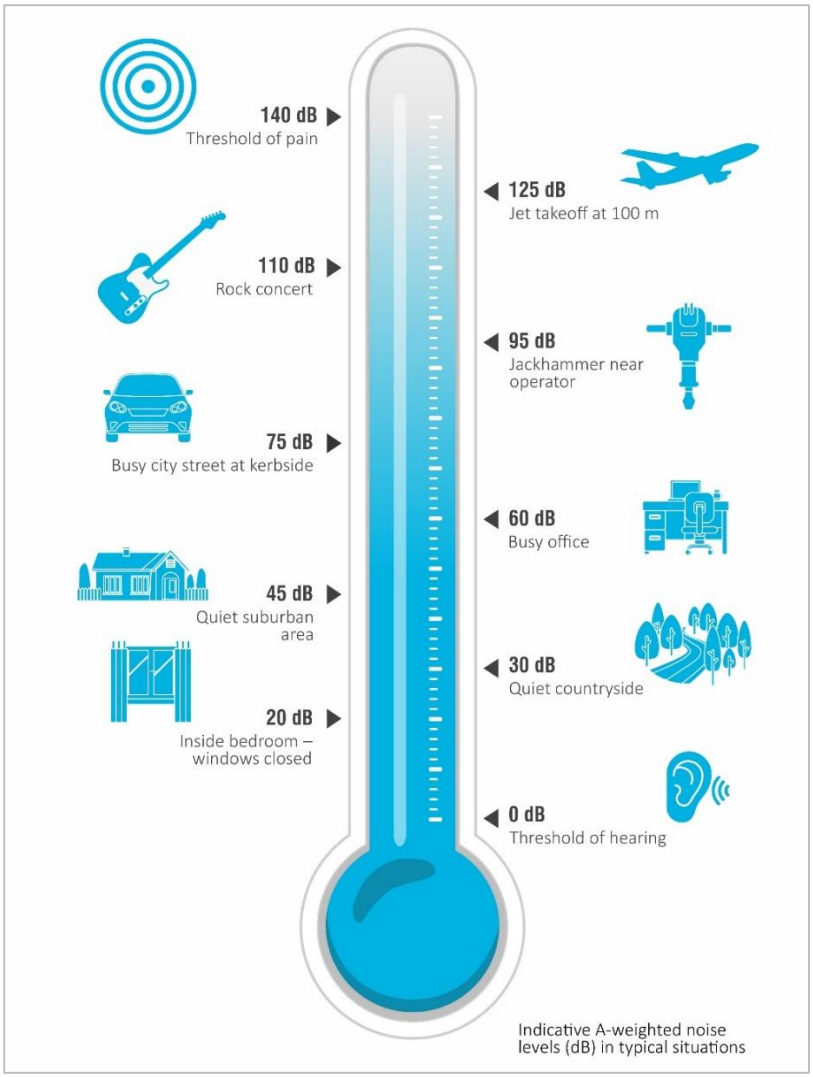

Figure A.1 Common noise levels

Appendix B
Calibration certificates

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CERTIFICATE OF CALIBRATION

CERTIFICATE NO: C54428

EQUIPMENT TESTED : Acoustic Calibrator

Make & Model:	Svantek SV 36	**Serial No:**	106879
Class:	1		
Owner:	EMM Consulting Suite 01, 20 Chandos St St Leonards NSW 2065		
Tests Performed:	Measured Output Pressure level, Frequency & Distortion		
Comments:	See Details and Class Tolerance overleaf.		

CONDITION OF TEST:

Ambient Pressure	1012	hPa ±1 hPa	**Date of Receipt :**	25/06/2025
Temperature	22	°C ±1° C	**Date of Calibration :**	26/06/2025
Relative Humidity	39	% ±5%	**Date of Issue :**	27/06/2025

Acu-Vib Test Procedure: AVP02 (Calibrators)
Test Method: AS IEC 60942 - 2017

CHECKED BY: L. Gail **AUTHORISED SIGNATURE:** ..... J.M. Kiel

Accredited for compliance with ISO/IEC 17025 - Calibration

Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

This report applies only to the item identified in the report and may not be reproduced in part.

The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.

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Head Office & Calibration Laboratory
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NATA
WORLD RECOGNISED ACCREDITATION
Accredited Laboratory No. 9262
Acoustic and Vibration Measurements

CERTIFICATE OF CALIBRATION

CERTIFICATE NO: SLM57430

EQUIPMENT TESTED: Sound Level Meter

Make & Model:	NTi Audio XL3	**Serial No:**	A3A-01355-F0
Mic. Model:	NTi Audio MC230A	**Serial No:**	A30684
Pre-Amp. Model:	NTi Audio MA220	**Serial No:**	15034
Band-Pass Filter:	1/3 Octave	**Test No:**	F057431

Owner: EMM Consulting
Level 3, 175 Scott Street
Newcastle, NSW 2300

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016

Comments: Conforms to quoted clauses or indicated test for Class 1. (See overleaf for details)

CONDITIONS OF TEST:

Ambient Pressure	1000	hPa ±1 hPa	**Date of Receipt :**	19/02/2026
Temperature	25	°C ±1° C	**Date of Calibration :**	05/03/2026
Relative Humidity	51	% ±5%	**Date of Issue :**	06/03/2026

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY: ..... *L. Gail*

AUTHORISED SIGNATURE: ..... **H. Soe** *Lab Manager*

Accredited for compliance with ISO/IEC 17025 - Calibration

Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

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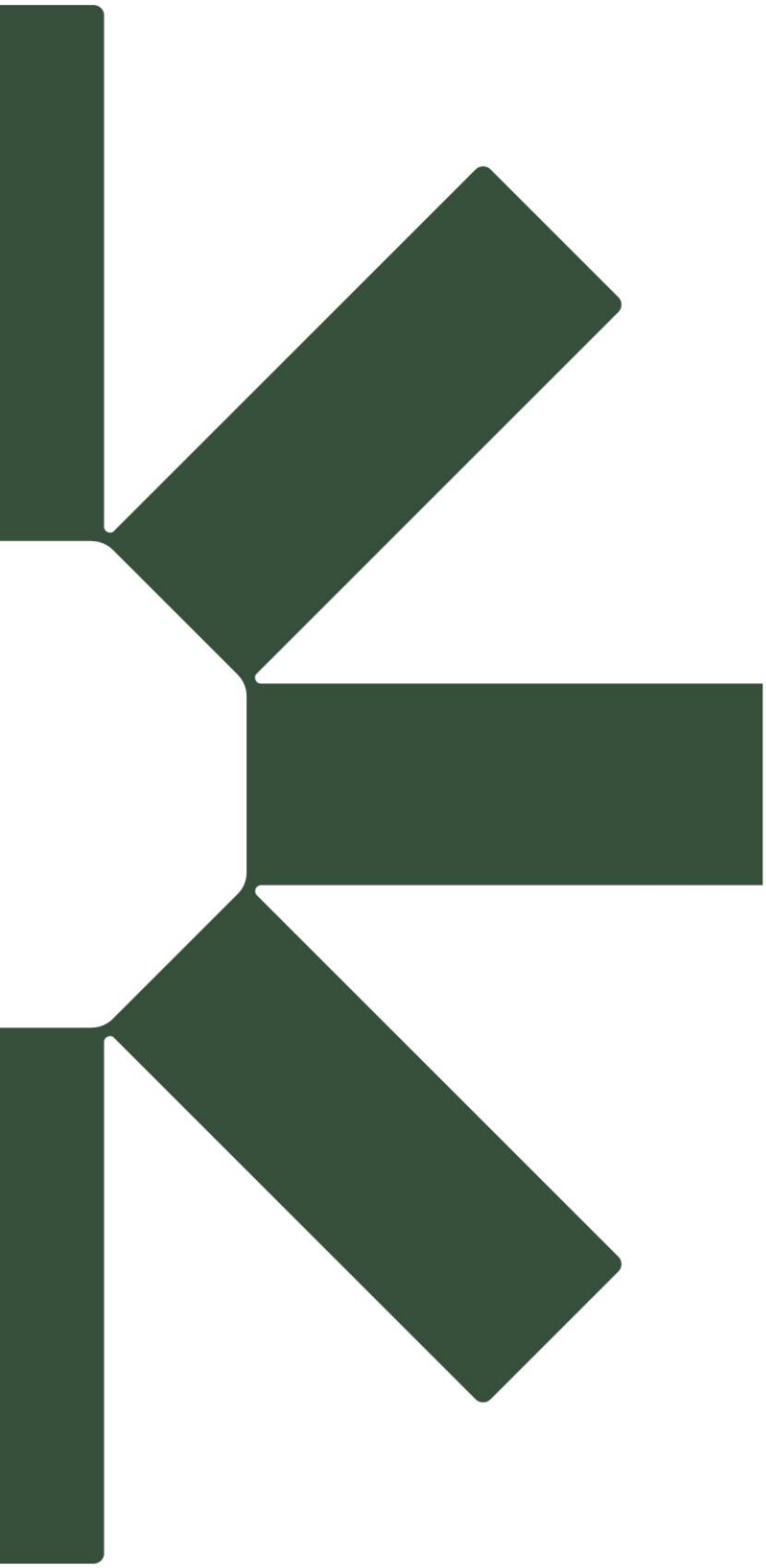

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