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BILLY HUGHES BRIDGE – CONSTRUCTION NOISE AND VIBRATION IMPACT STATEMENT ADDENDUM

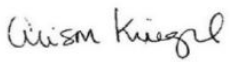
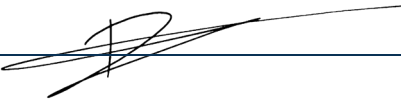
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GLOSSARY

Specific terms and acronyms used throughout this plan are listed and described in Table 1 below.

TABLE 1: DEFINITIONS

TERM	DEFINITION
A2I	Albury to Illabo Project approved under Section 5.19 of the EP&A Act on 8 October 2024 and modified on 13 August 2025
Addendum	Addendum to the endorsed Construction Noise and Vibration Impact Statement
CA	Consistency Assessment
CoA	Conditions of Approval for SSI-10055
CNVIS	Construction Noise and Vibration Impact Statement
km	Kilometres
m	Metres
NML	Noise Management Levels
OOH	Out-of-hours
Project	Albury to Illabo Project approved under Section 5.19 of the EP&A Act on 8 October 2024
RBL	Rating Background Level
SLR Predict	SLR Predict, the A2I noise and vibration management tool
SSI	State Significant Infrastructure
T	Tonnes
W.001	Work Scenario 1
W.001B	Work Scenario 1B
W.002	Work Scenario 2
W.002B	Work Scenario 2B
W.004B	Work Scenario 4B
W.009B	Work Scenario 9B
W.011A	Work Scenario 11A
W.011B	Work Scenario 11B

1 INTRODUCTION

1.1 Inland Rail

Inland Rail is an approximate 1,600 kilometres (km) freight rail network that will connect Beveridge and Kagaru via regional Victoria, New South Wales and Queensland. The Inland Rail route would involve using approximately 1,000 km of existing track (with enhancements and upgrades where necessary) and 600 km of new track, passing through 30 local government areas. Inland Rail will accommodate double-stacked freight trains up to 1,800 metres (m) long and 6.5 m high.

The Albury to Illabo (A2I) section (the Project) forms a key component of the Inland Rail program. It is a 185 km section of existing rail corridor located in regional NSW between the towns of Albury and Illabo. Works would include track realignment, lowering and/or modification within the existing rail corridor, modification, removal or replacement of bridge structures (rail, road and/or pedestrian bridges), raising or replacing signal gantries, level-crossing modifications and other associated works.

Precinct	Enhancement sites
Albury Precinct	Murray River bridge
	Albury Station pedestrian bridge
	Albury Yard clearances
	Riverina Highway bridge
	Billy Hughes bridge
	Table Top Yard clearances
Greater Hume-Lockhart	Culcairn pedestrian bridge
	Culcairn Yard clearances
	Henty Yard clearances
	Yerong Creek Yard clearances
	The Rock Yard clearances
	Uranquinty Yard clearances
Wagga Wagga	Pearson Street bridge
	Cassidy Parade pedestrian bridge
	Edmonson Street bridge
	Wagga Wagga Station pedestrian bridge
	Wagga Wagga Yard clearances
	Bomen Yard clearances
	Harefield Yard clearances
	Kemp Street bridge
Junee	Junee Station pedestrian bridge
	Junee Yard clearances
	Olympic Highway underbridge
	Junee to Illabo clearances



FIGURE 1: PROJECT ENHANCEMENT SITES

1.2 Purpose of this Addendum

This Construction Noise and Vibration Impact Statement Addendum (Addendum) has been prepared to identify and assess revised work areas required to support and enable the wider scope of activities associated with the Billy Hughes Bridge enhancement site (Billy Hughes), as shown in Figure 2 through Figure 6 below. This Addendum will form part of the endorsed Construction Noise and Vibration Impact Statement (CNVIS) (Doc No: 6-0052-210-EEC-B5-AS-0001) for Billy Hughes. This Addendum should be reviewed in conjunction with the CNVIS for Billy Hughes, including adopted Rating Background Levels (RBL), Noise Management Levels (NML) and assessment criteria in accordance with the Conditions of Approval (CoA) (SSI-10055).

The following scenarios are considered in this CNVIS Addendum:

- W.001B – revised work area (Figure 2) for the site establishment work scenario (W.001);
- W.002B – revised work area (Figure 3) for compound operation scenario (W.002);
- W.004B – revised work area (Figure 2) for the earthworks scenario (W.004);
- W.009B – revised equipment list for the retaining wall and protection barrier construction scenario (W.009) in the work area (Figure 4) assessed in the endorsed CNVIS;
- W.011A – revised work area (Figure 5) for signalling enabling works scenario;
- W.011B – revised work area (Figure 6) for installation of signalling infrastructure.



FIGURE 2: REVISED WORK AREA REQUIRED FOR BILLY HUGHES (W.001B AND W.004B)



FIGURE 3: REVISED WORK AREA REQUIRED FOR BILLY HUGHES (W.002B)



FIGURE 4: CNVIS WORK AREA REQUIRED FOR BILLY HUGHES WITH UPDATED LIST OF EQUIPMENT (W.009B)



FIGURE 5: REVISED WORK AREA REQUIRED FOR BILLY HUGHES (W.011A)



FIGURE 6: REVISED WORK AREA REQUIRED FOR BILLY HUGHES (W.011B)

2 NOISE ASSESSMENT

The potential construction noise levels from the proposed works have been predicted using SLR Predict, the A21 project-specific noise and vibration tool. This CNVIS Addendum assesses the work scenarios identified in Table 2.

TABLE 2: WORK SCENARIO DESCRIPTION

ID	Scenario	Description	Total Lw
W.001B	Site establishment	Site compound delivery and set up, access Road and laydown construction	114
W.002B	Compound operation	Operation of the site compound and delivery of materials / equipment	114
W.004B	Earthworks	Bulk excavation Stockpiling	116
W.009B	Retaining wall and protection barrier construction	Deflection wall construction Soil nail wall construction	119
W.011A	Signalling work – signalling enabling activities	Access for cable pulling and testing works	106
W.011B	Signalling work – installation of signalling infrastructure	Installation of signalling infrastructure	101

2.1 Site establishment activities (W.001B)

2.1.1 Scope

The revised work area (Figure 2) consists of the work area identified in the endorsed CNVIS, additional area considered as part of the approved Project and additional work area identified in the Billy Hughes Bridge Consistency Assessment (CA) (Doc No: 6-0052-210-EAP-B5-AS-0001) following further construction planning.

Methodology

- Site compound delivery and set up
- Haul road and laydown construction

Plant and equipment

- Articulated dump truck
- Crane – mobile
- Elevated work platform
- Excavator – slasher
- Front end loader
- Generator
- Hand tools (electric)
- Hand tools (power)
- Light vehicle
- Roller – non-vibratory
- Tractor – slasher
- Truck – medium rigid (20T)
- Truck – truck & dog

- Watercart

Construction hours

- Standard approved construction hours:
 - 7am to 6pm Monday to Friday, inclusive
 - 7am to 6pm Saturday
- Daytime out-of-hours (OOH)
 - 8am to 6pm Sunday and Public Holidays

2.1.2 Assessment

The revised work area has been assessed utilising SLR Predict. The highest noise generating items of plant and equipment in this work scenario (front end loader and articulated dump truck) have been considered as a worst-case scenario, with 100% utilisation within a 15-minute assessment period.

2.1.3 Results

The SLR Predict results are presented in Appendix A, for daytime out of hours, as the most affected period (site establishment will not be undertaken during evening or night out of hours). Table 3 provides a summary of the exceedances identified through various assessments. It compares the following:

- W.001 exceedances identified in the Billy Hughes CNVIS
- W.001B exceedances identified in the SLR Predict results for the revised work area shown in Figure 2.

TABLE 3: EXCEEDANCE COMPARISONS FOR W.001B

ASSESSMENT RESULTS (DAY OOH)	NUMBER OF RESIDENTIAL RECEIVERS WITH NML EXCEEDANCE	
	W.001 CNVIS	W.001B SLR Predict – revised work area
Total Lw (dBA)	115	114
Noticeable (1-5 dB)	0	1
Clearly Audible (6-15 dB)	0	1
Moderately Intrusive (16-25 dB)	0	0
Highly Intrusive (>25 dB)	0	0

Table 3 shows that there are minimal changes in the number of residential receivers with NML exceedances resulting from the revised work area for W.001B.

2.2 Compound operation activities (W.002B)

2.2.1 Scope

The revised work area (Figure 3) consists of the work area identified in the endorsed CNVIS and additional compound area considered as part of the approved Project.

Methodology

- Operation of site compound
- Delivery of materials/equipment

Plant and equipment

- Centrifugal fan
- Compressor
- Crane franna (20T)
- Front end loader
- Generator
- Hand tools (electric)
- Light vehicles
- Truck – medium rigid (20T)
- Truck – truck & dog
- Watercart

Construction hours

- Standard approved construction hours:
 - 7am to 6pm Monday to Friday, inclusive
 - 7am to 6pm Saturday.
- Daytime OOH:
 - 8am to 6pm Sunday and Public Holidays
- Evening OOH:
 - 6pm to 10pm Monday to Sunday (including Public Holidays)
- Night OOH:
 - 10pm to 7am Monday to Saturday
 - 10pm to 8am Sunday (including Public Holidays)

2.2.2 Assessment

The revised work area has been assessed utilising SLR Predict. The highest noise generating items of plant and equipment in this work scenario (front end loader and compressor) have been considered as a worst-case scenario, with 100% utilisation within a 15-minute assessment period.

2.2.3 Results

The SLR Predict results are presented in Appendix B, for nighttime out of hours, as the most affected period. Table 4 provides a summary of the exceedances identified through various assessments. It compares the following:

- W.002 exceedances identified in the Billy Hughes CNVIS
- W.002B exceedances identified in the SLR Predict results for the revised work area shown in Figure 4.

TABLE 4: EXCEEDANCE COMPARISONS FOR W.002B

ASSESSMENT RESULTS (NIGHT OOH)	NUMBER OF RESIDENTIAL RECEIVERS WITH NML EXCEEDANCE	
	W.002 CNVIS	W.002B SLR Predict – revised work area
Total Lw (dBA)	113	114
Noticeable (1-5 dB)	0	1
Clearly Audible (6-15 dB)	0	1
Moderately Intrusive (16-25 dB)	0	0

ASSESSMENT RESULTS (NIGHT OOH)	NUMBER OF RESIDENTIAL RECEIVERS WITH NML EXCEEDANCE	
	W.002 CNVIS	W.002B SLR Predict – revised work area
Highly Intrusive (>25 dB)	0	0

Table 4 shows that there are minimal changes in the number of residential receivers with NML exceedances resulting from the revised work area for W.002B.

2.3 Earthworks (W.004B)

2.3.1 Scope

The revised work area (Figure 2) consists of the work area identified in the endorsed CNVIS, additional area considered as part of the approved Project and additional work areas identified in the Billy Hughes Bridge CA (Doc No: 6-0052-210-EAP-B5-AS-0001). Two additional pieces of plant / equipment are also considered likely to be used in this scenario, compared to that assessed in the endorsed CNVIS (posi track, bobcat).

Methodology

- Bulk excavation
- Stockpiling

Plant and equipment

- Articulated Dump Truck
- Backhoe
- Crane (mobile)
- Excavator – Tracked (20T)
- Front End Loader
- Generator
- Grader
- Hand tools (electric)
- Light vehicles
- Plate Compactor
- Roller – Vibratory
- Telescopic Handler
- Truck – Medium Rigid (20T)
- Truck – Vacuum (NDD)
- Watercart
- Posi track
- Bobcat

Construction hours

- Standard approved construction hours:

- 7am to 6pm Monday to Friday, inclusive
- 7am to 6pm Saturday.
- Daytime out-of-hours (OOH)
 - 8am to 6pm Sunday and Public Holidays.
- Evening OOH:
 - 6pm to 10pm Monday to Sunday (including Public Holidays)
- Night OOH:
 - 10pm to 7am Monday to Saturday
 - 10pm to 8am Sunday (including Public Holidays)

2.3.2 Assessment

The revised work area has been assessed utilising SLR Predict. The highest noise generating items of plant and equipment in this work scenario (front end loader and grader) have been considered as a worst-case scenario with 100% utilisation within a 15-minute assessment period.

2.3.3 Results

The SLR Predict results are presented in Appendix C, for night time out of hours, as the most affected period. Table 5 provides a summary of the noise exceedances identified through various assessments. It compares the following:

- W.004 exceedances identified in the Billy Hughes CNVIS (original earthwork scenario)
- W.004B exceedances identified in the SLR Predict results for the revised work area shown in Figure 2.

TABLE 5: EXCEEDANCE COMPARISONS FOR W.004B

ASSESSMENT RESULTS (NIGHT OOH)	NUMBER OF RESIDENTIAL RECEIVERS WITH NML EXCEEDANCE	
	W.004 CNVIS	W.004B SLR Predict – revised work area
Total Lw (dBA)	117	116
Noticeable (1-5 dB)	0	0
Clearly Audible (6-15 dB)	1	2
Moderately Intrusive (16-25 dB)	0	0
Highly Intrusive (>25 dB)	0	0

Table 5 shows that there are minimal changes in the number of residential receivers with NML exceedances resulting from the revised work area for W.004B.

2.4 Retaining wall and protection barrier construction (W.009B)

2.4.1 Scope

A revision of the work area is not required for this work scenario at the Billy Hughes Bridge enhancement site. However, it was necessary to update the list of plant and equipment following further construction planning.

Methodology

- Deflection wall construction
- Soil nail wall construction

Plant and equipment

- Compressor
- Concrete pencil vibrator
- Concrete pump truck
- Tracked Hydraulic Drilling Rig
- Scissor Lift
- Excavator – Tracked 20T
- Generator
- Hand tools (electric)
- Hydraulic/pneumatic tools
- Light Vehicle
- Loader
- Plate Compactor
- Roller – smooth drum
- Saw – concrete
- Telescopic handler
- Truck – medium rigid (20T)
- Watercart

Construction hours

- Standard approved construction hours:
 - 7am to 6pm Monday to Friday, inclusive
 - 7am to 6pm Saturday.
- Daytime out-of-hours (OOH)
 - 8am to 6pm Sunday and Public Holidays.

2.4.2 Assessment

The updated list of equipment has been assessed utilising SLR Predict. The list of equipment and respective utilisation was replicated in SLR Predict, with 'Tracked Hydraulic Drilling Rig' added to the plant and equipment list with 30% utilisation within a 15-minute assessment period.

2.4.3 Results

The SLR Predict results are presented in Appendix D, for daytime out of hours, as the most affected period. Retaining wall and protection barrier construction will not be undertaken during evening or night out of hours.

Table 6 provides a summary of the exceedances identified through various assessments. It compares the following:

- W.009 exceedances identified in the Billy Hughes CNVIS (original retaining wall and protection barrier construction work scenario)
- W.009B exceedances identified in SLR Predict for the revised list of equipment.

TABLE 6: EXCEEDANCE COMPARISONS FOR W.009B

ASSESSMENT RESULTS (DAY OOH)	NUMBER OF RESIDENTIAL RECEIVERS WITH NML EXCEEDANCE	
	W.009 CNVIS	W.009B SLR Predict – revised equipment list
Total Lw (dBA)	119	119
Noticeable (1-5 dB)	0	1
Clearly Audible (6-15 dB)	1	1
Moderately Intrusive (16-25 dB)	0	0
Highly Intrusive (>25 dB)	0	0

Table 6 shows that there are minimal changes in the number of residential receivers with NML exceedances resulting from the revised list of equipment for W.009. One additional receiver would experience a noticeable level of noise (1-5 dB exceedance) compared with the CNVIS, though the CNVIS highlights this receiver as being impacted by other activities at the Billy Hughes Bridge enhancement site. The proposed scenario would result in a similar level of impact to affected receivers as that considered in the endorsed CNVIS.

2.5 Signalling enabling activities (W.011A)

2.5.1 Scope

The revised work area (Figure 5) required for Billy Hughes forms part of the wider scope associated at the Billy Hughes Bridge enhancement site and will enable signalling activities. The revised work area, which consists of the work area identified in the endorsed CNVIS and additional work areas identified in the Billy Hughes Bridge CA (Doc No: 6-0052-210-EAP-B5-AS-0001).

Methodology

- Access for cable pulling and testing works

Plant and equipment

- Hand tools (electric)
- Light vehicles

Construction hours

- Standard approved construction hours:
 - 7am to 6pm Monday to Friday, inclusive
 - 7am to 6pm Saturday.
- Daytime out-of-hours (OOH)
 - 8am to 6pm Sunday and Public Holidays.
- Evening OOH:
 - 6pm to 10pm Monday to Sunday (including Public Holidays)
- Night OOH:
 - 10pm to 7am Monday to Saturday
 - 10pm to 8am Sunday (including Public Holidays)

2.5.2 Assessment

The revised work area has been assessed utilising SLR Predict. The highest noise generating items of plant and equipment in this work scenario (light vehicles and powered hand tools) have been considered as a worst-case scenario with 100% utilisation within a 15-minute assessment period.

2.5.3 Results

The SLR Predict results are presented in Appendix E, for nighttime out of hours, as the most affected period. Table 7 provides a summary of the exceedances identified through various assessments. It compares the following:

- W.011 exceedances identified in the Billy Hughes CNVIS (original signalling work scenario)
- W.011A exceedances identified in the SLR Predict results for the revised work area shown in Figure 5.

TABLE 7: EXCEEDANCE COMPARISONS FOR W.011A

ASSESSMENT RESULTS (NIGHT OOH)	NUMBER OF RESIDENTIAL RECEIVERS WITH NML EXCEEDANCE	
	W.011 CNVIS	W.011A SLR Predict – revised work area
Total Lw (dBA)	113	106
Noticeable (1-5 dB)	1	0
Clearly Audible (6-15 dB)	0	0
Moderately Intrusive (16-25 dB)	0	0
Highly Intrusive (>25 dB)	0	0

Table 7 shows a decreased number of receivers experiencing a noticeable level of noise (1-5 dB exceedance). There are no other changes in the number of residential receivers with NML exceedances resulting from the revised work area for W.011A.

2.6 Installation of signalling infrastructure (W.011B)

2.6.1 Scope

The revised work area (Figure 6) required for Billy Hughes forms part of the wider scope associated at the Billy Hughes Bridge enhancement site and will enable signalling activities. The revised work area consists of the work area identified in the endorsed CNVIS and additional work areas identified in the Billy Hughes Bridge CA (Doc No: 6-0052-210-EAP-B5-AS-0001).

Methodology

- Installation of signalling infrastructure

Plant and equipment

- Crane (mobile)
- Directional drill
- Elevated work platform
- Excavator – Tracked (20T)
- Generator
- Hand tools (electric)
- Light vehicle

- Telescopic handler
- Truck – medium rigid (20T)
- Truck – vacuum (NDD)
- Wacker packer

Construction hours

- Standard approved construction hours:
 - 7am to 6pm Monday to Friday, inclusive
 - 7am to 6pm Saturday.
- Daytime out-of-hours (OOH)
 - 8am to 6pm Sunday and Public Holidays.
- Evening OOH:
 - 6pm to 10pm Monday to Sunday (including Public Holidays)
- Night OOH:
 - 10pm to 7am Monday to Saturday
 - 10pm to 8am Sunday (including Public Holidays)

2.6.2 Assessment

The revised work area has been assessed utilising SLR Predict. The highest noise generating items of plant and equipment in this work scenario (truck – vacuum (NDD) and directional drill) have been considered as a worst-case scenario with 100% utilisation within a 15-minute assessment period.

2.6.3 Results

The SLR Predict results are presented in Appendix F, for nighttime out of hours, as the most affected period. Table 8 provides a summary of the exceedances identified through various assessments. It compares the following:

- W.011 exceedances identified in the Billy Hughes CNVIS (original signalling work scenario)
- W.011B exceedances identified in the SLR Predict results for the revised work area shown in Figure 6.

TABLE 8: EXCEEDANCE COMPARISONS FOR W.011B (DIRECTIONAL DRILL)

ASSESSMENT RESULTS (NIGHT OOH)	NUMBER OF RESIDENTIAL RECEIVERS WITH NML EXCEEDANCE	
	W.011 CNVIS	W.011B SLR Predict – revised work area (directional drill)
Total Lw (dBA)	113	101
Noticeable (1-5 dB)	1	0
Clearly Audible (6-15 dB)	0	0
Moderately Intrusive (16-25 dB)	0	0
Highly Intrusive (>25 dB)	0	0

Table 8 shows a decreased number of receivers experiencing a noticeable level of noise (1-5 dB exceedance). There are no other changes in the number of residential receivers with NML exceedances resulting from the revised work area for W.011B.

TABLE 9: EXCEEDANCE COMPARISONS FOR W.011B (VACUUM TRUCK)

ASSESSMENT RESULTS (NIGHT OOH)	NUMBER OF RESIDENTIAL RECEIVERS WITH NML EXCEEDANCE	
	W.011 CNVIS	W.011B SLR Predict – revised work area (vacuum truck)
Total Lw (dBA)	113	109
Noticeable (1-5 dB)	1	0
Clearly Audible (6-15 dB)	0	0
Moderately Intrusive (16-25 dB)	0	0
Highly Intrusive (>25 dB)	0	0

Table 9 shows a decreased number of receivers experiencing a noticeable level of noise (1-5 dB exceedance). There are no other changes in the number of residential receivers with NML exceedances resulting from the revised work area for W.011B.

3 VIBRATION ASSESSMENT

3.1 Site establishment activities (W.001B)

There are no vibration intensive plant and equipment proposed as part of W.001B; therefore, no vibration impacts are expected.

3.2 Compound operation activities (W.002B)

There are no vibration intensive plant and equipment proposed as part of W.002B; therefore, no vibration impacts are expected.

3.3 Earthworks (W.004B)

A 7-13 tonne vibratory roller is proposed for use in the W.004B scenario. The W.004 scenario does not result in the potential exceedance of the cosmetic damage or human comfort criteria at any identified structures, as shown in Figure 4 of the CNVIS (Doc No. 6-0052-210-EEC-B5-AS-0001).

This CNVIS Addendum considers the change in equipment location resulting from the expanded work areas assessed in scenario W.004B. A review of the vibration results for scenario W.004B can be found in Appendix C. The criteria for human comfort is potentially exceeded at one non-residential property.

3.4 Retaining walls and protection barrier construction (W.009B)

There are no vibration intensive plant and equipment proposed as part of W.009B; therefore, no vibration impacts are expected.

3.5 Signalling enabling activities (W.011A)

There are no vibration intensive plant and equipment proposed as part of W.011A; therefore, no vibration impacts are expected.

3.6 Installation of signalling infrastructure (W.011B)

There are no vibration intensive plant and equipment proposed as part of W.011B; therefore, no vibration impacts are expected.

4 CONCLUSION

4.1 Mitigation and management measures

As this Addendum forms part of the endorsed CNVIS for Billy Hughes the same mitigation and management measures apply as noted in Section 8 of the CNVIS.

4.2 Additional mitigation measures

As noted in Figure 7 to Figure 9 and under Appendix A to Appendix F, the SLR Predict results include a section on all applicable additional mitigation measures. These additional mitigation measures will be implemented where appropriate.

Airborne Noise - Additional Mitigation Measures Matrix				
Time Period	Exceedance of NML	Perception	Duration	Communication Category/Management Measure
OOHW Daytime Period Sunday 7am - 6pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any	CO1, CO2
OOHW Evening Period Monday - Sunday 6pm - 10pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any	CO1, CO2
			>2 consecutive rest periods	CO1, CO2, RO
OOHW Night Period Monday - Sunday 10pm - 7am (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
			>2 consecutive sleep periods	CO1, CO2, RO, AO
	>25	Highly intrusive	Any	CO1, CO2, RO
			>2 consecutive sleep periods	CO1, CO2, RO, AO, AltA

FIGURE 7: ADDITIONAL MITIGATION MEASURES MATRIX - NOISE

Vibration - Additional Mitigation Measures Matrix			
Time Period	Duration	Exceedance of 'preferred' value	Exceedance of 'maximum' value
OOHW Daytime Period Sunday 8am-6pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Evening Period Mon-Sun 6pm-10pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Night Period Mon-Sat 10pm-7am Sun 10pm-8am	Any	CO1, CO2, RO	CO1, CO2, RO, AltA

FIGURE 8: ADDITIONAL MITIGATION MEASURES MATRIX - VIBRATION

Additional Mitigation Measures	
Measure	Abbreviation
Communication (Category 1) ¹	CO1
Communication (Category 2) ²	CO2
Respite Offer ³	RO
Alternative Accommodation	AltA
Agreement with Owners	AO

Note 1: CO1: Communication to provide information on the OOHW via methods such as letter box drop, email, newsletter, media advertisements and/ or website prior to the works commencing.

Note 2: CO2: Communication should be personalised (e.g. door knock, meeting, telephone call). Contact with these residents should commence early to enable feedback to be considered by the proposal.

Note 3: RO are not applicable to non-residential receivers. RO may comprise of pre-purchased movie tickets, dinner vouchers or similar. RO can also be provided by limiting high noise generating works and allowing at least a one-hour respite period between blocks of work. Where possible, the timing of this respite should be discussed with the impacted community.

Receiver Types			
Code	Description	Code	Description
RES	Residential	OED	Other Educational
COM	Commercial	OHO	Other Hotel
IND	Industrial	OLI	Other Library
OOA	Other Outdoor Active Recreation	OME	Other Medical
OOP	Other Outdoor Passive Recreation	OPW	Other Place of Worship
OCC	Other Child Care	OPB	Other Public Building

FIGURE 9: ADDITIONAL MITIGATION MEASURES MATRIX - NOTES



APPENDICES



APPENDIX A

SLR Predict Results (W.001B)



Construction Noise and Vibration Impact Statement (CNVIS)

This report presents the outcomes of detailed noise/vibration modelling relating to specific construction activities proposed on site in accordance with the methodology outlined in the *Construction Noise and Vibration Management Plan* (CNVMP) and overarching *Construction Noise and Vibration Impact Statement* (CNVIS).

Prior to detailed noise/vibration modelling being undertaken, work activities are reviewed and considered in relation to industry best practice, consistent with the requirements of the CNVMP. Consideration is first given to eliminating the noise/vibration emissions so far as reasonably practicable. Where elimination is not practicable, efforts are been made to reduce the risk as far as practical by implementing noise and vibration management measures as outlined in the overarching CNVIS and CNVMP.

Examples of these measures include selecting the quietest equipment and processes to complete the works, considering staging and periods of respite to minimise prolonged periods of noise and vibration exposure, and maximising distances between construction activities and sensitive receivers.

Consultation with Affected Receivers

In accordance with CoA E78, the CNVIS must include specific mitigation measures identified through consultation with affected sensitive land user(s) and the mitigation measures must be implemented for the duration of the Work. Details of this consultation are provided in the overarching CNVIS for each enhancement site.

Assessment Details

Author Name	
Author Email	noiseassessments@martinus.com.au
Author Organisation	Martinus Rail
Project Name	A2I - Albury to Illabo
Assessment Name	Copy of W.001 B - BHB - Revised working area
Stage	A2I Construction
Permit Number	NA
Start Date	2025-10-10
End Date	2025-10-24
Assessment Period	Day - out of hours

Equipment Details

Plant/Equipment	Equipment Sound Power Level (Unadjusted), dBA	Number of Units	Temporary Noise Barrier
1: Scenario W.001 (Height: Ground)	Total: 114		
Articulated Dump Truck 100% operation	109	1	No
Front End Loader 100% operation	113	1	No

Note 1: Equipment classed as 'annoying' in the *Interim Construction Noise Guideline (DECC, 2009)* include a 5 dB correction.

Note 2: Equipment sound power levels consider the mitigation measures outlined in the overarching CNVIS to provide mitigated results.

Assessment Results



		Residential	Non-Residential
<div></div>	Highly Intrusive	0 property	0 property
<div></div>	Moderately Intrusive	0 property	0 property
<div></div>	Clearly Audible	1 property	0 property
<div></div>	Noticeable	1 property	0 property

Legend

<div></div>	Project Boundary
<div></div>	Work Areas
<div></div>	Barriers

Results by Receiver

Address	Land Use	Noise Catchment Area	Construction Noise Management Level, dBA	Predicted Noise Level, dBA	Predicted Noise Level Above Noise Management Level, dB	Noise Category
19 SANCTUARY LANE, ETTAMOGAH NSW 2640	RES	NCA03	42	52	10	Clearly Audible
43 SANCTUARY LANE, ETTAMOGAH NSW 2640	RES	NCA03	42	46	4	Noticeable

Recommended Mitigation Measures

This assessment has been conducted with regard to the relevant CNVIS and CNVMP. To manage noise and vibration impacts, project specific mitigation measures may be considered such as reviewing construction staging methodology to identify opportunities to schedule intensive works during less sensitive time periods and by providing a clear process for community engagement and complaints. Likewise, the requirements and actionable items within the overarching CNVIS and CNVMP should be considered and adopted where appropriate. Following the consideration of project specific noise mitigation measures, additional noise mitigation measures to be explored are described in the Inland Rail NSW Construction Noise and Vibration Framework (CNVF) and summarised below.

Airborne Noise - Additional Mitigation Measures Matrix				
Time Period	Exceedance of NML	Perception	Duration	Communication Category/Management Measure
OOHW Daytime Period Sunday 7am - 6pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any	CO1, CO2
OOHW Evening Period Monday - Sunday 6pm - 10pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any >2 consecutive rest periods	CO1, CO2
OOHW Night Period Monday - Sunday 10pm - 7am (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
			>2 consecutive sleep periods	CO1, CO2, RO, AO
	>25	Highly intrusive	Any >2 consecutive sleep periods	CO1, CO2, RO

Vibration - Additional Mitigation Measures Matrix			
Time Period	Duration	Exceedance of 'preferred' value	Exceedance of 'maximum' value
OOHW Daytime Period Sunday 8am-6pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Evening Period Mon-Sun 6pm-10pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Night Period Mon-Sat 10pm-7am Sun 10pm-8am	Any	CO1, CO2, RO	CO1, CO2, RO, AltA

Additional Mitigation Measures	
Measure	Abbreviation
Communication (Category 1) ¹	CO1
Communication (Category 2) ²	CO2
Respite Offer ³	RO
Alternative Accommodation	AltA
Agreement with Owners	AO

Note 1: CO1: Communication to provide information on the OOHW via methods such as letter box drop, email, newsletter, media advertisements and/ or website prior to the works commencing.

Note 2: CO2: Communication should be personalised (e.g. door knock, meeting, telephone call). Contact with these residents should commence early to enable feedback to be considered by the proposal.

Note 3: RO are not applicable to non-residential receivers. RO may comprise of pre-purchased movie tickets, dinner vouchers or similar. RO can also be provided by limiting high noise generating works and allowing at least a one-hour respite period between blocks of work. Where possible, the timing of this respite should be discussed with the impacted community.

Receiver Types			
Code	Description	Code	Description
RES	Residential	OED	Other Educational
COM	Commercial	OHO	Other Hotel
IND	Industrial	OLI	Other Library
OOA	Other Outdoor Active Recreation	OME	Other Medical
OOP	Other Outdoor Passive Recreation	OPW	Other Place of Worship
OCC	Other Child Care	OPB	Other Public Building



APPENDIX B

SLR Predict Results (W.002B)



Construction Noise and Vibration Impact Statement (CNVIS)

This report presents the outcomes of detailed noise/vibration modelling relating to specific construction activities proposed on site in accordance with the methodology outlined in the *Construction Noise and Vibration Management Plan* (CNVMP) and overarching *Construction Noise and Vibration Impact Statement* (CNVIS).

Prior to detailed noise/vibration modelling being undertaken, work activities are reviewed and considered in relation to industry best practice, consistent with the requirements of the CNVMP. Consideration is first given to eliminating the noise/vibration emissions so far as reasonably practicable. Where elimination is not practicable, efforts are been made to reduce the risk as far as practical by implementing noise and vibration management measures as outlined in the overarching CNVIS and CNVMP.

Examples of these measures include selecting the quietest equipment and processes to complete the works, considering staging and periods of respite to minimise prolonged periods of noise and vibration exposure, and maximising distances between construction activities and sensitive receivers.

Consultation with Affected Receivers

In accordance with CoA E78, the CNVIS must include specific mitigation measures identified through consultation with affected sensitive land user(s) and the mitigation measures must be implemented for the duration of the Work. Details of this consultation are provided in the overarching CNVIS for each enhancement site.

Assessment Details

Author Name	
Author Email	noiseassessments@martinus.com.au
Author Organisation	Martinus Rail
Project Name	A2I - Albury to Illabo
Assessment Name	Copy of Revised working area W.002B - BHB
Stage	A2I Construction
Permit Number	NA
Start Date	2025-10-10
End Date	2025-10-24
Assessment Period	Night - out of hours

Equipment Details



Plant/Equipment	Equipment Sound Power Level (Unadjusted), dBA	Number of Units	Temporary Noise Barrier
1: W.002B (Height: Ground)	Total: 114		
Compressor 100% operation	109	1	No
Front End Loader 100% operation	113	1	No

Note 1: Equipment classed as 'annoying' in the *Interim Construction Noise Guideline (DECC, 2009)* include a 5 dB correction.


Note 2: Equipment sound power levels consider the mitigation measures outlined in the overarching CNVIS to provide mitigated results.

Assessment Results



		Residential	Non-Residential
	Highly Intrusive	0 property	0 property
	Moderately Intrusive	0 property	0 property
	Clearly Audible	1 property	0 property
	Noticeable	1 property	0 property
	Above Sleep Disturbance	1 property	0 property
	Above Sleep Awake	0 property	0 property

Legend

	Project Boundary
	Work Areas
	Barriers

Results by Receiver

Address	Land Use	Noise Catchment Area	Construction Noise Management Level, dBA	Predicted Noise Level, dBA	Predicted Noise Level Above Noise Management Level, dB	Noise Category
19 SANCTUARY LANE, ETTAMOGAH NSW 2640	RES	NCA03	42	53	11	Clearly Audible Above Sleep Dist
43 SANCTUARY LANE, ETTAMOGAH NSW 2640	RES	NCA03	42	45	3	Noticeable

Recommended Mitigation Measures

This assessment has been conducted with regard to the relevant CNVIS and CNVMP. To manage noise and vibration impacts, project specific mitigation measures may be considered such as reviewing construction staging methodology to identify opportunities to schedule intensive works during less sensitive time periods and by providing a clear process for community engagement and complaints. Likewise, the requirements and actionable items within the overarching CNVIS and CNVMP should be considered and adopted where appropriate. Following the consideration of project specific noise mitigation measures, additional noise mitigation measures to be explored are described in the Inland Rail NSW Construction Noise and Vibration Framework (CNVF) and summarised below.

Airborne Noise - Additional Mitigation Measures Matrix				
Time Period	Exceedance of NML	Perception	Duration	Communication Category/Management Measure
OOHW Daytime Period Sunday 7am - 6pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any	CO1, CO2
OOHW Evening Period Monday - Sunday 6pm - 10pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any >2 consecutive rest periods	CO1, CO2
OOHW Night Period Monday - Sunday 10pm - 7am (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
			>2 consecutive sleep periods	CO1, CO2, RO, AO
	>25	Highly intrusive	Any >2 consecutive sleep periods	CO1, CO2, RO

Vibration - Additional Mitigation Measures Matrix			
Time Period	Duration	Exceedance of 'preferred' value	Exceedance of 'maximum' value
OOHW Daytime Period Sunday 8am-6pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Evening Period Mon-Sun 6pm-10pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Night Period Mon-Sat 10pm-7am Sun 10pm-8am	Any	CO1, CO2, RO	CO1, CO2, RO, AltA

Additional Mitigation Measures	
Measure	Abbreviation
Communication (Category 1) ¹	CO1
Communication (Category 2) ²	CO2
Respite Offer ³	RO
Alternative Accommodation	AltA
Agreement with Owners	AO

Note 1: CO1: Communication to provide information on the OOHW via methods such as letter box drop, email, newsletter, media advertisements and/ or website prior to the works commencing.

Note 2: CO2: Communication should be personalised (e.g. door knock, meeting, telephone call). Contact with these residents should commence early to enable feedback to be considered by the proposal.

Note 3: RO are not applicable to non-residential receivers. RO may comprise of pre-purchased movie tickets, dinner vouchers or similar. RO can also be provided by limiting high noise generating works and allowing at least a one-hour respite period between blocks of work. Where possible, the timing of this respite should be discussed with the impacted community.

Receiver Types			
Code	Description	Code	Description
RES	Residential	OED	Other Educational
COM	Commercial	OHO	Other Hotel
IND	Industrial	OLI	Other Library
OOA	Other Outdoor Active Recreation	OME	Other Medical
OOP	Other Outdoor Passive Recreation	OPW	Other Place of Worship
OCC	Other Child Care	OPB	Other Public Building



APPENDIX C

SLR Predict Results (W.004B)

SLR Predict Results W.004B (Noise)



Construction Noise and Vibration Impact Statement (CNVIS)

This report presents the outcomes of detailed noise/vibration modelling relating to specific construction activities proposed on site in accordance with the methodology outlined in the *Construction Noise and Vibration Management Plan* (CNVMP) and overarching *Construction Noise and Vibration Impact Statement* (CNVIS).

Prior to detailed noise/vibration modelling being undertaken, work activities are reviewed and considered in relation to industry best practice, consistent with the requirements of the CNVMP. Consideration is first given to eliminating the noise/vibration emissions so far as reasonably practicable. Where elimination is not practicable, efforts are been made to reduce the risk as far as practical by implementing noise and vibration management measures as outlined in the overarching CNVIS and CNVMP.

Examples of these measures include selecting the quietest equipment and processes to complete the works, considering staging and periods of respite to minimise prolonged periods of noise and vibration exposure, and maximising distances between construction activities and sensitive receivers.

Consultation with Affected Receivers

In accordance with CoA E78, the CNVIS must include specific mitigation measures identified through consultation with affected sensitive land user(s) and the mitigation measures must be implemented for the duration of the Work. Details of this consultation are provided in the overarching CNVIS for each enhancement site.

Assessment Details

Author Name	
Author Email	noiseassessments@martinus.com.au
Author Organisation	Martinus Rail
Project Name	A2I - Albury to Illabo
Assessment Name	Copy of BHB - Revised working area W.004B
Stage	A2I Construction
Permit Number	NA
Start Date	2025-10-10
End Date	2025-10-24
Assessment Period	Night - out of hours

Equipment Details

Plant/Equipment	Equipment Sound Power Level (Unadjusted), dBA	Number of Units	Temporary Noise Barrier
1: Scenario W.004B (Height: Ground)	Total: 116		
Front End Loader 100% operation	113	1	No
Grader (large) 100% operation	113	1	No

Note 1: Equipment classed as 'annoying' in the *Interim Construction Noise Guideline (DECC, 2009)* include a 5 dB correction.


Note 2: Equipment sound power levels consider the mitigation measures outlined in the overarching CNVIS to provide mitigated results.

Assessment Results



		Residential	Non-Residential
	Highly Intrusive	0 property	0 property
	Moderately Intrusive	0 property	0 property
	Clearly Audible	2 properties	0 property
	Noticeable	0 property	0 property
	Above Sleep Disturbance	1 property	0 property
	Above Sleep Awake	0 property	0 property

Legend

	Project Boundary
	Work Areas
	Barriers

Results by Receiver

Address	Land Use	Noise Catchment Area	Construction Noise Management Level, dBA	Predicted Noise Level, dBA	Predicted Noise Level Above Noise Management Level, dB	Noise Category
19 SANCTUARY LANE, ETTAMOGAH NSW 2640	RES	NCA03	42	53	11	Clearly Audible Above Sleep Dist
43 SANCTUARY LANE, ETTAMOGAH NSW 2640	RES	NCA03	42	48	6	Clearly Audible

Recommended Mitigation Measures

This assessment has been conducted with regard to the relevant CNVIS and CNVMP. To manage noise and vibration impacts, project specific mitigation measures may be considered such as reviewing construction staging methodology to identify opportunities to schedule intensive works during less sensitive time periods and by providing a clear process for community engagement and complaints. Likewise, the requirements and actionable items within the overarching CNVIS and CNVMP should be considered and adopted where appropriate. Following the consideration of project specific noise mitigation measures, additional noise mitigation measures to be explored are described in the Inland Rail NSW Construction Noise and Vibration Framework (CNVF) and summarised below.

Airborne Noise - Additional Mitigation Measures Matrix				
Time Period	Exceedance of NML	Perception	Duration	Communication Category/Management Measure
OOHW Daytime Period Sunday 7am - 6pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any	CO1, CO2
OOHW Evening Period Monday - Sunday 6pm - 10pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any >2 consecutive rest periods	CO1, CO2
OOHW Night Period Monday - Sunday 10pm - 7am (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
			>2 consecutive sleep periods	CO1, CO2, RO, AO
	>25	Highly intrusive	Any >2 consecutive sleep periods	CO1, CO2, RO

Vibration - Additional Mitigation Measures Matrix			
Time Period	Duration	Exceedance of 'preferred' value	Exceedance of 'maximum' value
OOHW Daytime Period Sunday 8am-6pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Evening Period Mon-Sun 6pm-10pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Night Period Mon-Sat 10pm-7am Sun 10pm-8am	Any	CO1, CO2, RO	CO1, CO2, RO, AltA

Additional Mitigation Measures	
Measure	Abbreviation
Communication (Category 1) ¹	CO1
Communication (Category 2) ²	CO2
Respite Offer ³	RO
Alternative Accommodation	AltA
Agreement with Owners	AO

Note 1: CO1: Communication to provide information on the OOHW via methods such as letter box drop, email, newsletter, media advertisements and/ or website prior to the works commencing.

Note 2: CO2: Communication should be personalised (e.g. door knock, meeting, telephone call). Contact with these residents should commence early to enable feedback to be considered by the proposal.

Note 3: RO are not applicable to non-residential receivers. RO may comprise of pre-purchased movie tickets, dinner vouchers or similar. RO can also be provided by limiting high noise generating works and allowing at least a one-hour respite period between blocks of work. Where possible, the timing of this respite should be discussed with the impacted community.

Receiver Types			
Code	Description	Code	Description
RES	Residential	OED	Other Educational
COM	Commercial	OHO	Other Hotel
IND	Industrial	OLI	Other Library
OOA	Other Outdoor Active Recreation	OME	Other Medical
OOP	Other Outdoor Passive Recreation	OPW	Other Place of Worship
OCC	Other Child Care	OPB	Other Public Building

SLR Predict Results W.004B (Vibration)



Construction Noise and Vibration Impact Statement (CNVIS)

This report presents the outcomes of detailed noise/vibration modelling relating to specific construction activities proposed on site in accordance with the methodology outlined in the *Construction Noise and Vibration Management Plan* (CNVMP) and overarching *Construction Noise and Vibration Impact Statement* (CNVIS).

Prior to detailed noise/vibration modelling being undertaken, work activities are reviewed and considered in relation to industry best practice, consistent with the requirements of the CNVMP. Consideration is first given to eliminating the noise/vibration emissions so far as reasonably practicable. Where elimination is not practicable, efforts are been made to reduce the risk as far as practical by implementing noise and vibration management measures as outlined in the overarching CNVIS and CNVMP.

Examples of these measures include selecting the quietest equipment and processes to complete the works, considering staging and periods of respite to minimise prolonged periods of noise and vibration exposure, and maximising distances between construction activities and sensitive receivers.

Consultation with Affected Receivers

In accordance with CoA E78, the CNVIS must include specific mitigation measures identified through consultation with affected sensitive land user(s) and the mitigation measures must be implemented for the duration of the Work. Details of this consultation are provided in the overarching CNVIS for each enhancement site.

Assessment Details

Author Name	
Author Email	noiseassessments@martinus.com.au
Author Organisation	Martinus Rail
Project Name	A2I - Albury to Illabo
Assessment Name	BHB - Revised working area W.004B (vibration)
Stage	A2I Construction
Permit Number	NA
Start Date	2025-10-10
End Date	2025-10-24
Assessment Period	Vibration

Equipment Details




Plant/Equipment	Equipment Sound Power Level (Unadjusted), dBA	Number of Units	Temporary Noise Barrier
1: Scenario W.004B (Height: Ground)	Total: 109		
Roller - vibratory (7-13t) 100% operation	109	1	No

Note 1: Equipment classed as 'annoying' in the *Interim Construction Noise Guideline (DECC, 2009)* include a 5 dB correction.

Note 2: Equipment sound power levels consider the mitigation measures outlined in the overarching CNVIS to provide mitigated results.

Assessment Results



		Residential	Non-Residential
	Cosmetic Damage	0 property	0 property
	Human Comfort	0 property	1 property
	Cosmetic Damage for Unsound Heritage	0 property	0 property

Legend

	Project Boundary
	Work Areas
	Barriers

Results by Receiver

Address	Land Use	Vibration Category
70 R W HENRY DR, ETTAMOGAH NSW 2640	IND	Human Comfort

Recommended Mitigation Measures

This assessment has been conducted with regard to the relevant CNVIS and CNVMP. To manage noise and vibration impacts, project specific mitigation measures may be considered such as reviewing construction staging methodology to identify opportunities to schedule intensive works during less sensitive time periods and by providing a clear process for community engagement and complaints. Likewise, the requirements and actionable items within the overarching CNVIS and CNVMP should be considered and adopted where appropriate. Following the consideration of project specific noise mitigation measures, additional noise mitigation measures to be explored are described in the Inland Rail NSW Construction Noise and Vibration Framework (CNVF) and summarised below.

Airborne Noise - Additional Mitigation Measures Matrix				
Time Period	Exceedance of NML	Perception	Duration	Communication Category/Management Measure
OOHW Daytime Period Sunday 7am - 6pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any	CO1, CO2
OOHW Evening Period Monday - Sunday 6pm - 10pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any	CO1, CO2
			>2 consecutive rest periods	CO1, CO2, RO
OOHW Night Period Monday - Sunday 10pm - 7am (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
			>2 consecutive sleep periods	CO1, CO2, RO, AO
			Any	CO1, CO2, RO
	>25	Highly intrusive	>2 consecutive sleep periods	CO1, CO2, RO, AO, AltA

Vibration - Additional Mitigation Measures Matrix			
Time Period	Duration	Exceedance of 'preferred' value	Exceedance of 'maximum' value
OOHW Daytime Period Sunday 8am-6pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Evening Period Mon-Sun 6pm-10pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Night Period Mon-Sat 10pm-7am Sun 10pm-8am	Any	CO1, CO2, RO	CO1, CO2, RO, AltA

Additional Mitigation Measures	
Measure	Abbreviation
Communication (Category 1) ¹	CO1
Communication (Category 2) ²	CO2
Respite Offer ³	RO
Alternative Accommodation	AltA
Agreement with Owners	AO

Note 1: CO1: Communication to provide information on the OOHW via methods such as letter box drop, email, newsletter, media advertisements and/ or website prior to the works commencing.

Note 2: CO2: Communication should be personalised (e.g. door knock, meeting, telephone call). Contact with these residents should commence early to enable feedback to be considered by the proposal.

Note 3: RO are not applicable to non-residential receivers. RO may comprise of pre-purchased movie tickets, dinner vouchers or similar. RO can also be provided by limiting high noise generating works and allowing at least a one-hour respite period between blocks of work. Where possible, the timing of this respite should be discussed with the impacted community.

Receiver Types			
Code	Description	Code	Description
RES	Residential	OED	Other Educational
COM	Commercial	OHO	Other Hotel
IND	Industrial	OLI	Other Library
OOA	Other Outdoor Active Recreation	OME	Other Medical
OOP	Other Outdoor Passive Recreation	OPW	Other Place of Worship
OCC	Other Child Care	OPB	Other Public Building



APPENDIX D

SLR Predict Results (W.009B)



Construction Noise and Vibration Impact Statement (CNVIS)

This report presents the outcomes of detailed noise/vibration modelling relating to specific construction activities proposed on site in accordance with the methodology outlined in the *Construction Noise and Vibration Management Plan* (CNVMP) and overarching *Construction Noise and Vibration Impact Statement* (CNVIS).

Prior to detailed noise/vibration modelling being undertaken, work activities are reviewed and considered in relation to industry best practice, consistent with the requirements of the CNVMP. Consideration is first given to eliminating the noise/vibration emissions so far as reasonably practicable. Where elimination is not practicable, efforts are been made to reduce the risk as far as practical by implementing noise and vibration management measures as outlined in the overarching CNVIS and CNVMP.

Examples of these measures include selecting the quietest equipment and processes to complete the works, considering staging and periods of respite to minimise prolonged periods of noise and vibration exposure, and maximising distances between construction activities and sensitive receivers.

Consultation with Affected Receivers

In accordance with CoA E78, the CNVIS must include specific mitigation measures identified through consultation with affected sensitive land user(s) and the mitigation measures must be implemented for the duration of the Work. Details of this consultation are provided in the overarching CNVIS for each enhancement site.

Assessment Details

Author Name	
Author Email	noiseassessments@martinus.com.au
Author Organisation	Martinus Rail
Project Name	A2I - Albury to Illabo
Assessment Name	SD Revised working area W.009B - BHB
Stage	A2I Construction
Permit Number	NA
Start Date	2025-10-10
End Date	2025-10-24
Assessment Period	Day - out of hours

Equipment Details

Plant/Equipment	Equipment Sound Power Level (Unadjusted), dBA	Number of Units	Temporary Noise Barrier
1: W.009B (Height: Ground)	Total: 119		
Compressor 50% operation	109	1	No
Concrete pencil vibrator 100% operation	103	1	No
Concrete pump truck 100% operation	108	1	No
Elevated Work Platform - Scissor Lift 30% operation	98	1	No
Excavator - Tracked (20T) 50% operation	105	1	No
Generator - diesel/ petrol 100% operation	103	1	No
Hand tools (electric) 75% operation	102	2	No
Hydraulic / Pneumatic Tools 75% operation	116	1	No

Note 1: Equipment classed as 'annoying' in the *Interim Construction Noise Guideline (DECC, 2009)* include a 5 dB correction.

Note 2: Equipment sound power levels consider the mitigation measures outlined in the overarching CNVIS to provide mitigated results.

Equipment Details

Plant/Equipment	Equipment Sound Power Level (Unadjusted), dBA	Number of Units	Temporary Noise Barrier
Light Vehicle (accelerating) 25% operation	95	2	No
Loader - skidsteer (1T) 50% operation	110	1	No
Compactor (plate) 100% operation	104	1	No
Saw - concrete 25% operation	118	1	No
Truck - medium rigid (20T) 25% operation	103	2	No
Water Cart 75% operation	107	1	No
Telescopic Handler 50% operation	99	1	No
Tracked Hydraulic Drilling Rig 30% operation	109	1	No
Roller - static 100% operation	107	1	No

Note 1: Equipment classed as 'annoying' in the *Interim Construction Noise Guideline (DECC, 2009)* include a 5 dB correction.

Note 2: Equipment sound power levels consider the mitigation measures outlined in the overarching CNVIS to provide mitigated results.

Assessment Results



		Residential	Non-Residential
<div></div>	Highly Intrusive	0 property	0 property
<div></div>	Moderately Intrusive	0 property	0 property
<div></div>	Clearly Audible	1 property	0 property
<div></div>	Noticeable	1 property	0 property

Legend

<div></div>	Project Boundary
<div></div>	Work Areas
<div></div>	Barriers

Results by Receiver

Address	Land Use	Noise Catchment Area	Construction Noise Management Level, dBA	Predicted Noise Level, dBA	Predicted Noise Level Above Noise Management Level, dB	Noise Category
19 SANCTUARY LANE, ETTAMOGAH NSW 2640	RES	NCA03	42	50	8	Clearly Audible
43 SANCTUARY LANE, ETTAMOGAH NSW 2640	RES	NCA03	42	43	1	Noticeable

Recommended Mitigation Measures

This assessment has been conducted with regard to the relevant CNVIS and CNVMP. To manage noise and vibration impacts, project specific mitigation measures may be considered such as reviewing construction staging methodology to identify opportunities to schedule intensive works during less sensitive time periods and by providing a clear process for community engagement and complaints. Likewise, the requirements and actionable items within the overarching CNVIS and CNVMP should be considered and adopted where appropriate. Following the consideration of project specific noise mitigation measures, additional noise mitigation measures to be explored are described in the Inland Rail NSW Construction Noise and Vibration Framework (CNVF) and summarised below.

Airborne Noise - Additional Mitigation Measures Matrix				
Time Period	Exceedance of NML	Perception	Duration	Communication Category/Management Measure
OOHW Daytime Period Sunday 7am - 6pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any	CO1, CO2
OOHW Evening Period Monday - Sunday 6pm - 10pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any consecutive rest periods	CO1, CO2
OOHW Night Period Monday - Sunday 10pm - 7am (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
			>2 consecutive sleep periods	CO1, CO2, RO, AO
			Any	CO1, CO2, RO
	>25	Highly intrusive	>2 consecutive sleep periods	CO1, CO2, RO, AO, AltA

Vibration - Additional Mitigation Measures Matrix

Time Period	Duration	Exceedance of 'preferred' value	Exceedance of 'maximum' value
OOHW Daytime Period Sunday 8am-6pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Evening Period Mon-Sun 6pm-10pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Night Period Mon-Sat 10pm-7am Sun 10pm-8am	Any	CO1, CO2, RO	CO1, CO2, RO, AltA

Additional Mitigation Measures

Measure	Abbreviation
Communication (Category 1) ¹	CO1
Communication (Category 2) ²	CO2
Respite Offer ³	RO
Alternative Accommodation	AltA
Agreement with Owners	AO

Note 1: CO1: Communication to provide information on the OOHW via methods such as letter box drop, email, newsletter, media advertisements and/ or website prior to the works commencing.

Note 2: CO2: Communication should be personalised (e.g. door knock, meeting, telephone call). Contact with these residents should commence early to enable feedback to be considered by the proposal.

Note 3: RO are not applicable to non-residential receivers. RO may comprise of pre-purchased movie tickets, dinner vouchers or similar. RO can also be provided by limiting high noise generating works and allowing at least a one-hour respite period between blocks of work. Where possible, the timing of this respite should be discussed with the impacted community.

Receiver Types

Code	Description	Code	Description
RES	Residential	OED	Other Educational
COM	Commercial	OHO	Other Hotel
IND	Industrial	OLI	Other Library
OOA	Other Outdoor Active Recreation	OME	Other Medical
OOP	Other Outdoor Passive Recreation	OPW	Other Place of Worship
OCC	Other Child Care	OPB	Other Public Building



APPENDIX E

SLR Predict Results (W.011A)



Construction Noise and Vibration Impact Statement (CNVIS)

This report presents the outcomes of detailed noise/vibration modelling relating to specific construction activities proposed on site in accordance with the methodology outlined in the *Construction Noise and Vibration Management Plan* (CNVMP) and overarching *Construction Noise and Vibration Impact Statement* (CNVIS).

Prior to detailed noise/vibration modelling being undertaken, work activities are reviewed and considered in relation to industry best practice, consistent with the requirements of the CNVMP. Consideration is first given to eliminating the noise/vibration emissions so far as reasonably practicable. Where elimination is not practicable, efforts are been made to reduce the risk as far as practical by implementing noise and vibration management measures as outlined in the overarching CNVIS and CNVMP.

Examples of these measures include selecting the quietest equipment and processes to complete the works, considering staging and periods of respite to minimise prolonged periods of noise and vibration exposure, and maximising distances between construction activities and sensitive receivers.

Consultation with Affected Receivers

In accordance with CoA E78, the CNVIS must include specific mitigation measures identified through consultation with affected sensitive land user(s) and the mitigation measures must be implemented for the duration of the Work. Details of this consultation are provided in the overarching CNVIS for each enhancement site.

Assessment Details

Author Name	
Author Email	noiseassessments@martinus.com.au
Author Organisation	Martinus Rail
Project Name	A2I - Albury to Illabo
Assessment Name	Billy Hughes Bridge CNVIS Addendum (Signalling W.011a)
Stage	A2I Construction
Permit Number	N/A
Start Date	2025-10-15
End Date	2025-10-15
Assessment Period	Night - out of hours

Equipment Details






Plant/Equipment	Equipment Sound Power Level (Unadjusted), dBA	Number of Units	Temporary Noise Barrier
1: Work Area 1 (Height: Ground)	Total: 106		
Light Vehicle (accelerating) 100% operation	95	3	No
Hand tools (electric) 100% operation	102	2	No

Note 1: Equipment classed as 'annoying' in the *Interim Construction Noise Guideline (DECC, 2009)* include a 5 dB correction.


Note 2: Equipment sound power levels consider the mitigation measures outlined in the overarching CNVIS to provide mitigated results.

Assessment Results



		Residential	Non-Residential
	Highly Intrusive	0 property	0 property
	Moderately Intrusive	0 property	0 property
	Clearly Audible	0 property	0 property
	Noticeable	0 property	0 property
	Above Sleep Disturbance	0 property	0 property
	Above Sleep Awake	0 property	0 property

Legend

	Project Boundary
	Work Areas
	Barriers

Results by Receiver

Address	Land Use	Noise Catchment Area	Construction Noise Management Level, dBA	Predicted Noise Level, dBA	Predicted Noise Level Above Noise Management Level, dB	Noise Category
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No results

Recommended Mitigation Measures

This assessment has been conducted with regard to the relevant CNVIS and CNVMP. To manage noise and vibration impacts, project specific mitigation measures may be considered such as reviewing construction staging methodology to identify opportunities to schedule intensive works during less sensitive time periods and by providing a clear process for community engagement and complaints. Likewise, the requirements and actionable items within the overarching CNVIS and CNVMP should be considered and adopted where appropriate. Following the consideration of project specific noise mitigation measures, additional noise mitigation measures to be explored are described in the Inland Rail NSW Construction Noise and Vibration Framework (CNVF) and summarised below.

Airborne Noise - Additional Mitigation Measures Matrix				
Time Period	Exceedance of NML	Perception	Duration	Communication Category/Management Measure
OOHW Daytime Period Sunday 7am - 6pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any	CO1, CO2
OOHW Evening Period Monday - Sunday 6pm - 10pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any >2 consecutive rest periods	CO1, CO2
OOHW Night Period Monday - Sunday 10pm - 7am (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
			>2 consecutive sleep periods	CO1, CO2, RO, AO
	>25	Highly intrusive	Any >2 consecutive sleep periods	CO1, CO2, RO

Vibration - Additional Mitigation Measures Matrix

Time Period	Duration	Exceedance of 'preferred' value	Exceedance of 'maximum' value
OOHW Daytime Period Sunday 8am-6pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Evening Period Mon-Sun 6pm-10pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Night Period Mon-Sat 10pm-7am Sun 10pm-8am	Any	CO1, CO2, RO	CO1, CO2, RO, AltA

Additional Mitigation Measures

Measure	Abbreviation
Communication (Category 1) ¹	CO1
Communication (Category 2) ²	CO2
Respite Offer ³	RO
Alternative Accommodation	AltA
Agreement with Owners	AO

Note 1: CO1: Communication to provide information on the OOHW via methods such as letter box drop, email, newsletter, media advertisements and/ or website prior to the works commencing.

Note 2: CO2: Communication should be personalised (e.g. door knock, meeting, telephone call). Contact with these residents should commence early to enable feedback to be considered by the proposal.

Note 3: RO are not applicable to non-residential receivers. RO may comprise of pre-purchased movie tickets, dinner vouchers or similar. RO can also be provided by limiting high noise generating works and allowing at least a one-hour respite period between blocks of work. Where possible, the timing of this respite should be discussed with the impacted community.

Receiver Types

Code	Description	Code	Description
RES	Residential	OED	Other Educational
COM	Commercial	OHO	Other Hotel
IND	Industrial	OLI	Other Library
OOA	Other Outdoor Active Recreation	OME	Other Medical
OOP	Other Outdoor Passive Recreation	OPW	Other Place of Worship
OCC	Other Child Care	OPB	Other Public Building



APPENDIX F

SLR Predict Results (W.011B)



Construction Noise and Vibration Impact Statement (CNVIS)

This report presents the outcomes of detailed noise/vibration modelling relating to specific construction activities proposed on site in accordance with the methodology outlined in the *Construction Noise and Vibration Management Plan* (CNVMP) and overarching *Construction Noise and Vibration Impact Statement* (CNVIS).

Prior to detailed noise/vibration modelling being undertaken, work activities are reviewed and considered in relation to industry best practice, consistent with the requirements of the CNVMP. Consideration is first given to eliminating the noise/vibration emissions so far as reasonably practicable. Where elimination is not practicable, efforts are been made to reduce the risk as far as practical by implementing noise and vibration management measures as outlined in the overarching CNVIS and CNVMP.

Examples of these measures include selecting the quietest equipment and processes to complete the works, considering staging and periods of respite to minimise prolonged periods of noise and vibration exposure, and maximising distances between construction activities and sensitive receivers.

Consultation with Affected Receivers

In accordance with CoA E78, the CNVIS must include specific mitigation measures identified through consultation with affected sensitive land user(s) and the mitigation measures must be implemented for the duration of the Work. Details of this consultation are provided in the overarching CNVIS for each enhancement site.

Assessment Details

Author Name	
Author Email	noiseassessments@martinus.com.au
Author Organisation	Martinus Rail
Project Name	A2I - Albury to Illabo
Assessment Name	Billy Hughes Bridge CNVIS Addendum (Signalling W.011b)
Stage	A2I Construction
Permit Number	N/A
Start Date	2025-10-15
End Date	2025-10-15
Assessment Period	Night - out of hours

Equipment Details

Plant/Equipment	Equipment Sound Power Level (Unadjusted), dBA	Number of Units	Temporary Noise Barrier
1: Work Area 1 (Height: Ground)	Total: 101		
Directional Drill 100% operation	101	1	No

Note 1: Equipment classed as 'annoying' in the *Interim Construction Noise Guideline (DECC, 2009)* include a 5 dB correction.

Note 2: Equipment sound power levels consider the mitigation measures outlined in the overarching CNVIS to provide mitigated results.

Assessment Results



		Residential	Non-Residential
	Highly Intrusive	0 property	0 property
	Moderately Intrusive	0 property	0 property
	Clearly Audible	0 property	0 property
	Noticeable	0 property	0 property
	Above Sleep Disturbance	0 property	0 property
	Above Sleep Awake	0 property	0 property

Legend

	Project Boundary
	Work Areas
	Barriers

Results by Receiver

Address	Land Use	Noise Catchment Area	Construction Noise Management Level, dBA	Predicted Noise Level, dBA	Predicted Noise Level Above Noise Management Level, dB	Noise Category
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No results

Recommended Mitigation Measures

This assessment has been conducted with regard to the relevant CNVIS and CNVMP. To manage noise and vibration impacts, project specific mitigation measures may be considered such as reviewing construction staging methodology to identify opportunities to schedule intensive works during less sensitive time periods and by providing a clear process for community engagement and complaints. Likewise, the requirements and actionable items within the overarching CNVIS and CNVMP should be considered and adopted where appropriate. Following the consideration of project specific noise mitigation measures, additional noise mitigation measures to be explored are described in the Inland Rail NSW Construction Noise and Vibration Framework (CNVF) and summarised below.

Airborne Noise - Additional Mitigation Measures Matrix				
Time Period	Exceedance of NML	Perception	Duration	Communication Category/Management Measure
OOHW Daytime Period Sunday 7am - 6pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any	CO1, CO2
OOHW Evening Period Monday - Sunday 6pm - 10pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any >2 consecutive rest periods	CO1, CO2
OOHW Night Period Monday - Sunday 10pm - 7am (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
			>2 consecutive sleep periods	CO1, CO2, RO, AO
	>25	Highly intrusive	Any	CO1, CO2, RO
			>2 consecutive sleep periods	CO1, CO2, RO, AO, AltA

Vibration - Additional Mitigation Measures Matrix

Time Period	Duration	Exceedance of 'preferred' value	Exceedance of 'maximum' value
OOHW Daytime Period Sunday 8am-6pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Evening Period Mon-Sun 6pm-10pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Night Period Mon-Sat 10pm-7am Sun 10pm-8am	Any	CO1, CO2, RO	CO1, CO2, RO, AltA

Additional Mitigation Measures

Measure	Abbreviation
Communication (Category 1) ¹	CO1
Communication (Category 2) ²	CO2
Respite Offer ³	RO
Alternative Accommodation	AltA
Agreement with Owners	AO

Note 1: CO1: Communication to provide information on the OOHW via methods such as letter box drop, email, newsletter, media advertisements and/ or website prior to the works commencing.

Note 2: CO2: Communication should be personalised (e.g. door knock, meeting, telephone call). Contact with these residents should commence early to enable feedback to be considered by the proposal.

Note 3: RO are not applicable to non-residential receivers. RO may comprise of pre-purchased movie tickets, dinner vouchers or similar. RO can also be provided by limiting high noise generating works and allowing at least a one-hour respite period between blocks of work. Where possible, the timing of this respite should be discussed with the impacted community.

Receiver Types

Code	Description	Code	Description
RES	Residential	OED	Other Educational
COM	Commercial	OHO	Other Hotel
IND	Industrial	OLI	Other Library
OOA	Other Outdoor Active Recreation	OME	Other Medical
OOP	Other Outdoor Passive Recreation	OPW	Other Place of Worship
OCC	Other Child Care	OPB	Other Public Building



Construction Noise and Vibration Impact Statement (CNVIS)

This report presents the outcomes of detailed noise/vibration modelling relating to specific construction activities proposed on site in accordance with the methodology outlined in the *Construction Noise and Vibration Management Plan* (CNVMP) and overarching *Construction Noise and Vibration Impact Statement* (CNVIS).

Prior to detailed noise/vibration modelling being undertaken, work activities are reviewed and considered in relation to industry best practice, consistent with the requirements of the CNVMP. Consideration is first given to eliminating the noise/vibration emissions so far as reasonably practicable. Where elimination is not practicable, efforts are made to reduce the risk as far as practical by implementing noise and vibration management measures as outlined in the overarching CNVIS and CNVMP.

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Author Email	noiseassessments@martinus.com.au
Author Organisation	Martinus Rail
Project Name	A2I - Albury to Illabo
Assessment Name	Billy Hughes Bridge CNVIS Addendum (Signalling W.011b)
Stage	A2I Construction
Permit Number	N/A
Start Date	2025-10-15
End Date	2025-10-15
Assessment Period	Night - out of hours

Equipment Details

Plant/Equipment	Equipment Sound Power Level (Unadjusted), dBA	Number of Units	Temporary Noise Barrier
1: Work Area 1 (Height: Ground)	Total: 109		
Truck - vacuum (NDD or non-destructive digger) 100% operation	109	1	No

Note 1: Equipment classed as 'annoying' in the *Interim Construction Noise Guideline (DECC, 2009)* include a 5 dB correction.

Note 2: Equipment sound power levels consider the mitigation measures outlined in the overarching CNVIS to provide mitigated results.

Assessment Results



		Residential	Non-Residential
	Highly Intrusive	0 property	0 property
	Moderately Intrusive	0 property	0 property
	Clearly Audible	0 property	0 property
	Noticeable	0 property	0 property
	Above Sleep Disturbance	0 property	0 property
	Above Sleep Awake	0 property	0 property

Legend

	Project Boundary
	Work Areas
	Barriers

Results by Receiver

Address	Land Use	Noise Catchment Area	Construction Noise Management Level, dBA	Predicted Noise Level, dBA	Predicted Noise Level Above Noise Management Level, dB	Noise Category
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No results

Recommended Mitigation Measures

This assessment has been conducted with regard to the relevant CNVIS and CNVMP. To manage noise and vibration impacts, project specific mitigation measures may be considered such as reviewing construction staging methodology to identify opportunities to schedule intensive works during less sensitive time periods and by providing a clear process for community engagement and complaints. Likewise, the requirements and actionable items within the overarching CNVIS and CNVMP should be considered and adopted where appropriate. Following the consideration of project specific noise mitigation measures, additional noise mitigation measures to be explored are described in the Inland Rail NSW Construction Noise and Vibration Framework (CNVF) and summarised below.

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	>25	Highly intrusive	Any	CO1, CO2
OOHW Evening Period Monday - Sunday 6pm - 10pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any >2 consecutive rest periods	CO1, CO2, RO
OOHW Night Period Monday - Sunday 10pm - 7am (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
			>2 consecutive sleep periods	CO1, CO2, RO, AO
	>25	Highly intrusive	Any >2 consecutive sleep periods	CO1, CO2, RO, AO, AltA

Vibration - Additional Mitigation Measures Matrix

Time Period	Duration	Exceedance of 'preferred' value	Exceedance of 'maximum' value
OOHW Daytime Period Sunday 8am-6pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Evening Period Mon-Sun 6pm-10pm	Any	CO1, CO2	CO1, CO2, RO
OOHW Night Period Mon-Sat 10pm-7am Sun 10pm-8am	Any	CO1, CO2, RO	CO1, CO2, RO, AltA

Additional Mitigation Measures

Measure	Abbreviation
Communication (Category 1) ¹	CO1
Communication (Category 2) ²	CO2
Respite Offer ³	RO
Alternative Accommodation	AltA
Agreement with Owners	AO

Note 1: CO1: Communication to provide information on the OOHW via methods such as letter box drop, email, newsletter, media advertisements and/ or website prior to the works commencing.

Note 2: CO2: Communication should be personalised (e.g. door knock, meeting, telephone call). Contact with these residents should commence early to enable feedback to be considered by the proposal.

Note 3: RO are not applicable to non-residential receivers. RO may comprise of pre-purchased movie tickets, dinner vouchers or similar. RO can also be provided by limiting high noise generating works and allowing at least a one-hour respite period between blocks of work. Where possible, the timing of this respite should be discussed with the impacted community.

Receiver Types

Code	Description	Code	Description
RES	Residential	OED	Other Educational
COM	Commercial	OHO	Other Hotel
IND	Industrial	OLI	Other Library
OOA	Other Outdoor Active Recreation	OME	Other Medical
OOP	Other Outdoor Passive Recreation	OPW	Other Place of Worship
OCC	Other Child Care	OPB	Other Public Building



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