

**To:** Hussain Nilar  
**From:** Matthew Bruck  
**Date:** 12 January 2026  
**Subject:** Sydney Metro West WTP  
 M4 Ramp Tree Removal

**At:** GLC  
**At:** SLR Consulting Australia Pty Ltd  
**Ref:** 610.30644-M33-v2.0-20260112.docx

## 1 Introduction

SLR Consulting has been engaged by Gamuda & Laing O’Rourke Consortium (GLC) to provide noise and vibration advice in relation to the Sydney Metro West, Western Tunnelling Package. This Noise Impact Assessment (NIA) has been prepared to assess potential noise impacts associated with the M4 ramp tree removal, western boundary barrier realignment and road traffic safety signage amendment during out-of-hours work periods on Wednesday 21st January to Thursday 22nd January 2026 during a scheduled temporary shutdown of the M4 westbound on ramp and portions of James Ruse Drive..

## 2 Overview of Proposed Work

**Table 1** presents an overview of key information relevant to this NIA. **Table 2** presents the Construction Scenarios and Equipment. **Figure 1** and **Appendix A** show the location of works. The construction equipment and locations included in the assessment are based on information contained in the scope of works supplied on Monday 5 January 2026 from the project team, and subsequent updates. Further detail of existing conditions, management levels and assessment methodology are outlined in the overarching (project-wide) Detailed Noise and Vibration Impact Statement (DNVIS). Note that the cumulative assessment (SC) assumes the other four modelled scenarios are occurring concurrently.

**Table 1 Details of proposed work**

Item	Description		
NVIA Reference	M33		
Works Type	M4 ramp tree removal		
Location	Adjacent to the Clyde Dive Site		
Assessment Periods (refer CNVMP)	<b>Approved Project Hours (AH)</b>	<b>OOHW1 (Evening)</b>	<b>OOHW2 (Night)</b>
	Monday -Friday (7am – 6pm) Saturday (8am – 6pm) Sunday / Public Holidays (Nil)	Monday -Friday (6pm – 10pm) Saturday (6pm – 10pm) Sun. / P. Holidays (8am -6pm)	Monday -Friday (10pm – 7am) Saturday (10pm – 8am) Sun. / P. Holidays (6pm -7am)
	Assessment Duration	15 minutes	
Ambient Acoustic Environment at Nearest Receiver	General residential area with proximity to highways/freeways. Road traffic noise a dominant background noise source in area.		
Noise Modelling	ISO 9613:2 algorithm in SoundPLAN v8.2		

**Table 2 Construction Scenarios and Equipment**

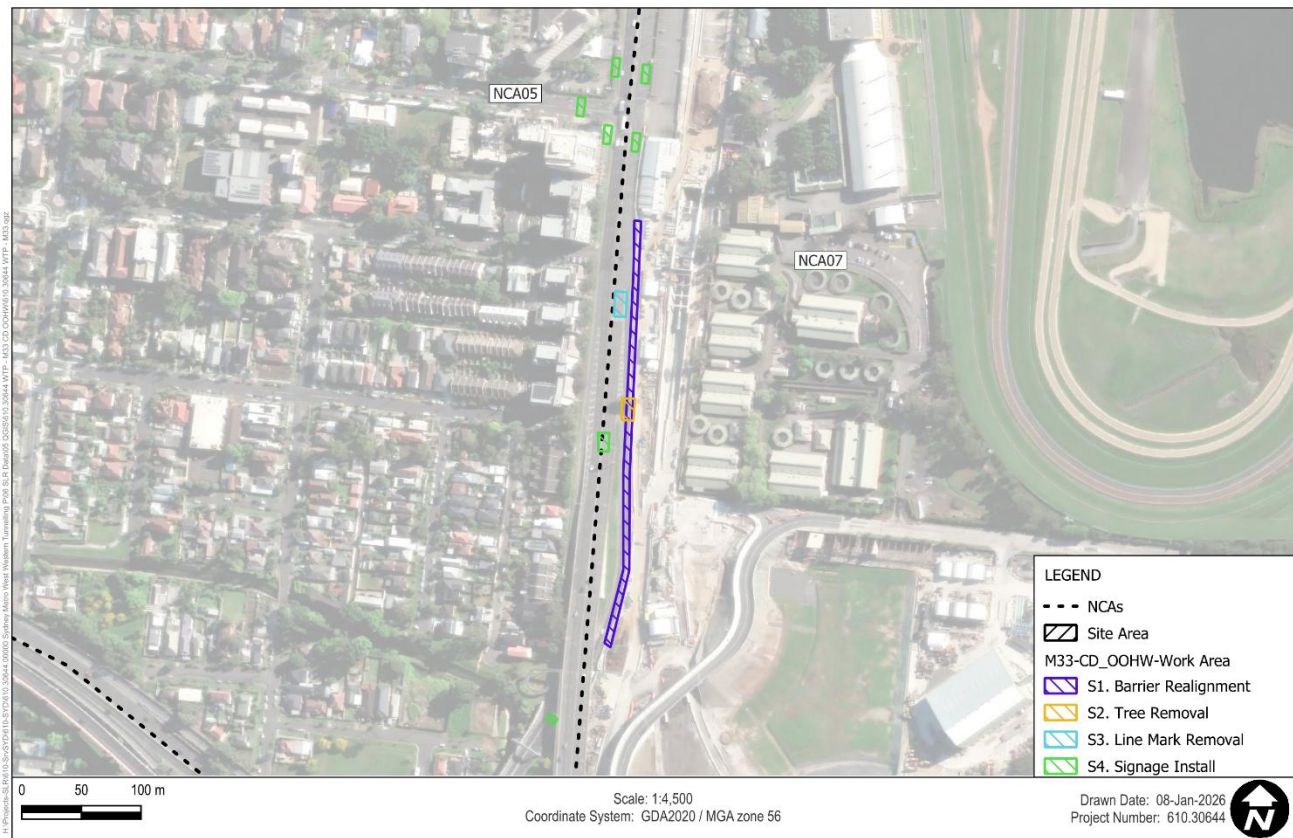
Equipment <sup>1</sup>			Total Lw (dBA)	Chainsaw	Elevated Work Platform	Excavator - Tracked (10 tonne)	Excavator - Tracked (20 tonne)	Hand tools (electric)	Light Vehicle - Car	Lighting – Daymaker <sup>2</sup>	Line Marking Truck	Truck - Dump
<b>Sound Power Level (Lw)</b>				<b>106</b>	<b>89</b>	<b>94</b>	<b>104</b>	<b>94</b>	<b>85</b>	<b>96</b>	<b>112</b>	<b>100</b>
<b>Estimated utilisation in assessment duration (%)<sup>3</sup></b>				<b>20</b>	<b>30</b>	<b>40</b>	<b>40</b>	<b>20</b>	<b>40</b>	<b>100</b>	<b>100</b>	<b>30</b>
ID	Construction Scenario	Assessment Period										
S1	Concrete barrier realignment	OOHW1 (Evening) / OOHW2 (Night)	<b>103</b>				2	2		1		
S2	Tree Removal	OOHW1 (Evening) / OOHW2 (Night)	<b>103</b>	2	1	1						1
S3	Line marking removal	OOHW1 (Evening) / OOHW2 (Night)	<b>112</b>						1		1	
S4	Sign installation	OOHW1 (Evening) / OOHW2 (Night)	<b>91</b>					2	1			
SC	Cumulative	OOHW1 (Evening) / OOHW2 (Night)	<b>112</b>	2	1	1	2	4	2	1	1	1

Note 1: Individual Sound Power Levels (Lw) for key activities have been adopted from the KNOWnoise noise modelling software database.

Note 2: Equipment de-rated by 5 dB with the use of noise blanket sound barrier around equipment, resulting in sound power level of 91 dBA.

Note 3: Estimated utilisation in assessment duration represents the percentage of time the equipment is assumed to operate over the 15 minute assessment duration

**Figure 1 Location of Works**



### 3 Assessment Criteria

#### 3.1 Noise Management Levels

The noise management levels (NMLs) for residential (**Table 3**) and other sensitive receivers (**Table 4**) have been adopted from the Construction Noise and Vibration Management Plan (CNVMP). Project-specific NMLs for residential receivers were determined for each Noise Catchment Area (NCA). During out-of-hours work (OOHW) the residential NML is determined as 5 dB above the Rating Background Noise level (RBL) (ie RBL + 5dB).

NMLs for other sensitive receivers have been adopted from the Interim Construction Noise Guideline (ICNG), Sydney Metro - Construction Noise and Vibration Standard (CNVS), *AS2107:2016 Acoustics – Recommended design sound levels and reverberation times for building interiors*, and previous assessments undertaken for the Sydney Metro West Project (eg EIS and modification reports).

**Table 3 Project Residential NMLs**

NCA	Receiver Type	Representative Logger Location	Noise Management Level ( $L_{Aeq}(15\text{minute}) - \text{dBA}$ )				Sleep Disturbance Screening Level (52 dBA or RBL +15 dB whichever is higher) ( $L_{Amax} \text{ dBA}$ )
			Approved Construction Hours (RBL+10dB)	Out of Hours (RBL+5dB)			
			Day	Day <sup>1</sup>	Evening	Night	Night
NCA04	Residential	B.04	61	56	53	46	56

NCA	Receiver Type	Representative Logger Location	Noise Management Level (L <sub>Aeq</sub> (15minute) – dBA)				Sleep Disturbance Screening Level (52 dBA or RBL +15 dB whichever is higher) (L <sub>Amax</sub> dBA)
			Approved Construction Hours (RBL+10dB)	Out of Hours (RBL+5dB)			
			Day	Day <sup>1</sup>	Evening	Night	Night
NCA05	Residential	B.05	60	55	54	50	60
NCA06	Residential	B.06	62	57	56	49	59
NCA07	Residential	B.07	56	51	49	46	56

Note 1: Daytime out of hours is 7 am to 8 am on Saturday, and 8 am to 6 pm on Sunday and public holidays

**Table 4 NMLs for ‘Other Sensitive’ Receivers**

Land Use	Assessment Period	Noise Management Level L <sub>Aeq</sub> (15minute) (dBA)	
		Internal	External
<b>ICNG ‘Other Sensitive’ Receivers</b>			
Classrooms at schools and other educational institutions	When in use	45	55 <sup>1</sup>
Hospital wards and operating theatres	When in use	45	65 <sup>2</sup>
Places of worship	When in use	45	55 <sup>1</sup>
Active recreation areas (characterised by sporting activities and activities which generate noise)	When in use	-	65
Passive recreation areas (characterised by contemplative activities that generate little noise)	When in use	-	60
Commercial	When in use	-	70
Industrial	When in use	-	75
<b>Non-ICNG ‘Other Sensitive’ Receivers</b>			
Hotel <sup>3</sup>	Day / Evening	50	70 <sup>2</sup>
	Night-time	40	60 <sup>2</sup>
Café / Bar / Restaurant <sup>3</sup>	When in use	50	70 <sup>2</sup>
Child Care Centres – Sleeping areas <sup>4</sup>	When in use	40	50 <sup>1</sup>
Public Building	When in use	50	60 <sup>1</sup>
Recording Studio	When in use	25	45 <sup>2</sup>
Theatre/Auditorium	When in use	30	50 <sup>2</sup>
Rosehill Gardens Racecourse Stables <sup>5</sup>	When in use	-	60

Note 1: It is assumed that these receivers have windows partially open for ventilation which results in internal noise levels being around 10 dB lower than the external noise level.

Note 2: It is assumed that these receivers have fixed windows which conservatively results in internal noise levels being around 20 dB lower than the external noise level.

Note 3: Adopted from AS2107.

Note 4: Adopted from *Association of Australian Acoustical Consultants Guideline for Child Care Centre Acoustic Assessment*.

Note 5: Adopted from the ICNG – passive recreation.

## 4 Assessment Findings

### 4.1 Airborne Noise Impact Assessment

Noise modelling was conducted in accordance with the method outlined in the overarching DNVIS. A summary of the number of buildings where NML exceedances were predicted for the various work scenarios is shown in **Table 6**. Maps of the proposed work area are presented in **Appendix A**.

The assessment shows the predicted impacts based on the exceedance of the management levels, as per the categories in **Table 5**.

**Table 5 Exceedance Bands and Impact Colouring**

Exceedance of Management Level	Impact Colouring
No exceedance	
1 to 10 dB	
11 dB to 20 dB	
21 dB to 30 dB	
>30 dB	

The assessment is generally considered conservative as the calculations assume several items of construction equipment are in use at the same time within individual scenarios.

The assessment uses ‘realistic worst-case’ scenarios to determine the impacts from the noisiest 15-minute period that is likely to occur for each work scenario. The exceedances shown in **Table 6** are therefore representative of a ‘realistic worst-case’ 15-minute period and are unlikely to occur for extended periods of time throughout the construction period at any given receiver. Recommendations are provided in **Section 5**.

**Table 6 Construction Noise Assessment**

Receiver Category	NCA	Total	Number of Receivers											
			Exceedance Category	With NML Exceedance										
				S1 OOHW 1	S2 OOHW 1	S3 OOHW 1	S4 OOHW 1	SC OOHW 1	S1 OOHW 2	S2 OOHW 2	S3 OOHW 2	S4 OOHW 2	SC OOHW 2	
Residential	NCA04	-	1-10 dB	-	-	-	-	-	-	-	-	2	-	2
			11-20 dB	-	-	-	-	-	-	-	-	-	-	-
			21-30 dB	-	-	-	-	-	-	-	-	-	-	-
			>30 dB	-	-	-	-	-	-	-	-	-	-	-
		-	HNA	-	-	-	-	-	-	-	-	-	-	-
			SD	-	-	-	-	-	-	-	-	-	-	-
	NCA05	-	1-10 dB	5	4	3	-	8	14	6	10	1	17	
			11-20 dB	-	-	5	-	5	-	1	2	-	3	
			21-30 dB	-	-	-	-	-	-	-	2	-	3	
			>30 dB	-	-	-	-	-	-	-	-	-	-	
		-	HNA	-	-	-	-	-	-	-	-	-	-	
			SD	-	-	-	-	-	-	1	4	-	6	
	NCA06	-	1-10 dB	-	-	-	-	-	-	-	-	-	-	
			11-20 dB	-	-	-	-	-	-	-	-	-	-	
			21-30 dB	-	-	-	-	-	-	-	-	-	-	
			>30 dB	-	-	-	-	-	-	-	-	-	-	
		-	HNA	-	-	-	-	-	-	-	-	-	-	
			SD	-	-	-	-	-	-	-	-	-	-	
	NCA07	-	1-10 dB	-	-	-	-	-	-	-	-	-	-	
			11-20 dB	-	-	-	-	-	-	-	-	-	-	
			21-30 dB	-	-	-	-	-	-	-	-	-	-	
>30 dB			-	-	-	-	-	-	-	-	-	-		
-		HNA	-	-	-	-	-	-	-	-	-	-		
		SD	-	-	-	-	-	-	-	-	-	-		
Other Sensitive	All NCA	-	1-10 dB	-	-	1	-	1	-	-	2	-	2	
			11-20 dB	-	-	-	-	-	-	-	-	-	-	
			21-30 dB	-	-	-	-	-	-	-	-	-	-	
			>30 dB	-	-	-	-	-	-	-	-	-	-	

SD – Sleep Disturbance  
HNA – Highly Noise Affected

## 5 Conclusion and Recommendations

Noise emissions from the project have been predicted at the surrounding receivers. Noise levels are expected to exceed the noise management levels (NMLs) at the closest residential receivers during the evening period (OOHW1) and the night-time period (OOHW2).

A number of mitigation and management measures have been recommended below. Where feasible and reasonable these should be applied to the project to control and minimise the impacts during construction as far as practicable. Specific mitigation measures will be implemented and developed in consultation with the community at each affected location, consistent with Project SSI 10038 MOD 6 – Consolidated Approval including Condition D38, D39, D50 & D51 such as respite offers and alternative accommodation.

To determine the predicted noise levels and exceedances at each floor and facade at the residential towers and hotel in proximity to the works, additional analysis of the modelling results has been conducted. The purpose of this analysis is to provide GLC with the ability to undertake more targeted mitigation measures. This analysis is available in a separate XLS spreadsheet file (610.30644-M33-High Rise Analysis.xlsx).

GLC will consider the following recommendations (where feasible and reasonable) during commencement of work:

- Implement mitigation measures identified within the CNVMP and overarching DNVIS.
- Implement additional mitigation measures identified within the CNVMP and overarching DNVIS.
- Ensure the minimum sized equipment necessary to complete the work are used.
- Implement portable noise barriers around small, contained work areas.
- Implement portable noise barriers around small, contained work areas including any diesel generator powered lighting towers.
- Wheeled Excavators (Duck) will be used in placed of tracked excavators and franne cranes to undertake the barrier realignment using either forks or grabber attachments.
- Electric / battery or hydraulic (e.g. grapple saw) will be used instead of petrol chainsaws as much as is feasible and reasonable.
- All mulching and stump grinding will not take place during out of hours periods. Materials to be either stockpiled on site for mulching during standard construction hours or taken off site for mulching by the arborist.
- Shut down plant and machinery, including vehicles when not in operation.

Checked/  
Authorised by: MI

## APPENDIX A – WORK AREA MAP

Figure A S1 – OOHW1



Figure B S2 – OOHW1



Figure C S3 – OOHW1

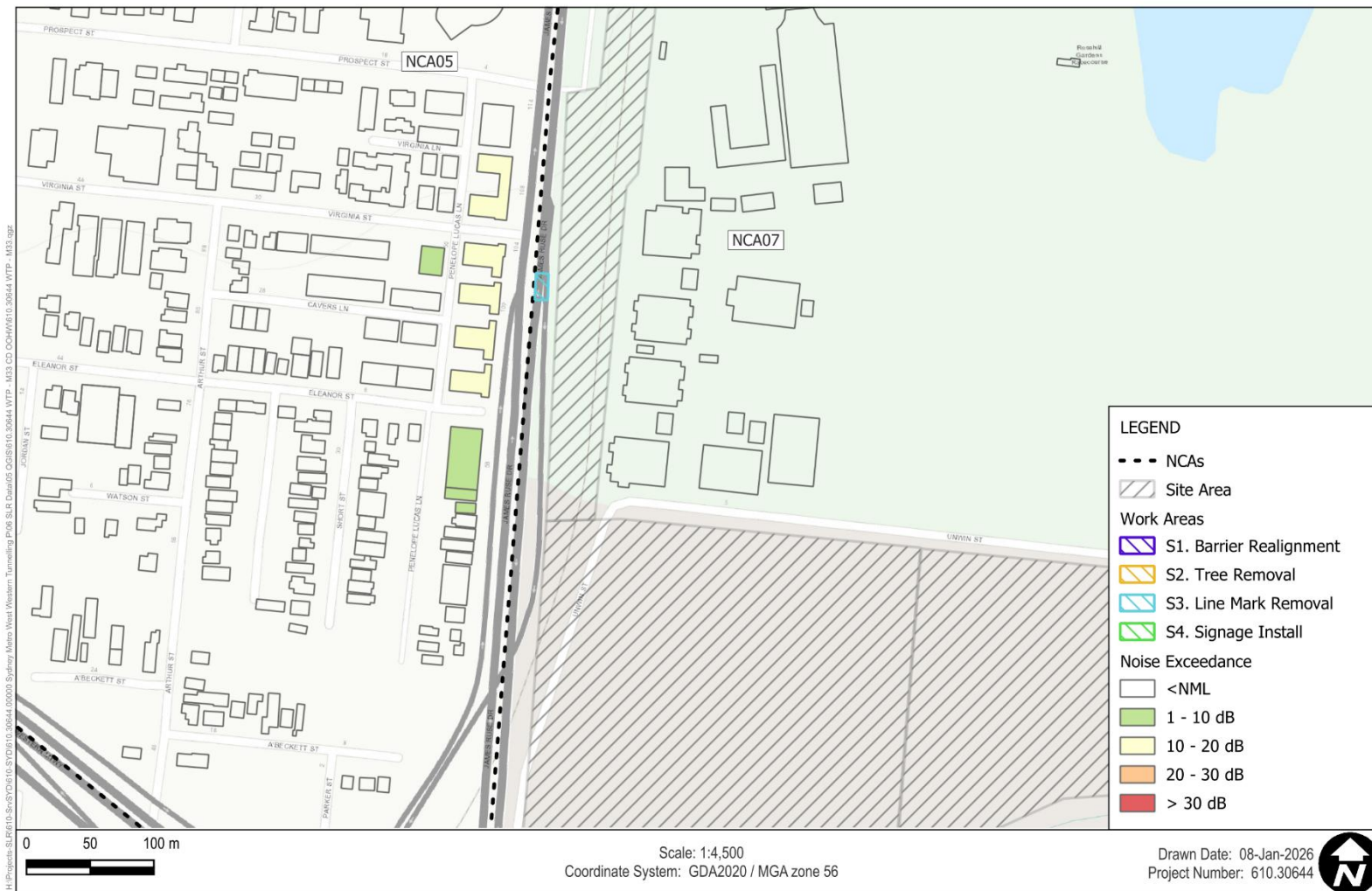


Figure D S4 – OOHW1

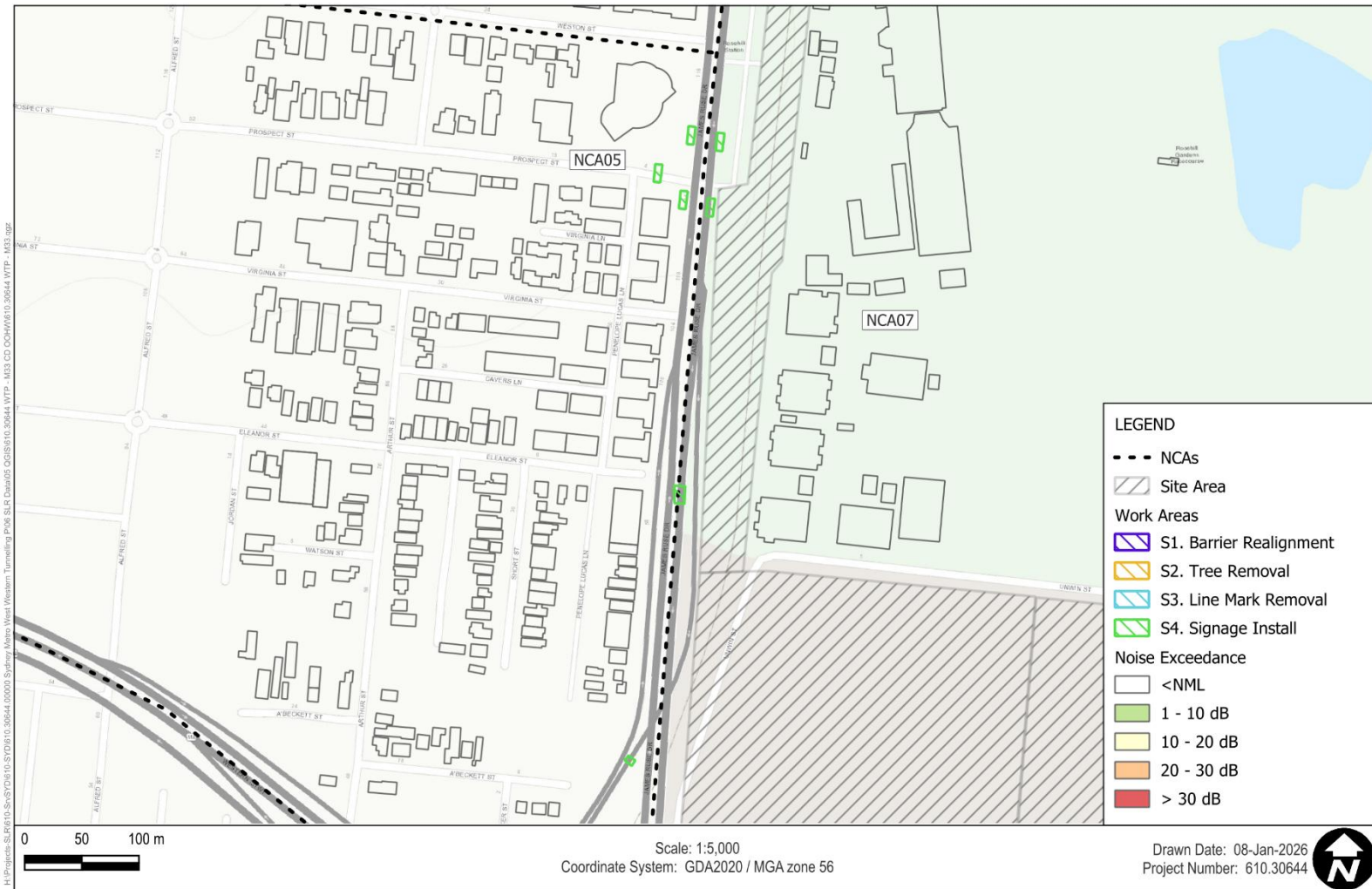


Figure E SC – OOHW1



Figure F S1 – OOHW2



Figure G S2 – OOHW2



Figure H S3 – OOHW2



Figure I S4 – OOHW2

