

APPENDIX 11.3 ENVIRONMENTAL NOISE SURVEY

Baseline conditions at locations representative of the closest noise sensitive receptors have been determined by an environmental noise survey. The proposed locations and durations were submitted to both Cherwell District Council (CDC) and West Northamptonshire Council (WNC), however, no response was received to the consultation. The results of the baseline noise survey are considered to be representative and robust.

EQUIPMENT

The survey was carried out using Class 1 measurement equipment, as detailed in **Table 11-3.1**. The equipment was calibrated at the start and end of the survey with no significant drift in calibration noted. Measurement locations are described in **Table 11-3.2** and shown in **Figure 11.1 – Noise Measurement Locations and Sensitive Receptors**.

Table 11-3.1: Summary of Equipment

M-EC ID	Description	Manufacturer & Type	Serial No.	Calibration Due Date
SLM1	Sound Level Meter	Type NOR140	1406248	10/04/2023
	Pre-Amplifier	Type 1209	20473	
	Microphone	Type 1225	225469	
SLM3	Sound Level Meter	Type SVAN 971	34384	17/08/2022
	Pre-Amplifier	Type SV 81	32154	
	Microphone	Type ACO 7052E	54657	
CAL1	Calibrator	Norsonic 1251	34315	08/12/2022

Table 11-3.2: Summary of Measurement Locations

Location	Lat & Long.	Equipment ID	Description	Purpose
CM1	52.071846 -1.302157	SLM1	Unattended measurement position. Located north of A422 near to Carrdus School	Obtain long term sound levels for Carrdus School.
SM1	52.070414 -1.305758	SLM3	Attended measurement position. Located south of A422 near to Dwellings on Banbury Lane.	To obtain sound levels for Dwellings on Banbury Lane and compare against CM1 due to equidistance from dominant source of noise.
SM2	52.072166 -1.297342	SLM3	Attended measurement position. Located north of A422 on Banbury Lane near to Carrdus School	Obtain attended sound levels for Carrdus School to verify unattended position.

UNATTENDED HISTOGRAM CHARTS

Figure 11.3-1: CM1 Daytime (07:00 – 2:00) LA90, 1hr dB histogram

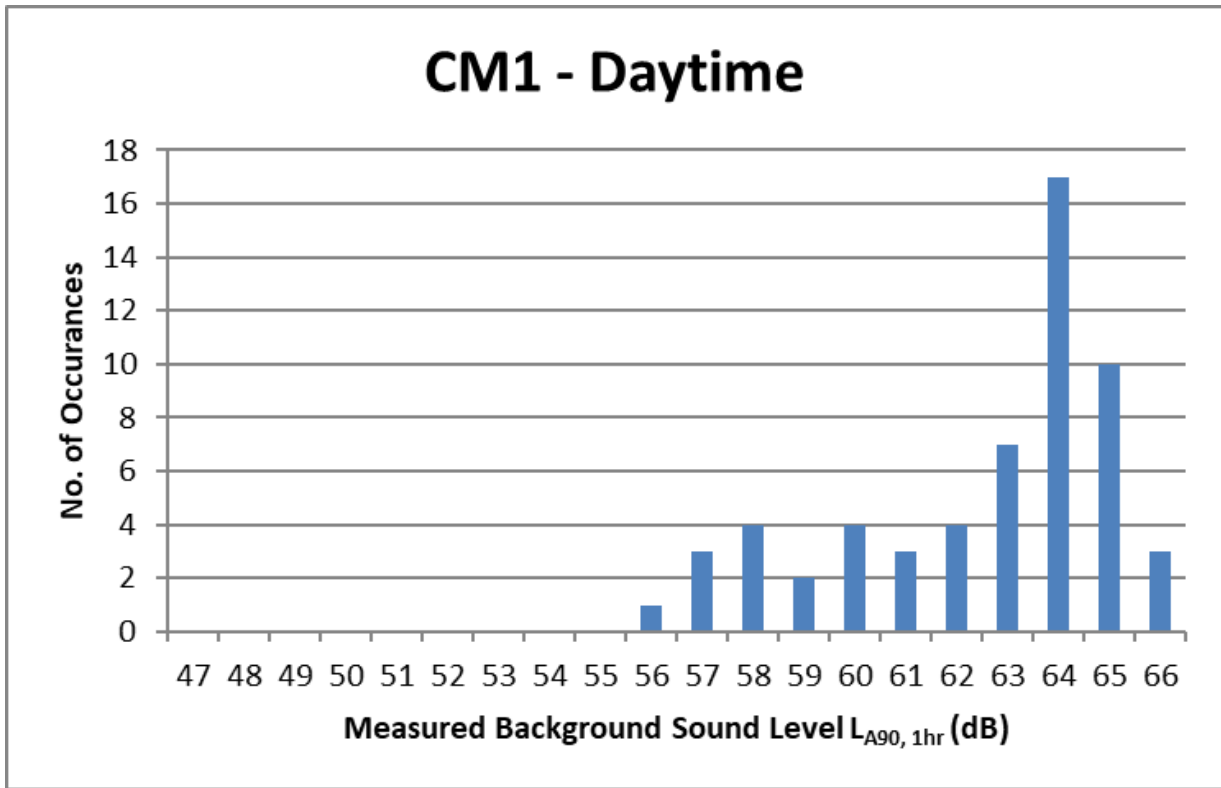
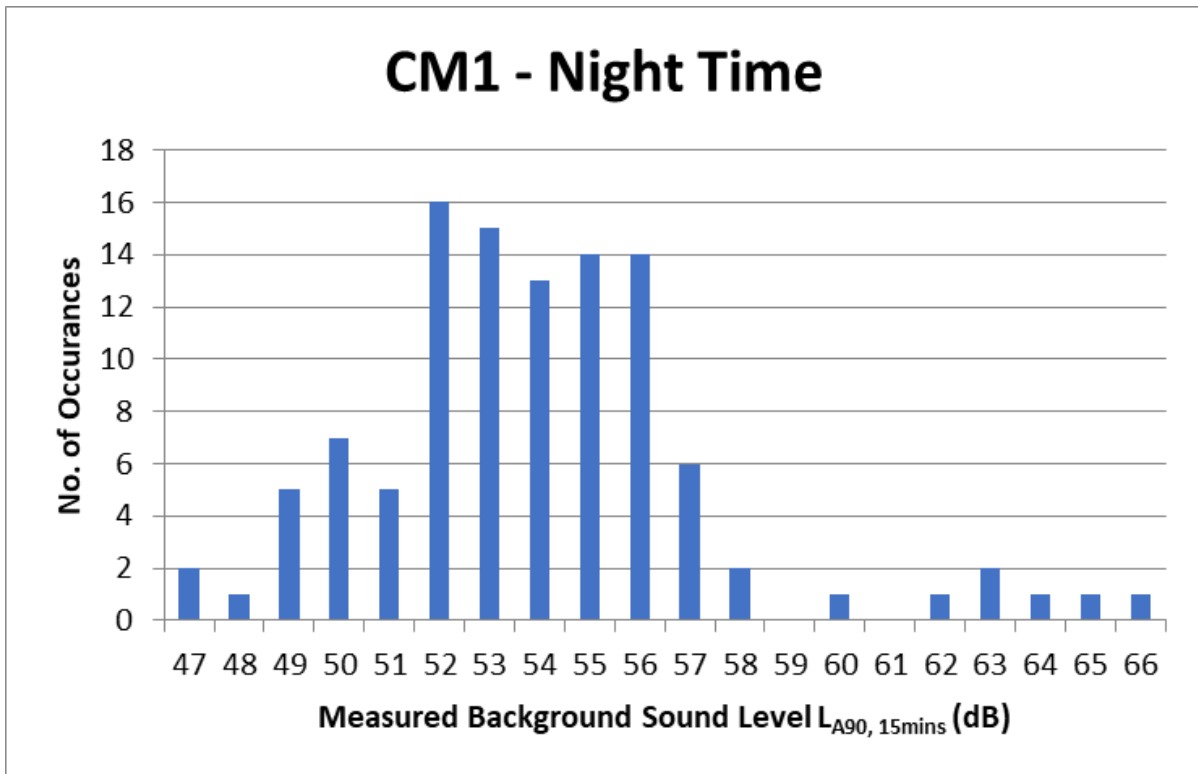


Figure 11.3-2: CM1 Night-time (23:00 – 07:00) LA90, 15mins dB histogram



BACKGROUND SOUND LEVEL DATA ANALYSIS

The measured noise levels have been analysed to determine the day and night-time background sound levels for weekday and weekend periods. The methodology used follows the statistical analysis approach presented in BS 4142 for the unattended measurement position. The measured noise in conjunction with the spread of noise levels are used to determine the representative background sound level.

Table 11.3-3: CM1 Background Sound Levels

Noise Index	Sound Pressure Level (dB)	
	Daytime (07:00 – 23:00)	Night-time (23:00 – 07:00)
Maximum LA _{90, T}	66	66
Minimum LA _{90, T}	56	47
Log Average LA _{90, T}	63	56
Linear Average LA _{90, T}	63	54
Most Commonly Occurring LA _{90, T}	64	52
Selected Representative Value	64	52
T = 1hr for daytime and 15mins for night-time.		

Table 11-3.4: SM1 Background Sound Levels

Date and Time	Measured Background Sound Level LA _{90, T} dB
11th February 2022, 14:00 – 15:00	63 (Daytime)
15 th February 2022, 00:00 – 00:15	54 (Night-time)
15 th February 2022, 00:15 – 00:30	55 (Night-time)

Table 11-3.5: SM2 Background Sound Levels

Date and Time	Measured Background Sound Level LA _{90, T} dB
11th February 2022, 15:10 – 16:10	57 (Daytime)

AMBIENT SOUND LEVEL RESULTS SUMMARY**Table 11.3-6: CM1 Ambient Sound Levels during Construction Periods**

Date	Weekdays (07:00 – 19:00) L_{Aeq, 12hr}	Weekends (07:00 – 13:00) L_{Aeq, 6hr} dB
Friday 11 th February ^(a)	62	-
Saturday 12 th February	-	64
Sunday 13 th February	-	62
Monday 14 th February	68	-
^(a) T = 6hr, measurement started at 13:00		

Table 11-3.7: SM1 Ambient Sound Levels during Construction Periods

Date and Time	Measured Background Sound Level L_{A90, T} dB
11th February 2022, 14:00 – 15:00	65 (Daytime)

Table 11-3.8: SM2 Ambient Sound Levels during Construction Periods

Date and Time	Measured Background Sound Level L_{A90, T} dB
11th February 2022, 15:10 – 16:10	60 (Daytime)

OBSERVATIONS

Site notes indicate that the dominant source of noise at all measurement positions was road traffic noise from the M42, the A422 and the A361.