APPENDIX 11.2
BASELINE SOUND SURVEY

Appendix 11.2 Baseline Sound Survey.

1.9 Methodology

The following survey works have been undertaken to establish baseline sound levels across the site.

- Long term measurements at two positions (L1 and L2) between Friday 11th and Friday 18th December 2020.
- Short-term attended measurements at multiple positions (P1 – P5) on Friday 11th December 2020.
- Short-term attended measurements at multiple positions to corroborate the 2020 survey on Thursday 18th May 2023.

1.34 All measurements were undertaken in accordance with BS 7445:2003 *Description and measurement of environmental noise*.

1.35 Corroborative measurements at Position P5 were slightly elevated in comparison to the 2020 survey. This has been attributed to increased commercial activity on the Site itself at the time of the measurements. Given that these noise sources will be removed to make way for the Proposed Development they are not expected to affect the findings of the ES chapter.

1.10 Weather conditions

1.36 The weather conditions during the 2020 survey are considered to have been appropriate for environmental sound measurements. Data has been taken from a logger approximately 450m to the north-west of the site. Conditions were generally calm and clear with brief periods of light precipitation. A review of the data does not reveal a significant change in noise levels measured during these periods and it has therefore been concluded that the weather did not adversely impact the data.

1.37 Weather conditions during the 2023 corroborative measurement were also calm and clear and did not adversely impact the data.

1.11 Equipment

1.38 **Table 11.5** details the equipment used during the environmental sound survey. All equipment used was within their respective dates of calibration and calibration certificates are available upon request. All sound level meters were calibrated before and after the measurements and no significant calibration drift was observed.

Table 11.5: Sound survey equipment details

POSITION	DATES	DESCRIPTION	MODEL	SERIAL NUMBER
L1	11/12/2020 – 18/12/2020	Class 1 Sound level meter	Rion NL-52	00342839
		Microphone	Rion UC-59	06360
		Preamplifier	Rion NH-25	42867

POSITION	DATES	DESCRIPTION	MODEL	SERIAL NUMBER
L2	11/12/2020 – 18/12/2020	Class 1 Sound level meter	Rion NL-52	01276555
		Microphone	Rion UC-59	12612
		Preamplifier	Rion NH-25	76774
P1 – P5	11/12/2020	Class 1 Sound level meter	Rion NA-28	01260201
		Microphone	Rion UC-59	00281
		Preamplifier	Rion NH-23	60104
P1 – P5	18/05/2023	Class 1 Sound level meter	Rion NL-52	00810564
		Microphone	Rion UC-59	19955
		Preamplifier	Rion NH-25	11107

1.12 Results

Table 11.6 to **Table 11.9** present a summary of the ambient sound levels measured at each survey position. Full time level history graphs from the long-term measurements are presented in **Figure 11.1** and **Figure 11.2.**

Table 11.6 Ambient sound pressure levels measured at Position L1, 2020

DATE	AMBIENT SOUND PRESSURE LEVELS MEASURED AT POSITION L1	
	Day Time (07:00 - 23:00) (dB $L_{Aeq, 16hr}$)	Night Time (23:00 - 07:00) (dB $L_{Aeq, 8hr}$)
11/12/2020	62	59
12/12/2020	61	54
13/12/2020	60	58
14/12/2020	63	59
15/12/2020	63	59
16/12/2020	62	60
17/12/2020	63	59
18/12/2020	63	-

Table 11.7 Ambient sound pressure levels measured at Position L2, 2020

DATE	AMBIENT SOUND PRESSURE LEVELS MEASURED AT POSITION L2	
	DAY TIME (07:00 - 23:00) (DB $L_{AEQ, 16HR}$)	NIGHT TIME (23:00 - 07:00) (DB $L_{AEQ, 8HR}$)
11/12/2020	61	48
12/12/2020	58	46
13/12/2020	54	49

DATE	AMBIENT SOUND PRESSURE LEVELS MEASURED AT POSITION L2	
	DAY TIME (07:00 - 23:00) (DB $L_{AEQ, 16HR}$)	NIGHT TIME (23:00 - 07:00) (DB $L_{AEQ, 8HR}$)
14/12/2020	65	56
15/12/2020	56	46
16/12/2020	59	47
17/12/2020	52	49
18/12/2020	58	-

Table 11.8 Ambient and maximum sound pressure levels measured at Positions P1 – P5, 2020 & 2023

POSITION	MEASUREMENT PERIOD	2020		2023	
		Ambient sound pressure level (dB $L_{Aeq,T}$)	Maximum sound pressure level (dB L_{AFmax})	Ambient sound pressure level (dB $L_{Aeq,T}$)	Maximum sound pressure level (dB L_{AFmax})
P1	00:05:00	66	76	66	80
	00:05:00	65	73	66	74
	00:05:00	66	74	-	-
P2	00:05:00	65	73	67	76
	00:05:00	65	73	70	81
	00:05:00	65	73	-	-
P3	00:05:00	63	75	65	78
	00:05:00	65	71	65	76
	00:05:00	65	81	-	-
P5	00:05:00	47	63	51	66
	00:05:00	48	61	57	75
	00:05:00	47	63	-	-
	00:05:00	49	65	-	-
	00:05:00	47	56	-	-
	00:05:00	48	63	-	-

Table 11.9 Ambient sound pressure levels measured at Positions P4, 2020 & 2023

DIRECTION OF TRAIN TRAVEL	2020		2023	
	Ambient sound pressure level (dB $L_{Aeq,T}$)	Maximum sound pressure level (dB L_{AFmax})	Ambient sound pressure level (dB $L_{Aeq,T}$)	Maximum sound pressure level (dB L_{AFmax})
North	75	84	73	79
	77	84	80	88
	67	71	75	80
South	70	76	68	74
	76	80	72	76
	69	74	70	75

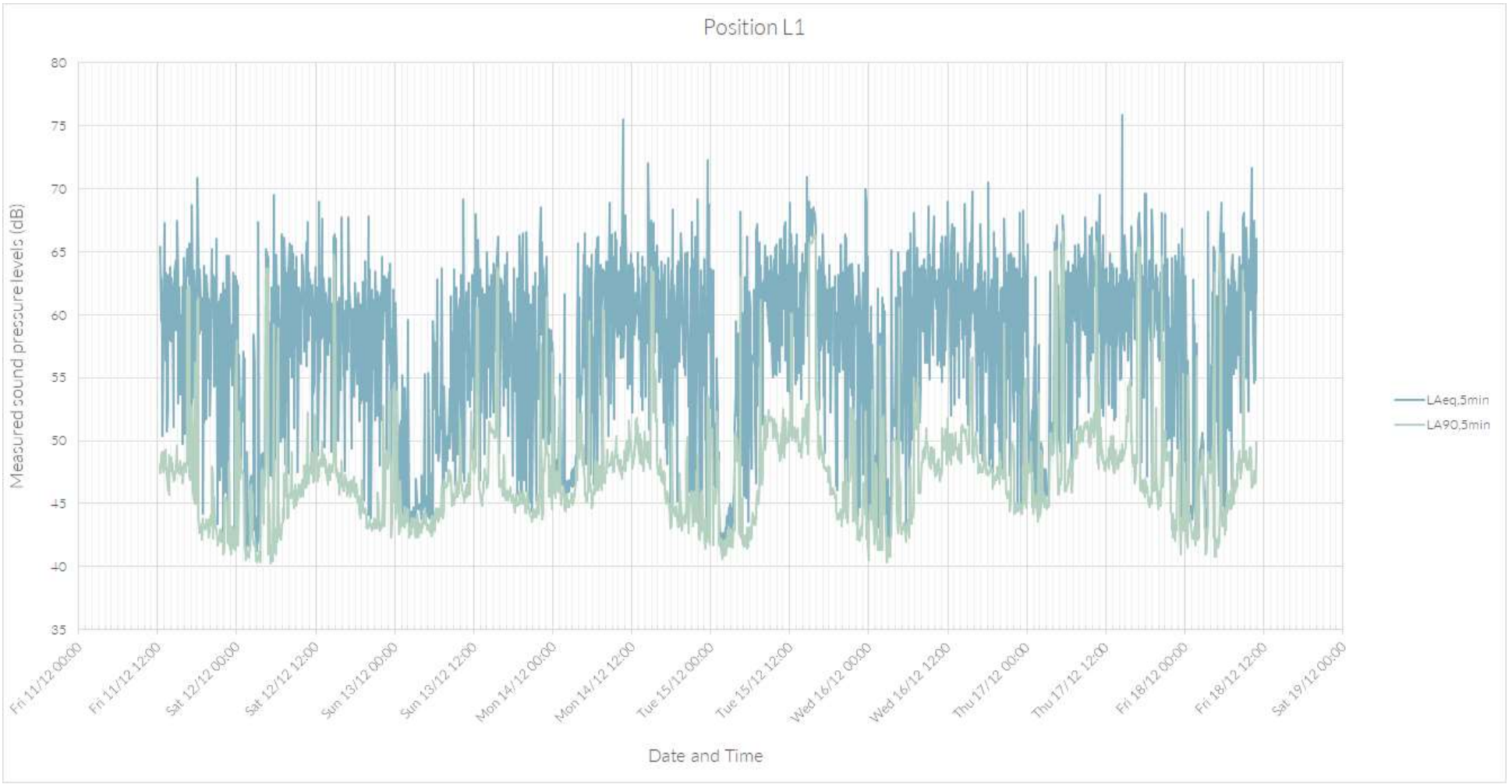

Figure 11.1 Time level history graph, Position L1

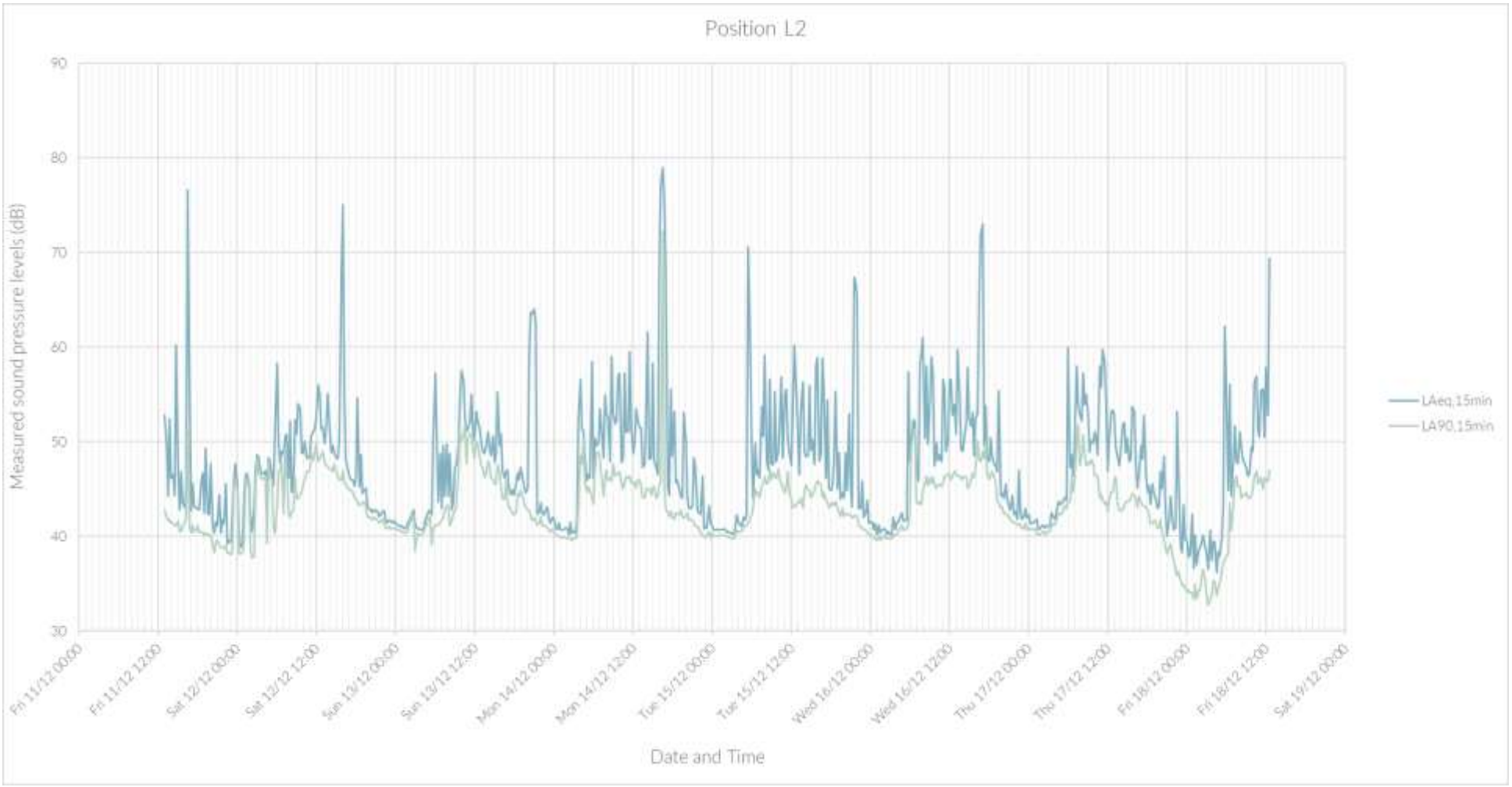

Figure 11.2 Time level history graph, Position L2