

Appendix 7-C

Construction Noise and Vibration Prediction Data

Construction Noise

Construction noise has been predicted at the relevant noise sensitive receptors using the calculation methodology described in BS 5228-1:2009+A1:2014.

The predictions take account of the noise level for each item of construction plant, the quantity of plant, and the usage per day (% on-time), as well the distance between the construction activities and the receptors. The construction plant used for the prediction of noise from each activity is listed in the following tables.

Table 1: Building soft strip

Plant Item	Quantity	BS 5228-1 Ref.	L _w (dB)	On-time (%)
Hand tools	4	Measured	97	20
Reciprocating saw	2	Measured	102	20
1t skid-steer loader	2	C2.8	96	10
Mobile elevated working platform (MEWP)	1	C4.57	95	50

Table 2: Demolition of building and foundations, crushing of arisings

Plant Item	Quantity	BS 5228-1 Ref.	L _w (dB)	On-time (%)
13t Excavator with breaker	2	Measured	114	30
13t Excavator with hydraulic crusher/jaws	2	C1.4	104	40
1t skid-steer loader	2	C2.8	96	30
20t excavator	2	C2.16	103	20
Generator	1	C4.87	93	100
Mobile elevated working platform (MEWP)	2	C4.57	95	50
Tracked crusher	1	C1.14	110	60

Table 3: Filling of voids and site levelling

Plant Item	Quantity	BS 5228-1 Ref.	L _w (dB)	On-time (%)
Excavator loading dump truck	2	C1.10	113	25
25t excavator	2	C2.14	105	80
Dump truck (tipping fill)	2	C2.32	102	10
Water bowser	1	C6.37	109	20
Vibratory roller	1	C2.39	102	50
Generator	1	C4.87	93	100

Construction Vibration

Construction vibration from use of a vibratory roller has been predicted at the relevant vibration sensitive receptors using the calculation methodology described in BS 5228-2:2009+A1:2014.

As well as the % on-time from Table 3 above, it has been assumed that the roller has two drums, a drum width of 1.2 m and a maximum amplitude of drum vibration of 0.53 mm. A scaling factor of 75, representing a 50%

probability of the predicted value being exceeded, has been used to align with best practice when calculating the vibration dose value (VDV).