

APPENDIX 9C: CONSTRUCTION NOISE CALCULATIONS AND ASSUMPTIONS

NOT PROTECTIVELY MARKED

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Table 9C.1 Assumed Construction Machinery

Activity	Construction Plant
Demolition	1 x Breaker mounted on wheeled backhoe
	1 x Tracked crusher
Earthworks & site preparation	1 x Tracked Breaker
	2 x Dozer
	2 x Dump truck
	1 x Vibratory roller
Building construction	1 x Tracked mobile crane
	2 x Truck mounted concrete pump and boom arm
	1 x Concrete mixer truck
	1 x Compressor
	2 x Electric bolter
	1 x Diesel generator
	1 x Driven piling plant
Construction of site roads and parking bays	1 x Road planer
	1 x Dozer
	1 x Road roller
	1 x Asphalt paver (+ tipper lorry)
	2 x Diesel water pump
Landscape Restoration	2 x Dozer
	2 x Dump truck
	1 x Vibratory roller
Dismantling and Removal	2 x Tracked excavator
	1 x Flat bed lorry
	1 x Small crane
	1 x Breaker mounted on wheeled backhoe

Table 9C.2 Construction Noise Calculations

Location 1: Nos. 135-165 Bath Road												
Plant	Source Noise (dB)		Distance m	Ground Attenuation dB	Screening Attenuation dB	Façade Correction dB	Traverse Length m	Minimum Distance m	Distance Ratio	Correction Factor F	On Time (%)	L _{Aeq} at Receptor dB
	L _{Aeq} at 10m	Sound Power (L _{WA})										
Demolition												
1 x Breaker mounted on wheeled backhoe	92		40	13.1	10	3					0.25	65.9
1 x Tracked crusher	82		42	13.6	10	3					0.25	55.4
											Total	66
Earthworks & site preparation												
1 x Tracked Breaker		118	38	39.6	10	3	60	38	1.6	0.5	0.25	62.4
2 x Dozer		110	38	39.6	10	3	60	38	1.6	0.5	0.5	57.4
2 x Dump truck		112	38	39.6	10	3	60	38	1.6	0.5	0.25	56.4
1 x Vibratory roller		102	35	38.9	10	3	30	35	0.9	1	0.25	50.1
											Total	64
Building construction												
1 x Tracked mobile crane		99	35	38.9	10	3	10	35	0.3	1	0.16	45.2
2 x Truck mounted concrete pump and boom arm		111	30	37.5	10	3	50	30	1.7	0.45	0.16	55.0
1 x Concrete mixer truck	80		35	10.9	10	3					0.25	56.1
1 x Compressor	72		32	10.1	10	3					0.5	51.9
2 x Electric bolter		105	30	37.5	10	3	50	30	1.7	0.45	0.16	49.0
1 x Diesel generator	74		40	12.0	10	3					0.75	53.7
1 x Driven piling plant	87		30	9.9	10	3					0.25	64.1
											Total	66
Construction of site roads and parking bays												
1 x Road planer		110	45	41.1	10	3	30	45	0.7	0.8	0.5	58.0
1 x Dozer		105	45	41.1	10	3	30	45	0.7	0.8	0.25	49.9
1 x Road roller		108	45	41.1	10	3	30	45	0.7	0.8	0.25	52.9
1 x Asphalt paver (+ tipper lorry)		103	45	41.1	10	3	30	45	0.7	0.8	0.25	47.9
2 x Diesel water pump	84		48	13.6	10	3					0.5	60.4
											Total	63
Landscape Restoration												
2 x Dozer		110	45	41.1	10	3	30	45	0.7	0.8	0.5	58.0
2 x Dump truck		112	45	41.1	10	3	30	45	0.7	0.8	0.5	60.0
1 x Vibratory roller		102	45	41.1	10	3	30	45	0.7	0.8	0.5	50.0
											Total	62
Dismantling and Removal												
2 x Tracked excavator		106	35	38.9	10	3	30	35	0.9	0.8	0.25	53.1
1 x Flat bed lorry		105	40	40.0	10	3	30	40	0.8	0.8	0.25	51.0
1 x Small crane		98	35	38.9	10	3	30	35	0.9	0.8	0.25	45.1
1 x Breaker mounted on wheeled backhoe	92		35	10.9	10	3					0.25	68.1
											Total	68

Table 9C.3 Construction Noise Calculations

Location 2: Dwellings east of Bath Road												
Plant	Source Noise (dB)		Distance m	Ground Attenuation dB	Screening Attenuation dB	Façade Correction dB	Traverse Length m	Minimum Distance m	Distance Ratio	Correction Factor F	On Time (%)	L _{Aeq} at Receptor
	L _{Aeq} at 10m	Sound Power (L _{WA})										dB
Demolition												
1 x Breaker mounted on wheeled backhoe	92		130	25.8	10	3					0.25	53.1
1 x Tracked crusher	82		130	25.8	10	3					0.25	43.1
											Total	54
Earthworks & site preparation												
1 x Tracked Breaker		118	80	46.1	10	3	60	80	0.8	0.75	0.25	57.7
2 x Dozer		110	80	46.1	10	3	60	80	0.8	0.75	0.5	52.7
2 x Dump truck		112	80	46.1	10	3	60	80	0.8	0.75	0.25	51.7
1 x Vibratory roller		102	80	46.1	10	3	30	80	0.4	1	0.25	42.9
											Total	60
Building construction												
1 x Tracked mobile crane		99	80	46.1	10	3	10	80	0.1	1	0.16	38.0
2 x Truck mounted concrete pump and boom arm		111	80	46.1	10	3	50	80	0.6	0.9	0.16	49.5
1 x Concrete mixer truck	80		80	18.1	10	3					0.25	48.9
1 x Compressor	72		80	18.1	10	3					0.5	43.9
2 x Electric bolter		105	80	46.1	10	3	50	80	0.6	0.9	0.16	43.5
1 x Diesel generator	74		80	18.1	10	3					0.75	47.7
1 x Driven piling plant	87		80	18.1	10	3					0.25	55.9
											Total	58
Construction of site roads and parking bays												
1 x Road planer		110	40	40.0	10	3	30	40	0.8	0.75	0.5	58.7
1 x Dozer		105	40	40.0	10	3	30	40	0.8	0.75	0.25	50.7
1 x Road roller		108	40	40.0	10	3	30	40	0.8	0.75	0.25	53.7
1 x Asphalt paver (+ tipper lorry)		103	40	40.0	10	3	30	40	0.8	0.75	0.25	48.7
2 x Diesel water pump	84		43	12.7	10	3					0.5	61.3
											Total	64
Landscape Restoration												
2 x Dozer		110	40	40.0	10	3	30	40	0.8	0.8	0.5	59.0
2 x Dump truck		112	40	40.0	10	3	30	40	0.8	0.8	0.5	61.0
1 x Vibratory roller		102	40	40.0	10	3	30	40	0.8	0.8	0.5	51.0
											Total	63
Dismantling and Removal												
2 x Tracked excavator		106	80	46.1	10	3	30	80	0.4	0.8	0.25	46.0
1 x Flat bed lorry		105	80	46.1	10	3	30	80	0.4	0.8	0.25	44.9
1 x Small crane		98	80	46.1	10	3	30	80	0.4	0.8	0.25	37.9
1 x Breaker mounted on wheeled backhoe	92		80	18.1	10	3					0.25	60.9
											Total	61