



7.2 CONSTRUCTION PLANT AND MACHINERY



Assumed Plant – Site Clearance

PLANT DESCRIPTION	PLANT TYPE (BS 5228)	REF. BS 5228	L _{AEQ} @ 10M (DB)
Breaker mounted on wheeled backhoe	Breaking up concrete : Pulverizer mounted on excavator C.1 #4	C.01 #4	76
Diesel water pump	Pumping surface water: Diesel water pump C.11 #1	C.11 #1	81
Dozer	Ground excavation/earthworks: Dozer C.2 #12	C.02 #12	81
Articulated dump truck	Distribution of materials : Articulated dump truck ж C.4 #1	C.04 #1	81
Tracked excavator (idling)	Ground excavation/earthworks: Tracked excavator (idling) C.2 #20	C.02 #20	68
Tracked excavator	Ground excavation/earthworks: Tracked excavator C.2 #19	C.02 #19	77.0

Assumed Plant – Earthworks

PLANT DESCRIPTION	PLANT TYPE (BS 5228)	REF. BS 5228	L _{AEQ} @ 10M (DB)
Dozer	Ground excavation/earthworks: Dozer C.2 #12	C.02 #12	81
Articulated dump truck (tipping fill)	Distribution of material : Articulated dump truck (tipping fill) C.2 #32	C.02 #32	74
Articulated dump truck	Distribution of material : Articulated dump truck ж C.2 #33	C.02 #33	81
Hydraulic vibratory compactor (tracked excavator)	Rolling and compaction : Hydraulic vibratory compactor (tracked excavator) C.2 #42	C.02 #42	78
Tracked excavator (idling)	Ground excavation/earthworks: Tracked excavator (idling) C.2 #20	C.02 #20	68



Assumed Plant – Road and Junction Construction

PLANT DESCRIPTION	PLANT TYPE (BS 5228)	REF. BS 5228	L _{AEQ} @ 10M (DB)
Tracked excavator	Earthworks : Tracked excavator C.5 #18	C.05 #18	80.0
Vibratory compactor (asphalt)	Rolling and compaction : Vibratory compacter (asphalt) C.5 #29	C.05 #29	82
Asphalt paver (+ tipper lorry)	Paving : Asphalt paver (+ tipper lorry) C.5 #31	C.05 #31	77
Dozer	Spreading chipping/fill : Dozer C.5 #13	C.05 #13	82
Road planer	Road planing : Road planer C.5 #7	C.05 #7	82
Road planer (idling)	Road planing : Road planer (idling) C.5 #8	C.05 #8	62
Diesel water pump	Pumping surface water: Diesel water pump C.11 #2	C.11 #2	71
Articulated dump truck (tipping fill)	Distribution of material : Articulated dump truck (tipping fill) C.2 #32	C.02 #32	74
Articulated dump truck	Distribution of material : Articulated dump truck x C.2 #33	C.02 #33	81

Assumed Plant – Site Compound Setup

PLANT DESCRIPTION	PLANT TYPE (BS 5228)	REF. BS 5228	L _{AEQ} @ 10M (DB)
Tracked excavator (idling)	Ground excavation/earthworks: Tracked excavator (idling) C.2 #20	C.02 #20	68
Tracked excavator	Ground excavation/earthworks: Tracked excavator C.2 #19	C.02 #19	77
Roller	Rolling and compaction : Roller x C.2 #38	C.02 #38	73
8 wheeler lorry	Distribution of material : Lorry x C.2 #34	C.02 #34	80
Small dumper (9T)	Distribution of materials : Dumper x C.4 #4	C.04 #4	76
Small dumper (9T) (idling)	Distribution of materials : Dumper (idling) C.4 #5	C.04 #5	63
Generator*	Generator	M.01 #2	66
* Library data for 100kVA generator used			



SOAEL and LOAEL Construction Noise Assessment Thresholds at Receptors

RECEPTOR	SOAEL	LOAEL
	ABC THRESHOLD VALUE, DB $L_{AEQ,T}$ AND ABC CATEGORY (IN BRACKETS)	AMBIENT NOISE LEVEL, DB $L_{AEQ,T}$
R1 - Farrenden	75 (C)	66
R2 - Greenfields Farm	70 (B)	63
R3 - Lyndhurst	70 (B)	61
R4 - Downview Road	65 (A)	46
R5 - Chantry Mead	65 (A)	46
R6 - Murrell Gardens	65 (A)	50
R7 - Greenoaks	65 (A)	60
Day (weekdays 07:00 – 19:00 and Saturday 07:00 – 13:00)		

Predicted Construction Noise Levels at Receptors

RECEPTOR	PREDICTED NOISE LEVEL, $L_{AEQ,T}$ DB FREE-FIELD			
	Site Clearance	Earthworks	Road + Junction Construction	Site Compound Setup
R1 - Farrenden	81	80	81	60
R2 - Greenfields Farm	75	74	76	54
R3 - Lyndhurst	69	68	70	52
R4 - Downview Road	66	65	67	37
R5 - Chantry Mead	77	76	77	45
R6 - Murrell Gardens	79	78	79	50
R7 - Greenoaks	77	76	77	53



Predicted Maximum PPV Levels from vibratory rollers or compactors

RECEPTOR	VIBRATORY ROLLERS OR COMPACTORS - STEADY STATE OPERATION, MAXIMUM PPV MMS⁻¹	VIBRATORY ROLLERS OR COMPACTORS - START UP AND RUNDOWN, MAXIMUM PPV MMS⁻¹
R1 - Farrenden	1.74	2.39
R2 - Greenfields Farm	0.79	1.20
R3 - Lyndhurst	0.32	0.55
R4 - Downview Road	0.20	0.37
R5 - Chantry Mead	0.98	1.46
R6 - Murrell Gardens	1.27	1.82
R7 - Greenoaks	0.98	1.46
50m from plant	0.47	0.77