



DCO Submission

Environmental Statement

**Chapter 5:** Noise and Vibration  
**Appendix 5.8:** Construction Noise Information

Document 6.5H

On behalf of  
**Oxfordshire Railfreight Limited**

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# **Appendix 5.8**

## **Summary of Assumptions for Construction Noise Predictions**

## Appendix 5.8 Summary of Assumptions for Construction Noise Predictions

**Table 1 Construction traffic data for assessment years/scenarios**

Year/Scenario	Road link	Base Traffic			Construction Traffic (Daily)			Base + Construction		
		Total 18 hour flow	HGV 18 hour flow	% HGVs	Total 18 hour flow	HDV 18 hour flow	% HDVs	Total 18 hour flow	HGVs 18 hour flow	% HGVs
Year 2	B430	9129	600	6.6	691	250	36.2	9820	850	8.7
	A43 to A421	35029	4287	12.2	299	105	35.1	35328	4392	12.4
	M40 J10 to J9	107410	13361	12.4	221	203	91.9	107631	13564	12.6
	M40 South J9	74335	6052	8.1	135	117	86.7	74470	6169	8.3
Year 3 Pre-Ardley Bypass	B430	9129	600	6.6	682	299	43.8	9811	899	9.2
	A43 to A421	35029	4287	12.2	269	99	36.8	35298	4386	12.4
	M40 J10 to J9	107410	13361	12.4	206	190	92.2	107616	13551	12.6
	M40 South J9	74335	6052	8.1	126	110	87.3	74461	6162	8.3
Year 3 Post-Ardley Bypass	B430	9129	600	6.6	93	0	0.0	9222	600	6.5
	Ardley Bypass	12113	1838	15.2	755	324	42.9	12868	2162	16.8
	A43 to A421	35029	4287	12.2	303	112	37.0	35332	4399	12.5
	M40 J10 to J9	107410	13361	12.4	234	216	92.3	107644	13577	12.6
	M40 South J9	74335	6052	8.1	142	124	87.3	74477	6176	8.3

## Appendix 5.8 Summary of Assumptions for Construction Noise Predictions

**Table 2 Construction plant assumptions – Main Site Works**

Activity Scenario	Plant / Equipment	Qty	On-time (%)	BS 5228 ref. and description		L <sub>Aeq,T</sub> @ 10m (dB)
<b>A) Earthworks – soft soil strip</b>	D6N Dozer	2	80	C2.11	Dozer, 179 kW - 28t	79
	30T Excavator	2	95	C2.16	Tracked Excavator, 170 kW - 30t	75
	30T ADT	6	95	C8.16	Articulated dump truck*, 198 kW - 30t	81
<b>B) Earthworks – bunding</b>	D6N Dozer	2	80	C2.11	Dozer, 179 kW - 28t	79
	30T Excavator	2	95	C2.16	Tracked Excavator, 170 kW - 30t	75
	30T ADT	6	95	C8.16	Articulated dump truck*, 198 kW - 30t	81
<b>C) Landscaping to bund</b>	30T Excavator	1	95	C2.16	Tracked Excavator, 170 kW - 30t	75
<b>D) Earthworks – Phase 1 (West)</b>	50T Excavator	2	95	C1.10	Tracked excavator (loading dump truck), 228 kW, - 44t	85
	50T Breaker	2	95	C1.9	Breaker mounted on excavator, 121kW, - (15t) 1650kg breaker	90
	D8 Dozer	2	80	C2.10	Dozer, 239 kW - 41t	80
	45T ADT	6	95	C8.16	Articulated dump truck*, 198 kW - 30t	81
	18T Roller	2	75	C5.22	Vibratory roller*, 92 kW - 12t	81
	J-960 Crusher/Screener	2	90	C9.15	Tracked semi-mobile crusher, 250 kW - 38t	96
<b>D) Earthworks – Phase 2 (East)</b>	50T Excavator	2	95	C1.10	Tracked excavator (loading dump truck), 228 kW, - 44t	85
	50T Breaker	2	95	C1.9	Breaker mounted on excavator, 121kW, - (15t) 1650kg breaker	90
	D8 Dozer	2	80	C2.10	Dozer, 239 kW - 41t	80
	45T ADT	6	95	C8.16	Articulated dump truck*, 198 kW - 30t	81
	18T Roller	2	75	C5.22	Vibratory roller*, 92 kW - 12t	81
	J-960 Crusher/Screener	2	90	C9.15	Tracked semi-mobile crusher, 250 kW - 38t	96
<b>F) Landscaping – Phase 1 (West)</b>	50T Excavator	1	95	C1.10	Tracked excavator (loading dump truck), 228 kW, - 44t	85
	D8 Dozer	1	80	C2.10	Dozer, 239 kW - 41t	80
	45T ADT	3	95	C8.16	Articulated dump truck*, 198 kW - 30t	81

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Activity Scenario	Plant / Equipment	Qty	On-time (%)	BS 5228 ref. and description		L <sub>Aeq,T</sub> @ 10m (dB)
<b>G) Landscaping – Phase 2 (East)</b>	50T Excavator	1	95	C1.10	Tracked excavator (loading dump truck), 228 kW, - 44t	85
	D8 Dozer	1	80	C2.10	Dozer, 239 kW - 41t	80
	45T ADT	3	95	C8.16	Articulated dump truck*, 198 kW - 30t	81
<b>H) Other retaining walls</b>	8T Excavator	1	65	C2.25	Tracked Excavator, 66 kW - 14t	69
	9T FTDT	2	65	C4.4	Dumper*, 75 kW - 9t	76
<b>I) Rail Terminal</b>	50T Excavator	1	95	C1.10	Tracked excavator (loading dump truck), 228 kW, - 44t	85
	50T Breaker	2	95	C1.9	Breaker mounted on excavator, 121kW, - (15t) 1650kg breaker	90
	D8 Dozer	1	80	C2.10	Dozer, 239 kW - 41t	80
	45T ADT	3	95	C8.16	Articulated dump truck*, 198 kW - 30t	81
	18T Roller	2	75	C5.22	Vibratory roller*, 92 kW - 12t	81
<b>J) Rail Sidings</b>	50T Excavator	1	95	C1.10	Tracked excavator (loading dump truck), 228 kW, - 44t	85
	50T Breaker	2	95	C1.9	Breaker mounted on excavator, 121kW, - (15t) 1650kg breaker	90
	D8 Dozer	1	80	C2.10	Dozer, 239 kW - 41t	80
	45T ADT	3	95	C8.16	Articulated dump truck*, 198 kW - 30t	81
	18T Roller	2	75	C5.22	Vibratory roller*, 92 kW - 12t	81
<b>Road Construction - Part 1</b>	35T excavator	3	90	C2.14	Tracked Excavator, 226 kW - 40t	79
	35T Dumpers	8	90	C4.01	Articulated dump truck*, 194 kW - 25t	81
	D6 Dozer	2	70	C2.12	Dozer, 142 kW - 20t	81
	20T vibrating rollers	4	70	C5.22	Vibratory roller*, 92 kW - 12t	81
<b>Road Construction - Part 2</b>	20T tracked excavators	3	60	C2.03	Tracked Excavator, 102 kW - 22t	78
	twin drum rollers	2	30	C2.37	Roller (rolling fill)*, 145 kW - 18t	79
	9T dumpers	4	30	C4.04	Dumper*, 75 kW - 9t	76
	Disc Cutters	2	5	C5.36	Hand-held circular saw (petrol), 3 kW - 300mm diameter / 9.2kg	87
	Asphalt paver	1	60	C5.31	Asphalt paver (+tipper lorry), 94 kW - 18t	77

### Appendix 5.8 Summary of Assumptions for Construction Noise Predictions

Activity Scenario	Plant / Equipment	Qty	On-time (%)	BS 5228 ref. and description		L <sub>Aeq,T</sub> @ 10m (dB)
<b>Road Construction - Part 3</b>	10T rollers	2	50	C2.37	Roller (rolling fill)*, 145 kW - 18t	79
	Floor saw	1	5	C4.71	Circular bench saw (petrol-cutting concrete blocks)	85
	Hand held breaker	1	5	C5.4	Road breaker (hand-held pneumatic)	86
	compressor for breaker	1	5	C5.5	Compressor for hand-held pneumatic breaker, 1t	65
	Back hoe hydraulic breaker	1	5	C5.1	Backhoe mounted hydraulic breaker, 67 kW	88
<b>Concreting Activities</b>	Concrete Silo and Ready Mix Lorries	10	75	C4.20	Concrete Mixer Truck	80
	Diesel Generators	2	100	C4.78	Diesel generator	66
	Concrete Saw	2	30	C5.36	Hand-held circular saw (petrol), 3 kW - 300mm diameter / 9.2kg	87
	Poker vibrator	5	50	C4.33	Poker Vibrator	78
	Concrete Pumps	2	50	C4.30	Truck mounted concrete pump & Boom arm	79
	Power Float	2	50	C.490	Power Float (adjusted spectrum C4.90 - 1dB)	75
<b>Main Build</b>	Mobile Crane	3	80	C4.39	Mobile telescopic crane (315kW 80t)	77
	Diesel Generators	4	100	C4.78	Diesel generator	66
	Hydraulic Access Platform	10	80	C4.57	Lifting Platform 35kW 8t	67
	Concrete Pumps	2	50	C4.30	Truck mounted concrete pump & Boom arm	79
	Forklift	3	70	C7.93	Site Fork Lift Trucks 32 Kw (C4.57 spectrum +9 dB)	84
	Wheeled Excavator	2	70	C4.12	Wheeled Excavator	77

## Appendix 5.8 Summary of Assumptions for Construction Noise Predictions

**Table 3 Construction plant assumptions – Bypass, J10 Highways Works & Link Roads**

Activity Scenario	Plant / Equipment	Qty	On-time (%)	BS 5228 ref. and description		L <sub>Aeq,T</sub> @ 10m (dB)
<b>R1) Enabling Works</b>	40T tracked excavator	2	90	C1.13	Tracked excavator, 205 kW, - 40t	86
	D6 Dozer	4	90	C2.11	Dozer, 179 kW - 28t	79
	20T vibrating roller	2	90	C5.21	Vibratory roller*, 95 kW - 12t	80
	20T dumpers	8	90	C4.2	Articulated dump truck*, 187 kW - 23t	78
	12T excavators	2	60	C2.25	Tracked Excavator, 66 kW - 14t	69
<b>R2) Road Construction - Part 1</b>	13t Excavator	2	70	C2.25	Tracked Excavator, 66 kW - 14t	69
	9t Dumper	2	50	C4.4	Dumper*, 75 kW - 9t	76
	5t Roller	1	30	C5.25	Vibratory roller, 32 kW - 4.5t	75
	Whacker Plate	1	30	C2.41	Vibratory plate (petrol), 3 kW - 62kg	80
	Disc Cutter	1	10	C5.36	Hand-held circular saw (petrol), 3 kW - 300mm diameter / 9.2kg	87
	Concrete Wagon	1	5	C4.21	Large lorry concrete mixer, 216 kW	77
	Hand Held Breaker	1	5	C5.4	Road breaker (hand-held pneumatic),	86
	20t Road Wagon	1	10	C11.20	Lorry*, 160 kW - 18t	83
<b>R3) Road Construction - Part 2 Kerbing</b>	5t Mini Digger	1	50	C4.67	Mini tracked excavator, - 5t	74
	Concrete Wagon	1	10	C4.21	Large lorry concrete mixer, 216 kW	77
	Disc Cutter	1	5	C5.36	Hand-held circular saw (petrol), 3 kW - 300mm diameter / 9.2kg	87
<b>R4) Road Construction - Part 3 Surfacing</b>	Asphalt paver	1	60	C5.33	Asphalt paver (+tipper lorry), 78 kW - 18t	75
	20T rollers	2	50	C5.19	Road roller*, 95 kW - 22t	80
	Floor saw	1	5	C4.71	Circular bench saw (petrol-cutting concrete blocks), - - -	85
	Hand held breaker	1	5	C5.4	Road breaker (hand-held pneumatic),	86
	compressor for breaker	1	5	C5.5	Compressor for held-held pneumatic breaker, - 1t	65
	Back hoe hydraulic breaker	1	5	C5.1	Backhoe mounted hydraulic breaker, 67 kW	88
	Piling Rig 900mm auger rig	1	90	C3.21	Crawler mounted rig, 150 kW - 35t	79

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Activity Scenario	Plant / Equipment	Qty	On-time (%)	BS 5228 ref. and description		L <sub>Aeq,T</sub> @ 10m (dB)
<b>R5) Bridge over Rail Line/bypass bridge</b>	Concrete Pump	1	90	C3.25	Concrete pump, 59 kW - 28t / 180mm diameter /59 bar	78
	Concrete Deliveries	1	90	C4.20	Concrete mixer truck,	80
	Disc Cutters	2	4	C5.36	Hand-held circular saw (petrol), 3 kW - 300mm diameter / 9.2kg	87
	9T dumpers	2	20	C4.4	Dumper*, 75 kW - 9t	76
	12T excavators	1	40	C2.25	Tracked Excavator, 66 kW - 14t	69
	Crane 55T	1	10	C4.45	Mobile telescopic crane, 260 kW - 55t	82
	Concrete pokers	2	50	C4.33	Poker vibrator,	78

**Table 4 Construction plant assumptions – Piling**

Activity Scenario	Plant / Equipment	Qty	On-time (%)	BS 5228 ref. and description		L <sub>Aeq,T</sub> @ 10m (dB)
<b>P1) Part 1</b>	30T tracked excavator	4	50	C2.16	Tracked Excavator, 170 kW - 30t	75
	20T single drum roller	2	30	C5.22	Vibratory roller*, 92 kW - 12t	81
	Concrete mixer	5	10	C4.22	Large concrete mixer, 167 kW - 26t	76
	30T tracked excavator	2	10	C2.16	Tracked Excavator, 170 kW - 30t	75
<b>P2) Part 2</b>	Piling Rigs	5	75	C3.14	Large rotary bored piling rig, - 110t / 20m deep / 1.2m diameter	83
	Agitator (Poker)	5	75	C4.34	Poker vibrator, 2.2 kW	69
	Pump	5	75	C3.26	Concrete pump, 25 kW - 120mm diameter / 50 bar	75
	Concrete Wagon	10	75	C4.22	Large concrete mixer, 167 kW - 26t	76
<b>P3) Part 3</b>	30T tracked excavator	2	15	C2.16	Tracked Excavator, 170 kW - 30t	75
	30T tracked excavator	2	15	C2.16	Tracked Excavator, 170 kW - 30t	75
	Cutter attachment	2	15	C3.34	Gas cutter (cutting top of pile), - 230 bar	68
<b>P4) Part 4</b>	Concrete Wagons (pumping concrete)	5	10	C4.29	Truck mounted concrete pump & boom arm, - 26t	80
	Excavators	2	10	C2.16	Tracked Excavator, 170 kW - 30t	75