

# **A46 Newark Bypass**

**TR010065/APP/6.3**

## **6.3 Environmental Statement**

### **Appendix 11.1 Construction Activities and Plant for Noise Assessment**

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and  
Procedure) Regulations 2009

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Infrastructure Planning

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**The Infrastructure Planning  
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and Procedure) Regulations 2009**

A46 Newark Bypass

Development Consent Order 202[x]

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**ENVIRONMENTAL STATEMENT**

**APPENDIX 11.1 CONSTRUCTION ACTIVITIES AND PLANT FOR NOISE  
ASSESSMENT**

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<b>Author:</b>	A46 Newark Bypass Project Team, National Highways

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# 1 Construction Activities and Plant for Noise Assessment

## 1.1 Activities and plant

1.1.1 The specific plant equipment to be used during construction of the Scheme is not known at this stage as this would be dependent on the final design, programme, and chosen methodology. However, the following table summarises the full plant list that has been assumed for the construction assessment contained within Chapter (11 Noise and Vibration) of the Environmental Statement (ES) **(TR010065/APP/6.1)**.

1.1.2 The quantities and on-times of certain plants have been adjusted, as denoted by lettered superscripts in Table 1-1, to avoid overly conservative predictions in the construction assessment. The adjustments, and the assumptions made to justify them as reasonable, are detailed in Section 1.2.

**Table 1-1. Summary of activities and plant**

Phase	Activity	Equipment	BS5228-1 reference	SPL dB L <sub>Aeq</sub> at 10m	Quantity	% on-time
Pre-commencement works	Vegetation clearance	Petrol driven chain saw	D.2.14	86	2	25
		Strimmer	N/A	108 †	2	25
		25t excavator with tree cropping attachment	C.5.18	80	2	90
		Forestry mulcher	C.4.17	71	2	90
		Dumper	C.4.4	76 *	2	90 <sup>c</sup>
		Lorry	C.4.53	77	4 <sup>a</sup>	90
	Demolition	50t tracked excavator	C.5.18	80	1	75
		40t excavator with 12t breaker attachment	C.1.9	90	1	50
		Road wagon	C.2.34	80 *	4 <sup>a</sup>	25 <sup>c</sup>
		Dust suppressor	C.4.94	78	3	95
	Haul roads and temporary	20t tracked excavator	C.5.18	80	2	75

Phase	Activity	Equipment	BS5228-1 reference	SPL dB L <sub>Aeq</sub> at 10m	Quantity	% on- time	
	works platforms	Articulated dump truck	C.5.16	81 *	8 <sup>a</sup>	95 <sup>c</sup>	
		Dozer	C.5.13	82	2	95	
		Single drum roller	C.5.20	75	2	50	
		Lorry	C.4.53	77	10 <sup>a</sup>	90	
	Temporary bridge installation	Low loader	C.4.53	77	2	50	
		Generator	C.4.84	74	1	85	
		50t all-terrain crane	C.5.37	76	1	30	
		Telescopic handler	C.4.54	79	1	95	
	Fencing	Tracked post knocker	D.3.119	77	2	95	
	Archaeological works	25t tracked excavator	C.4.64	75	2	75	
	Utilities works	5t tracked excavator 90% on time	C.4.17	71	1	90	
		5t dumper 75% on time	C.4.8	56	1	75	
		20t tracked excavator 25% on time	C.4.65	71	1	25	
		130 cfm compressor 25% on time	C.5.5	65	1	25	
		Pneumatic breaker 25% on time	n/a	77	1	25	
		lorry loader (Hiab or Similar) 50% on time	C.4.14	67	1	5	
		concrete wagon 10% on time	C.4.27	79	1	10	
		Earthworks / flood compensation	Topsoil strip	30t tracked excavator	C.5.18	80	2
	Articulated dump truck			C.5.16	81 *	6 <sup>a</sup>	95 <sup>c</sup>
	Dozer			C.5.13	82	2	95
Lorry	C.4.53			77	6 <sup>a</sup>	95	

Phase	Activity	Equipment	BS5228-1 reference	SPL dB L <sub>Aeq</sub> at 10m	Quantity	% on- time	
	Borrow pit excavation	30t tracked excavator	C.5.18	80	4 <sup>b</sup>	95	
		Dozer	C.5.13	82	2	95	
		Articulated dump truck	C.5.16	81 <sup>*</sup>	6 <sup>a</sup>	95 <sup>c</sup>	
		Lorry	C.4.53	77	10 <sup>a</sup>	95	
		Dewatering pumps	C.4.88	68	2	95	
	Bulk fill activities	Articulated dump truck	C.5.16	81 <sup>*</sup>	10 <sup>a</sup>	95 <sup>c</sup>	
		Lorry	C.4.53	77	20 <sup>a</sup>	95	
		Tracked excavator	C.5.18	80	3	95	
		Dozer	C.5.13	82	2	95	
		Vibrating compacting roller	C.5.29	82	2	95	
	Subbase	Lorry	C.4.53	77	10 <sup>a</sup>	95	
		Motor grader	D.3.75	84	1	95	
	Re-soil	Tracked excavator	C.5.18	80	2	95	
		Dump truck	C.2.30	79	2 <sup>a</sup>	95	
		Lorry	C.4.53	77	2 <sup>a</sup>	75	
	Ground improvement	Sand drains / stone columns	Articulated dumper	C.5.16	81 <sup>*</sup>	1	75 <sup>c</sup>
			20t excavator	C.5.18	80	1	75
Wheel loader			C.2.28	76	1	75	
Leader rig			C.3.27	80	1	75	
Rigid inclusions		Piling rig	C.3.1	89	1	60	
		Concrete wagon	C.4.27	79	5 <sup>a</sup>	50	
		20t excavator	C.5.18	80	1	25	
		Articulated dumper	C.5.16	81 <sup>*</sup>	1	25 <sup>c</sup>	
Bridge structures	Piling operations	Piling rig	C.3.1	89	1	60	
		20t excavator	C.5.18	80	1	25	
		Dump truck	C.2.30	79	1	25	
		Concrete wagon	C.4.27	79	5 <sup>a</sup>	50	

Phase	Activity	Equipment	BS5228-1 reference	SPL dB L <sub>Aeq</sub> at 10m	Quantity	% on- time	
		40t crawler crane	C.5.37	76	1	25	
		Generator	C.4.84	74	1	60	
	Pile cap excavation and pile trimming	40t excavator	C.5.18	80	1	75	
		Dump truck	C.2.30	79	2 <sup>a</sup>	50	
		Light articulated tandem roller	C.5.27	67	2	25	
		Hydraulic pile cropper	C.1.3	80	1	5	
		130 cfm compressor	C.5.5	65	1	25	
		Pneumatic breaker	N/A	105 <sup>†</sup>	2	25	
		Pile cap, abutment and pier construction	Telescopic handler	C.4.54	79	1	50
	Lorry loader		C.4.53	77	1	50	
	Band saw			66	2	25	
	75t all-terrain crane		C.5.37	76	2	30	
	Mobile concrete pump		C.4.30	79	1	95	
	Concrete wagons		C.4.27	79	5 <sup>a</sup>	50	
	Poker vibrator		C.4.33	78	5	25	
	Bridge deck construction	60t crawler crane	C.5.37	76	1	30	
		75t all-terrain crane	C.5.37	76	1	30	
		Mobile concrete pump	C.4.30	79	1	25	
		Concrete wagons	C.4.27	79	5 <sup>a</sup>	20	
		Poker vibrator	C.4.33	78	5	25	
	Sheet pile retaining walls	Install retaining wall	Leader rig with pre-auger	C.3.8	88	1	50

Phase	Activity	Equipment	BS5228-1 reference	SPL dB L <sub>Aeq</sub> at 10m	Quantity	% on- time
		60t crawler crane	C.5.37	76	1	50
Drainage	Pipe and chamber installation	20t tracked excavator	C.5.35	74	1	80
		Dump truck	C.2.30	79	1	30
		Remote control compactor	C.5.27	67	1	25
		Submersible pump	C.4.88	68	1	80
		Lorry	C.4.53	77	2 <sup>a</sup>	80
	Surface water channel	Slipform paver	C.5.30	75	1	95
		Concrete wagon	C.4.27	79	5 <sup>a</sup>	50
Roadworks	Cement bound material CBGM (subbase)	Lorry	C.4.53	77	6 <sup>a</sup>	50
		Paver	C.5.30	75	1	95
		Compacting roller	C.5.29	82	2	75
	CBGM batching plant	Batching plant	D.5.11	80	1	90
		Wheel loader	C.2.28	76	1	75
		Generator	C.4.84	74	1	100
		Lorry	C.4.53	77	5 <sup>a</sup>	75
	Vehicle restraint system	Lorry loader	C.4.53	77	1	95
		6t mini digger with auger attachment	C.4.67	74	1	75
		Electric torque wrench	N/A	109 <sup>†</sup> Link	1	25
		Generator	C.4.84	74	1	25
	Asphalt pavement	Asphalt paver	C.5.30	75	1	95
		Light articulated tandem roller	C.5.27	67	1	75
		Articulated tandem roller	C.5.20	75	1	75
		Pneumatic tyred roller	C.5.20	75	1	75



Phase	Activity	Equipment	BS5228-1 reference	SPL dB L <sub>Aeq</sub> at 10m	Quantity	% on-time
		Lorry	C.4.53	77	10 <sup>a</sup>	75
		Backhoe loader	C.2.8	68	1	25
		Road sweeper	C.4.90	76	1	50
		Skid steer loader	C.2.8	68	1	50
Compounds	Clearance	Petrol driven chain saw	D.2.14	86	2	25
		Strimmer	N/A	108 <sup>†</sup>	2	25
		25t excavator with tree cropping attachment	C.5.18	80	2	90
		Forestry mulcher	C.4.17	71	2	90
		Dumper	C.4.4	76 <sup>*</sup>	2	90 <sup>c</sup>
		Lorry	C.4.53	77	4	90
	Construction	50t all-terrain crane	C.5.37	76	1	30
		Lorry	C.4.53	77	5	50
		Asphalt paver	C.5.30	75	1	25
		Road roller	C.5.19	80 <sup>*</sup>	1	25 <sup>c</sup>
		20t excavator	C.5.18	80	1	75
		Dumper	C.4.4	76 <sup>*</sup>	2	75 <sup>c</sup>
		Light articulated tandem roller	C.5.27	67	1	30
	Generator	C.4.84	74	1	100	
	Operation	Telescopic handler	C.4.54	79	1	50
		Lorry loader	C.4.53	77	1	50
		Road sweeper	C.4.90	76	1	75
		Jet wash	N/A	91 <sup>†</sup>	1	75
Night-time works	Resurfacing	Cold planer	C.5.7	82	1	80
		Asphalt paver	C.5.30	75	1	95

Phase	Activity	Equipment	BS5228-1 reference	SPL dB L <sub>Aeq</sub> at 10m	Quantity	% on-time	
		Light articulated tandem roller	C.5.27	67	1	75	
		Articulated tandem roller	C.5.20	75	1	75	
		Pneumatic tyred roller	C.5.20	75	1	75	
		Lorry	C.4.53	77	10 <sup>a</sup>	75	
		Backhoe loader	C.2.8	68	1	25	
		Skid steer loader	C.2.8	68	1	50	
		Road sweeper	C.4.90	76	1	50	
	Bridge beam lifts	600t crawler crane	C.5.37	76	1	30	
		Low loaders	C.4.53	77	2	50	
		Generator	C.4.84	74	2	100	
	Railway bridge decks	Mobile concrete pump	C.4.30	79	1	95	
		Concrete wagons	C.4.27	79	5 <sup>a</sup>	50	
		Poker vibrator	C.4.33	78	5	25	
	Demolition works to Nottingham to Lincoln Line bridge	Hydro demolition equipment	C.1.7	93	1	75	
	Temporary traffic management	Lorry	C.4.53	77	5 <sup>a</sup>	95	
	<p>* Sound pressure level (SPL) dB L<sub>Amax</sub> at 10m  † Sound power level (SWL) dB L<sub>w</sub>  <sup>a</sup> See section 1.2.1, adjustment made to plant quantity  <sup>b</sup> See section 1.2.2, adjustment made to plant quantity  <sup>c</sup> See section 1.2.3, adjustment made to plant on-time</p>						

## 1.2 Adjustments to plant quantities and on-times

1.2.1 The provided quantities of lorries, trucks, and wagons refers to the total number that will be present. These plants will likely be used for transporting material; therefore, their operation is unlikely to occur

concurrently all at one place. Furthermore, there isn't physical space for such large plant to be coincident. Thus, it has been assumed that the lorries, trucks, and wagons are distributed evenly across the Scheme. The total length of Scheme is approximately 6.5km, so if the quantity is under 20 it is unlikely that more than 1 lorry will be coincidentally operational in an area within 300m of any given receptor.

- 1.2.2 The provided quantity of 30t tracked excavators refers to the total borrow pits along the Scheme. The Scheme contains 3 borrow pits, therefore it is assumed that these plants are evenly distributed over the Scheme. Thus, it is reasonable to assume that a maximum of 2 tracked excavators will be operating within 300m of any given receptor.
- 1.2.3 The provided on-time only refers to how long the plant will be operational; however, some plant items only produce noise during certain phases of their operation. For plant sources with an  $L_{Amax}$ , like a dumper, the dumping component is only likely to occur a small number of times each day. Therefore, assuming that these  $L_{Amax}$  events represent no more than 5% of the day period (continuous action for 36 mins) is still highly conservative, all plants denoted by  $L_{Amax}$  have their on-time adjusted to 5%.