

Appendix 14.4: Sloy Pumped Hydro Storage Scheme: Construction Noise Assessment Data

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Table A14.4.1 presents the indicative construction timetable and modelled scenarios representing 'worst-case' periods throughout the construction of the Proposed Development where construction noise levels are likely to be highest. Scenario 7 is not shown on the Chart, as it considers Night-time periods throughout the entire construction period.

Table A14.4.2 presents the plant modelled for each Scenario of the construction noise assessment.

Table A14.4.3 presents the Octave Band Sound Power Level data used in the construction noise assessment.

Table A14.4.1: Indicative Construction Schedule

Quarter	2027				2028				2029				2030	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Site Establishment and Site Clearance	Grey	Yellow	Grey	Yellow		Yellow			Yellow					
Groundworks including Bulk Excavation		Yellow	Grey	Yellow	Grey	Yellow			Yellow					
Substructure Works							Grey	Grey		Grey				
Superstructure Works		Scenario 1		Scenario 2		Scenario 3			Scenario 4	Grey	Grey			
New Transformer Compound		Scenario 1		Scenario 2		Scenario 3			Scenario 4					
Mechanical & Electrical Works			Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Commissioning											Grey	Grey	Grey	Grey
Reinstatement					Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey

Table A14.4.2: Construction Noise Assessment Modelled Plant

Scenario	Activities	Plant	Number on site	BS5228 Reference (Table - Ref No.)	Sound Power Level (dBA)
S1	Pilling for ground works	Hydraulic hammer rig 240 mm diameter	2	C3 - 3	117
	Drilling rock for chemical breaking	Tracked hydraulic drilling rig 100 mm bore	2	C6 - 35	114
	Bulk excavation and stabilisation in made ground, loading Tipper Lorry	Tracked excavator (loading dump truck) 40 t	1	C1 - 10	109
	Bulk excavation and stabilisation in made ground, and stockpiling of excavated material	Tracked Excavator 40 t	2	C2 - 14	114
	Removal of materials from excavation area to Northwestern Storage Area	Tipper Lorry	1	C8 - 20	108
	Crushing excavated rock material	Tracked crusher 172 kW, 40 t	1	C1 - 14	117
	Removal of materials from excavation area to Northwestern Storage Area	Tipper Lorry	1	C8 - 20	108
S2	Vibration of Concrete pour	Vibratory poker	1	C4 - 33	82
	Bulk excavation and stabilisation in made ground, loading Tipper Lorry	Tracked excavator (loading dump truck) 40 t	1	C1 - 10	109
	Bulk excavation and stabilisation in made ground, and stockpiling of excavated material	Tracked Excavator 40 t	2	C2 - 14	114

	Crushing excavated rock material	Tracked crusher 172 kW, 40 t	1	C1 - 14	117
	Drilling rock for chemical breaking	Tracked hydraulic drilling rig 100 mm bore	2	C6 - 35	114
	Pilling for ground works	Hydraulic hammer rig 240 mm diameter	2	C3 - 3	117
	Concrete Pouring for base slab	Concrete mixer truck (discharging) & concrete pump (pumping)	1	C4 - 28	103
S3	Bulk excavation and stabilisation in made ground	Tracked excavator (loading dump truck) 40 t	1	C1 - 10	109
	Removal of materials from excavation area to Northwestern Storage Area	Tipper Lorry	1	C8 - 20	108
	Vibration of Concrete pour	Vibratory poker	1	C4 - 33	82
	Bulk excavation and stabilisation in made ground, and stockpiling of excavated material	Tracked Excavator 40 t	2	C2 - 14	114
	Concrete Pouring for basement walls	Concrete mixer truck (discharging) & concrete pump (pumping)	2	C4 - 28	103
	Concrete Pouring for Tailrace	Concrete mixer truck (discharging) & concrete pump (pumping)	1	C4 - 28	103
S4	Concrete Pouring for intermediate walls (low)	Concrete mixer truck (discharging) & concrete pump (pumping)	1	C4 - 28	103
	Concrete Pouring for intermediate walls (high)	Concrete mixer truck (discharging) & concrete pump (pumping)	1	C4 - 25	110
	Crane hoisting concrete pad into position	Mobile telescopic crane	3	C4 - 41	99

S4 (cont.)	Concrete Pouring for Upper Floor Slab	Concrete mixer truck (discharging) & concrete pump (pumping to upper floor)	2	C4 - 25	103
	Concrete pouring of Crane Pad	Concrete mixer truck (discharging) & concrete pump (pumping)	1	C4 - 28	103
	Lifting Upper Floor Slab into Position	Mobile Telescopic Crane	1	C4 - 39	105
	Vibration of Concrete pour	Vibratory poker	2	C4 - 33	82
	Delivery of Transformer materials & components	Lorry 36 t	1	C11 - 5	107
	Stockpiling of excavated material	Tracked Excavator 40 t	1	C2 - 14	114
ALL / S7	Power for welfare facilities and lights	Diesel generator	2	C4 - 83	93
	Power for welfare facilities and lights	Diesel generator	2	C4 - 86	94

Table A14.4.3: Construction Noise Assessment – Octave Band Sound Power Levels

Description	BS5228 Reference (Table - Ref No.)	Weight	Sound Power Level - 1/3 Octave Spectrum (dB)										
			31.5	63	125	250	500	1000	2000	4000	8000	A	Linear
Tracked excavator (loading dump truck)	C1 - 10	A	28.0	110.0	106.0	110.0	109.0	109.0	106.0	100.0	92.0	113.0	116.5
Tracked crusher	C1 - 14	A	28.0	121.0	114.0	107.0	109.0	103.0	99.0	94.0	87.0	109.4	122.2
Tracked Excavator	C2 - 14	A	28.0	113.0	106.0	105.0	105.0	101.0	99.0	96.0	91.0	107.0	115.1
Hydraulic hammer rig	C3 - 3	A	28.0	115.0	121.0	113.0	115.0	111.0	108.0	103.0	100.0	116.5	123.6
Concrete mixer truck (discharging) & concrete pump (pumping to upper floor)	C4 - 25	A	28.0	111.0	109.0	106.0	107.0	105.0	102.0	99.0	94.0	109.8	115.5
Concrete mixer truck (discharging) & concrete pump (pumping)	C4 - 28	A	28.0	107.0	108.0	101.0	100.0	97.0	96.0	87.0	81.0	102.8	111.6
Poker vibrator	C4 - 33	A	28.0	110.0	108.0	108.0	101.0	97.0	100.0	98.0	93.0	106.4	114.2
Mobile telescopic crane	C4 - 39	A	28.0	115.0	110.0	106.0	102.0	99.0	95.0	88.0	80.0	104.6	116.8
Mobile telescopic crane	C4 - 41	A	28.0	101.0	99.0	96.0	98.0	94.0	91.0	82.0	77.0	99.1	105.4
Diesel generator	C4 - 83	A	28.0	85.0	99.0	93.0	89.0	88.0	84.0	80.0	72.0	92.9	100.8

Diesel generator	C4 - 86	A	28.0	106.0	99.0	94.0	90.0	87.0	83.0	84.0	77.0	93.5	107.2
Tracked hydraulic drilling rig	C6 - 35	A	28.0	113.0	121.0	106.0	107.0	108.0	107.0	104.0	102.0	113.7	122.3
Tipper lorry	C8 - 20	A	28.0	116.0	110.0	102.0	102.0	102.0	101.0	98.0	95.0	107.5	117.5
Lorry	C11 - 5	A	28.0	120.0	110.0	105.0	104.0	105.0	100.0	96.0	91.0	108.6	120.8