Construction and Site Management Plan

Change of use of agricultural land to residential curtilage in association with barn conversion

At

Leeds Farm Bulls Road

Hemingstone

Ipswich

Suffolk IP6 9RF

CADMAN CONSTRUCTION LTD

Cadman House, Off Peartree Way, Stanway, Colchester CO3 0NW

[redacted]

Contents

This document outlines our initial Construction and Site Management Plan for constructing
Change of use of agricultural land to residential curtilage in association with barn conversion

Introduction and Outline Scope of Works

Construction Method Statements

Project Risk Management Plan
Noise Mitigation
Dust and Dirt
Vibration
Site Lighting

Site Procedures and Controls

Site Accommodation Site
Parking
Construction Materials and Storage
Signs and Fencing
Deliveries
Footpath and Road Closures
Security and Working Hours Safety
Meetings and Liaison with the Client

CADMAN
Cadman Construction Ltd.

Introduction and Outline Scope of Works

This document has been prepared as a guide to the management, controls and procedures to be employed to ensure successful completion of Change of use of agricultural land to residential curtilage in association with barn conversion at Leedes Farm, Bulls Road, Hemingstone, Ipswich Suffolk IP6 9RF

It highlights the key areas that need to be considered prior to and during the course of the construction works.

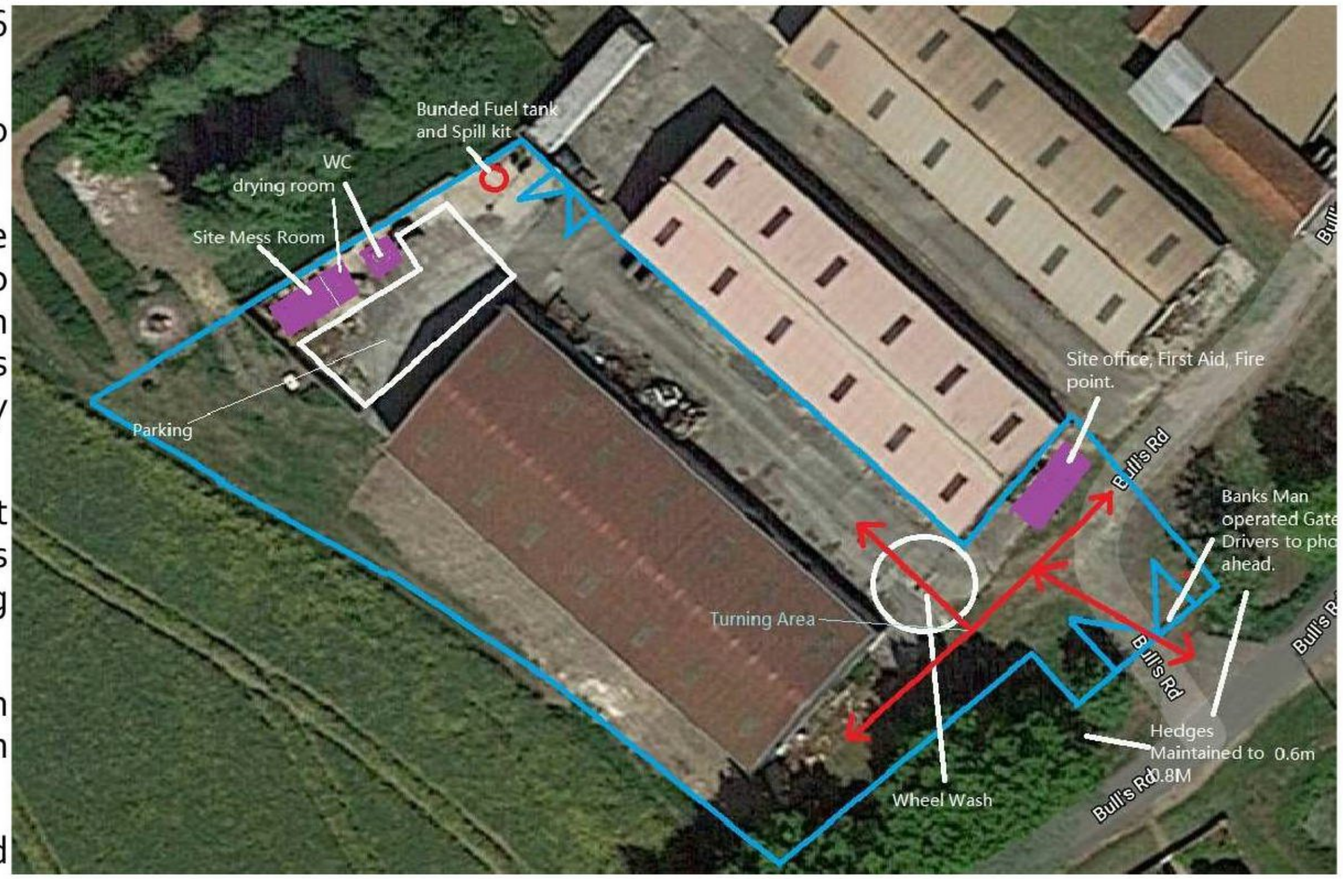
Prior to the development commencing a comprehensive Construction and Site Management Plan shall be submitted to the Local Planning Authority for approval. The approved plan shall be implemented throughout the development phases unless the Local Planning Authority gives written consent to any variation. The plan shall include:-

a) Site set-up and general arrangements for storing plant including cranes, materials, machinery and equipment, offices and other facilities and contractors vehicle parking, loading unloading and vehicle turning areas;

b) Noise method statements and noise levels for each construction activity including any piling and excavation operations;

c) Dust, dirt and vibration method statements and arrangements;

d) Site lighting.



CADMAN
Cadman Construction Ltd.

Construction Method Statements

Project Risk Management Plan

In-conjunction with the programmes and the tendering process, the 'Project Risk Management Plan' will be formed. This document is used to identify issues specific to the project concerned. It will also control all quality issues on the project, highlighting key areas of possible concern and put in check measures to ensure that they are carried out correctly. This document highlights to the Construction Team the goals and ambitions for the project and ensures they are delivered to the correct standards. In developing this plan, and the site specific Health and Safety plan, the following measures will be considered:

Noise Mitigation

During the course of the early construction activities, there will be the need to utilise a variety of plant and equipment in order to complete the substructure works including the formation of the foundations.

We will need to establish our site access route and compound area prior to construction works commencing. Temporary site welfare and storage facilities will be installed with all the aforementioned being enclosed within secure temporary site fencing. These will be positioned as the enclosed site layout plan on the external surface.

The forming of the foundations will commence following wall removal with the use of a Excavator to excavate the building footprint followed by concreting of footings and pads as instructed by the Engineer.

Throughout the project there will be various contracted crane lifts required for the operations of roof coverings.

Construction Method Statements

Due to the above we propose the following:

1. We will meet/consult with all the immediate neighbours adjacent to the site access road and warn them of the forthcoming construction activities and the effect it may have on them with regard to noise.
2. We will also write to the residents informing them of the upcoming construction activities, the level of inconvenience to expect reference noise and also giving them contact details in case of any concerns.
3. We will induct all operatives with reference to noise and specific site rules regarding control of noise.
4. We will strictly comply with the Planning Conditions regarding site working hours.
5. We will provide hand held noise monitoring equipment at the perimeters of the site during any particularly noisy operations and as a matter of course during the works (periodically), record our findings for future reference.
6. Muffling equipment on plant will be used, where necessary.
7. We will only use breaking equipment on concrete where it is absolutely necessary and will encourage excavator drivers to excavate concrete rather than breaking it, wherever possible, i.e. the external tarmac car park.

Dust and Dirt

The site will be kept clean and tidy at all times. This will be reiterated at Site Induction to all operators / management.

Rubbish disposal from the site will be via rubbish skips located within the site the Contractor's compound. These skips will be changed as they become filled. The site will be covered by a full 'Site Waste Management Plan', which will be updated on a regular basis.

We recognise the need to keep dust and dirt to a minimum, due to the nature of the close proximity of the site to neighbours.

Construction Method Statements

We will monitor and control dust in the following ways:

1. We will meet/consult with all the immediate neighbours, to warn them of the forthcoming construction activities and the effect it may have on them.
2. We will also write to the residents informing them of the upcoming construction activities, the level of inconvenience to expect and also giving them contact details in case of any concerns.
3. We will induct all operatives with reference to dust and dirt and specific site rules regarding control.
4. We will provide manually operated jet washers at the source of dust production, for example during the process of excavation and the loading of lorries if necessary during dry periods. We will also dampen the site with purpose built suppression equipment to reduce the risk of windborne dust from the surface of the site, especially during dry and windy period.
5. We will provide a jet washer to clean lorry/vehicle wheels/underside at the exit of the compound to the site, as indicated on the Site Plan enclosed in this document. We will also use a front mounted forklift road brush with a water tank to keep hard access roads inside the site clean. If any dirt becomes evident, we will manage this by hiring a lorry mounted road brush, as and when required to keep the highways and school access roads clean.

Vibration

Due to the size of the site, the distances involved between the site boundaries and the neighbours and the selected foundation designs, we do not expect there to be any vibration issues on this contract.

Site Lighting

We are not currently planning to provide any temporary site lighting that will cause a nuisance to the environment.

Site Procedures & Controls

Site Accommodation

The site offices and compound will be located within the area as allocated as on the attached drawing. The site will have as a minimum, a site office, canteen, drying room, toilets.

Site Parking

We shall be provided parking for construction related vehicles within the site compound near to site accommodation.

Construction Materials and Storage

All construction materials and equipment, which are not in use, will be stored in the compound, working areas and / or storage containers. Materials will be coordinated to ensure timely delivery in accordance with the programme and to eliminate surplus materials clogging up the site. A process of "just in time" deliveries will be used to ensure programme is maintained without causing nuisance to neighbours.

Gas and other volatile materials will be segregated in separate storage areas as defined in the Contractor's Safety Manual. Details of this manual are available upon further request. Please do not hesitate to contact us should you require any further information.

Signs and Fencing

The compound will be largely surrounded with Heras fencing.

Deliveries

Access to the site will be off Bulls Rd. This access is suitable for rigid lorries with rear wheel steer and occasional articulated vehicles. We will however ensure that this route will be maintained for the possible access requirements of emergency vehicles throughout the project..

1. Rigid rear wheel steer vehicles preferred.
2. The entrance will be clearly sign-posted. No other entrance is to be used
3. The Site Manager's contact mobile number

Site Procedures & Controls

Further measures will be put in place as follows:

1. Site congestion will be reduced by planning deliveries to avoid queuing as well as utilising the off site holding area.
2. Special deliveries will be directed to a holding area where they will contact the site manager and follow his directions regarding timing of entry to the site.
3. Banksmen will meet special deliveries in Bulls Rd and direct them safely into the site.
4. We will promote the inclusion of off site prefabricated elements with the design team to reduce the number of vehicle movements.
5. Directional and warning signage will be erected at the entrance of the site and on construction routes around major roads surrounding.
6. All deliveries will be chaperoned by a Banksman to and from Bulls Rd and the site.

Security and Working Hours

Security of all construction / compound areas and the site will be responsibility of Cadman. All persons entering the site will be required to sign in and out and any persons on site will be required to attend a site induction. Security to prevent theft and accessing the site will be monitored on a weekly basis and further action may be required as the project progresses.

Standard site working hours are 7.30am – 6.00pm Monday to Friday and 8am – 12.30pm on Saturdays (subject to planning permission conditions).

Safety

The Construction Phase Health and Safety Plan will be kept on site and updated on a regular basis. A pre-start Safety Co-ordination meeting will be held with the primary contractors and sub-contractor co-ordination meetings will be undertaken which discuss safety on the agenda. A Contractor Health & Safety Advisor will make regular visits to site. Method Statements / Risk Assessments are required for all activities on the project. Consideration will be given when preparing method statements and planning for temporary works. All activities will be discussed at co-ordination meetings and subject to noise and risk assessments.

Site Procedures & Controls

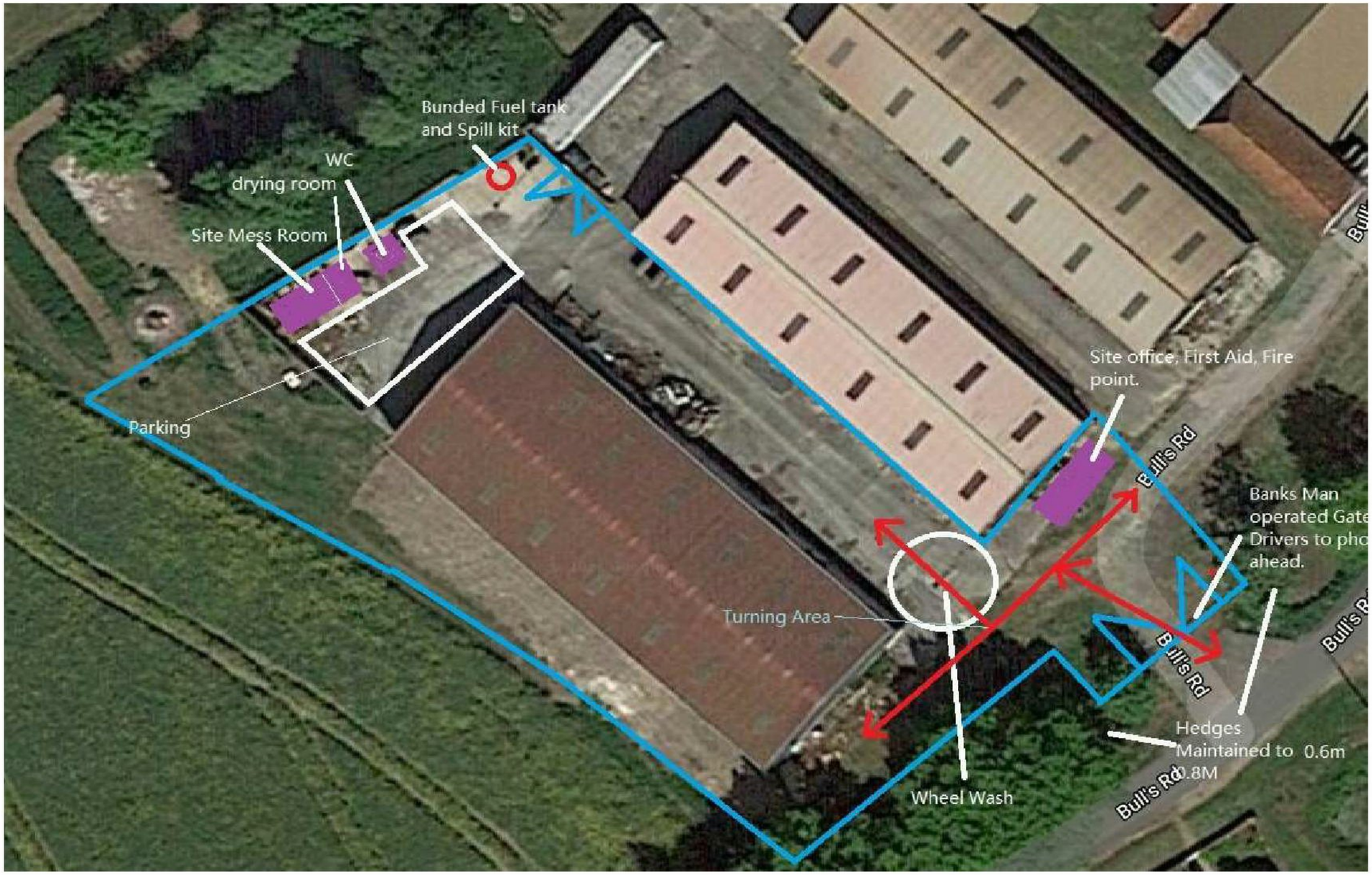
Meetings and Liaison with the Client

The Contractor team will liaise on a regular basis with the Client's Project Design Team. Liaison with the Clients Representative is essential and will be undertaken by the Contractor Site Management at a frequency to be agreed. A Monthly Contractors Report will be provided, recording progress, cost advice and similar matters. Other meetings will be held as and when required. Any special site activities will be programmed and agreed with the college representatives. A site notice board will also highlight planned activities and special measures to all site staff and visitors.

Contact Details

As set out in this document, and in accordance with good practice, every effort will be taken to prevent any negative impact on neighbouring properties during the construction process. Contact details in the event of a complaint will be displayed at the site with details of who to contact if people have queries/concerns.

Site Logistics Plan



CADMAN
Cadman Construction Ltd.

Update of Noise Database for Prediction of Noise on Construction and Open Sites

Cadman Construction Ltd.

CONTENTS

Contents	2
Guidance Note	3
Table 1 Demolition	4
Table 2 Site Preparation	5
Table 3 Piling and Ancillary Operations	7
Table 4 General Site Activities	9
Table 5 Road Construction Works	13
Table 6 Opencast Coal Sites	15
Table 7 Dredging	17
Table 8 Waste Disposal Sites	18

UPDATE OF NOISE DATABASE FOR PREDICTION OF NOISE ON CONSTRUCTION AND OPEN SITES

Hepworth Acoustics Ltd was commissioned by the Department for Environment, Food and Rural Affairs (Defra) to produce an up-to-date database of noise emissions from equipment used on construction and open sites [An existing construction plant noise database is contained in Annex C, Part 1 of British Standard 5228 'Noise and vibration control on construction and open sites']. The report was completed in December 2004, and the database is presented by Defra herein.

The objective of the project was to obtain measurements of noise from plant and equipment currently used on construction and open sites in the UK, and to prepare a database of the information. As well as obtaining data for equipment put into operation since the publication of BS 5228 in 1977, the database extends on the data in that standard by presenting octave band noise levels, and by including data for plant used on waste disposal (landfill) sites.

The data were obtained by field measurement for items of plant in actual use on construction and open sites in the UK. Levels quoted in the database are based on an average (logarithmic) of measured sound levels, and where appropriate have been derived from more than one model of similarly sized plant to simplify the database.

The results are presented as un-weighted octave band activity L_{eq} levels, and overall A-weighted activity L_{eq} values in dB. Where relevant, pass-by measurements were made for moving sources, and these are presented as un-weighted octave band activity L_{max} levels, and overall A-weighted L_{max} values in dB. All sound pressure levels are standardized to 10 metres from the plant. Weights for machines, where given, relate to the usual weight references used in the construction industry (weights for machines such as bulldozers, excavators, rollers, etc, are the actual weights of the machines; weights for dump trucks and dumpers are the load capacity weights; and weights for cranes are the lifting capacity weights).

The database is presented with the intention that it may be useful to the practitioner, as it represents a recent inventory of construction noise sources. Where possible measurements of the actual plant in operation on site should be used, however this data could provide an alternative to manufacturer-quoted noise levels. The data has been gathered in a rigorous manner, but it should be understood that it is provided as an *indication* of the noise emission of various types of plant, and should be applied as such, accepting that many factors will influence the output of any particular item of plant (e.g. condition, model, environment, load, etc.). Defra requests that if any issues arise with the application of the database, or if there are any comments relating to the data, that the user contact the department through either of the channels below:

Richard Jackett
Noise and Nuisance Policy Group
Ph: +44 (0)20 7082 8381
richard.jackett@defra.gsi.gov.uk

Ian Sherlock
Noise and Nuisance Policy Group
Ph: +44 (0)20 7082 8417
ian.sherlock@defra.gsi.gov.uk

Table 1 Sound level data on demolition

Ref No.	Equipment	Power rating kW	Equipment size, weight (mass), capacity	Octave Band Sound Pressure Levels (Hz)								A weighted Sound Pressure Level, L_{Aeq} dB
				63	125	250	500	1k	2k	4k	8k	
Breaking Up Concrete												
1	Breaker Mounted on Wheeled Backhoe	59	(7.4 t) 380 kg I 1700 mm tool I 74 mm dia I 125 bar	79	82	81	82	86	86	86	85	92
2	Breaker Mounted on Wheeled Backhoe		380 kg I 1700mm tool I 74 mm dia I 125 bar	79	84	82	84	88	85	84	82	92
3	Pulverizer Mounted on Excavator			85	76	74	75	74	75	70	65	80
4	Pulverizer Mounted on Excavator	147	30 t	75	72	71	73	70	69	66	59	76
5	Pulverizer Mounted on Excavator	143	29 t	73	73	69	70	67	64	58	51	72
6	Hand-held Pneumatic Breaker			83	83	81	74	73	76	78	77	83
7	Hand-held Hydraulic Breaker		20 kg I 69 bar	82	81	87	87	88	86	83	87	93
8	Hydraulic Breaker Power Pack	6	63 kgl 138 bar	77	72	73	69	68	66	64	60	74
Breaking Up Brick Foundations												
9	Breaker Mounted on Excavator	121	(15 t) 1650 kg breaker	88	88	86	89	83	83	80	76	90
Dumping Brick Rubble												
10	Tracked Excavator (Loading Dump Truck)	228	44 t	82	78	82	81	81	78	72	64	85
11	Articulated Dump Truck (Dumping Rubble)	250	28 t	94	76	77	75	76	73	68	63	80
Breaking and Spreading Rubble												
12	Tracked Excavator	228	44 t	79	81	83	79	77	75	70	62	82
13	Tracked Excavator	205	40 t	81	80	80	83	82	79	76	73	86
Crushing Concrete I Rubble												
14	Tracked Crusher	172	47 t	93	86	79	81	75	71	66	59	82
15	Tracked Crusher			86	84	84	81	78	75	71	66	84
Breaking Up I Cutting Steel												
16	Tracked Excavator	205	40 t	75	74	77	80	78	74	67	61	82
17	Tracked Excavator	74	14 t	79	77	76	77	78	78	73	66	83
18	Gas Cutter			72	72	69	72	73	72	71	71	79
Breaking Stud Partition												
19	Lump Hammer			66	66	68	68	63	57	55	51	69
Breaking Windows												
20	Lump Hammer			77	75	71	72	74	74	75	73	81

Table 2 Sound level data on site preparation

Ref No.	Equipment	Power rating kW	Equipment size, weight (mass), capacity	Octave Band Sound Pressure Levels (Hz)								A weighted Sound Pressure Level L_{Aeq} dB
				63	125	250	500	1k	2k	4k	8k	
Clearing Site												
1	Dozer ✳	142	20 t	79	77	76	74	68	67	60	59	75 ✳
2	Tracked Excavator	301	71 t	75	84	78	74	70	68	64	61	77
3	Tracked Excavator	102	22 t	80	83	76	73	72	70	69	66	78
4	Tracked Excavator (Idling)	102	22 t	59	49	45	45	49	46	39	31	52
5	Tracked Excavator	72	16 t	78	70	72	68	67	66	73	65	76
6	Tracked Excavator (Idling)	72	16 t	64	62	64	62	56	53	47	39	63
7	Tracked Excavator	69	14 t	74	70	68	67	64	62	58	50	70
8	Wheeled Backhoe Loader	62	8 t	74	66	64	64	63	60	59	50	68
9	Wheeled Backhoe Loader (Idling)	62	8 t	60	53	49	52	51	48	43	33	55
Ground Excavation I Earthworks												
10	Dozer	239	41 t	89	90	81	73	74	70	68	64	80
11	Dozer	179	28 t	75	79	77	77	74	71	65	57	79
12	Dozer	142	20 t	85	74	76	73	72	78	62	56	81
13	Dozer	82	11 t	74	83	78	74	74	70	67	62	78
14	Tracked Excavator	226	40 t	85	78	77	77	73	71	68	63	79
15	Tracked Excavator	173	32 t	77	85	70	73	70	68	63	57	76
16	Tracked Excavator	170	30 t	72	71	74	73	69	66	63	58	75
17	Tracked Excavator	162	28 t	78	78	75	71	72	68	63	55	76
18	Tracked Excavator	134	27 t	81	77	74	70	70	66	60	56	75
19	Tracked Excavator	125	25 t	95	84	79	73	70	68	64	57	77
20	Tracked Excavator (Idling)	125	25 t	80	76	65	65	63	58	53	49	68
21	Tracked Excavator	107	22 t	75	76	72	68	65	63	57	49	71
22	Tracked Excavator	96		78	74	68	68	67	66	61	53	72
23	Tracked Excavator	92		79	81	68	69	66	65	61	52	73
24	Tracked Excavator	71	15 t	77	74	71	70	68	66	60	54	73
25	Tracked Excavator	66	14 t	77	65	67	67	63	61	57	47	69

✳ Drive by maximum sound pressure level in L_{max} (Octave Bands) and L_{Amax} (Overall Level)

Loading Lorries													
26	Wheeled Loader	209		87	82	77	78	73	70	64	57	79	
27	Wheeled Loader	193		85	83	76	75	75	72	72	61	80	
28	Wheeled Loader	170		86	82	77	74	70	66	62	55	76	
29	Tracked Excavator	75	15 t	80	79	76	77	73	70	66	59	79	
Distribution of Material													
30	Dump Truck (Tipping Fill)	306	29 t	85	74	78	73	73	74	67	63	79	
31	Dump Truck (Empty) ✳	306	29 t	86	79	79	79	79	84	69	60	**87**	✳
32	Articulated Dump Truck (Tipping Fill)	187	23 t	80	76	73	70	69	66	63	58	74	
33	Articulated Dump Truck ✳	187	23 t	85	87	77	75	76	73	69	62	**81**	✳
34	Lorry ✳		4 axle wagon	73	78	78	78	74	73	68	66	**80**	✳
35	Telescopic Handler	60	10 t	85	79	69	67	64	62	56	47	71	
Rolling and Compaction													
36	Dozer (Towing Roller)	142	20 t	83	77	77	76	76	75	68	56	81	
37	Roller (Rolling fill) ✳	145	18 t	72	75	81	78	74	70	63	55	**79**	✳
38	Roller ✳	145	18 t	80	75	77	72	67	62	54	46	**73**	✳
39	Vibratory Roller ✳	29	4 t	88	83	69	68	67	65	62	59	**74**	✳
40	Vibratory Roller ✳	20	3 t	82	78	67	71	67	64	60	57	**73**	✳
41	Vibratory Plate (Petrol)	3	62 kg	70	74	71	78	74	75	63	58	80	
42	Hydraulic Vibratory Compactor (Tracked Excavator)		225 kg I 193 bar I 17,500 N	81	76	72	73	72	72	68	63	78	
Ground Investigation Drilling													
43	Cable Percussion Drilling Rig	18	2 t I 150 mm diameter I 75 m depth	77	77	67	66	70	68	62	56	74	
Directional Drilling													
44	Directional Drill (Generator)	106		67	80	74	72	72	72	68	61	77	
Pumping Water													
45	Water Pump	20	6"	73	68	62	62	61	56	53	41	65	
46	Water Pump		4"	75	74	60	54	54	53	48	46	62	

✳ Drive by maximum sound pressure level in L_{max} (Octave Bands) and L_{Amax} (Overall Level)

Table 3 Sound level data on piling and ancillary operations

Ref No.	Equipment	Power rating kW	Equipment size, weight (mass), capacity	Octave Band Sound Pressure Levels (Hz)								A weighted Sound Pressure Level, L_{Aeq} dB
				63	125	250	500	1k	2k	4k	8k	
Pre-cast Concrete Piling - Hydraulic Hammer												
1	Hydraulic Hammer Rig	145	16 m length I 5 t hammer I plywood dolly	82	82	82	89	83	78	75	70	89
Tubular Steel Piling - Hydraulic Hammer												
2	Hydraulic Hammer Rig	186	4 t hammer	80	87	88	84	83	78	74	65	87
3	Hydraulic Hammer Rig		240 mm diameter	87	93	85	87	83	80	75	72	88
4	Hydraulic Hammer Rig		(1 t) 2 m length I 300 mm diameter	73	65	65	64	70	72	72	68	77
5	Drop Hammer Pile Rig Power Pack	23		79	65	60	59	66	63	53	46	69
Tubular Steel Piling - Hydraulic Jacking												
6	Piling	2800 kN	10 t I 13 m length I 900 mm width I soil	80	74	70	65	61	57	49	43	68
7	Power Pack	147	6 t	77	78	73	66	63	57	50	42	70
Sheet Steel Piling - Vibratory												
8	Vibratory Piling Rig		52 t I 14 m length I soft clay	83	82	79	82	84	82	77	67	88
Sheet Steel Piling - Hydraulic Jacking												
9	Piling	1500 kN	10 t I 7.4 m length I 600 mm width I sandy clay	74	71	63	60	56	54	50	44	63
10	Power Pack	147	6 t	80	75	69	67	61	55	49	43	68
11	Piling	980 kN	7.4 t I 12 m length I 500 mm width	68	60	59	57	51	50	45	44	59
12	Rig Power Pack		5 t	74	70	66	60	54	51	46	42	63
13	Water Jet Pump			75	75	62	58	55	54	48	40	63
Rotary Bored Piling - Cast in Situ												
14	Large Rotary Bored Piling Rig		110 t I 20 m deep I 1.2 m diameter	84	92	81	80	78	76	68	61	83
15	Tracked Drilling Rig with Hydraulic Drifter	104	12.5 t	75	79	76	73	74	79	74	69	82
16	Crane Mounted Auger			87	86	77	73	75	72	67	59	79
17	Mini Piling Rig	29	5.4 t I auger 10 m deep x 450 mm diameter piles	87	77	72	73	71	69	65	57	76
18	Mini Piling Rig		Auger 12 m deep x 250 mm diameter piles	74	72	65	71	70	68	63	57	75
19	Compressor for Mini Piling	45	1 t	75	71	65	70	71	69	62	57	75
20	Mini Tracked Excavator	17	2.8 t	76	73	62	66	62	59	54	49	68
Continuous Flight Auger Piling - Cast in Situ												
21	Crawler Mounted Rig	150	35 t	81	81	78	76	74	72	68	63	79

22	Crawler Mounted Rig	126	33 t	79	79	78	78	75	71	66	56	80
23	Tracked Excavator			84	76	67	64	62	59	53	43	68
24	Tracked Excavator (Inserting Cylindrical Metal Cage)		20 t	79	75	73	69	69	67	60	52	74
25	Concrete Pump	59	2.8 t I 180 mm diameter I 59 bar	84	76	70	71	73	73	66	58	78
26	Concrete Pump	25	120 mm diameter I 50 bar	82	82	72	71	69	68	62	54	75
Vibro Stone Columns												
27	Vibrodisplacement and Compaction of Stone Columns	60	17 t	91	84	79	77	74	69	70	59	80
Craneage for Piling (lifting piles, casings, etc)												
28	Tracked Mobile Crane	184	110 t	81	77	66	62	59	57	51	46	67
29	Tracked Mobile Crane	132	55 t	81	77	69	67	62	60	61	51	70
30	Wheeled Mobile Crane		70 t	80	72	71	67	65	62	57	49	70
Welding I Cutting Steel Piles												
31	Hand-Held Welder (Welding Piles)			67	68	69	68	69	66	61	56	73
32	Generator for Welding			75	72	67	68	70	66	62	60	73
33	Generator for Welding	6	508 kg	75	67	59	52	48	44	41	33	57
34	Gas Cutter (Cutting Top of Pile)		230 bar	74	74	72	61	60	58	56	56	68
35	Hand-held Gas Cutter		230 bar	74	76	66	58	56	56	55	55	65

Table 4 Sound level data on general site activities

Ref No.	Equipment	Power rating kW	Equipment size, weight (mass), capacity	Octave Band Sound Pressure Levels (Hz)								A weighted Sound Pressure Level, L_{Aeq} dB
				63	125	250	500	1k	2k	4k	8k	
Distribution of Materials												
1	Articulated Dump Truck Ж	194	25 t	90	87	77	79	75	73	67	63	81 Ж
2	Articulated Dump Truck Ж	187	23 t	85	80	77	72	74	70	65	58	78 Ж
3	Dumper Ж	81	7 t	84	81	74	73	72	68	61	53	76 Ж
4	Dumper Ж	75	9 t	82	76	75	74	68	68	64	55	76 Ж
5	Dumper (Idling)	75	9 t	73	64	55	55	60	56	50	43	63
6	Dumper Ж	60	6 t	89	86	77	74	72	72	66	62	79 Ж
7	Dumper Ж	56	5 t	90	86	72	71	71	71	66	59	78 Ж
8	Dumper (Idling)	56	5 t	68	56	47	49	52	50	41	32	56
9	Dumper Ж	32	3 t	82	82	78	77	69	67	61	53	77 Ж
10	Wheeled Excavator	90	18 t	64	60	63	64	62	57	51	45	66
11	Wheeled Excavator (Idling)	90	18 t	61	59	57	57	58	52	42	34	61
12	Wheeled Excavator Ж	63	14 t	84	82	77	75	72	68	60	52	77 Ж
13	Wheeled Loader Ж	75	37 t	83	72	70	69	65	64	57	49	71 Ж
14	Wheeled Backhoe loader	62	9 t	68	67	63	62	62	61	54	47	67
15	Fuel Tanker Lorry Ж		11 t	79	73	71	75	72	67	59	50	76 Ж
16	Fuel Tanker Pumping		25,000 litre	75	70	67	67	69	66	60	53	72
17	Tracked Excavator	41	8 t	81	72	68	68	66	64	60	55	71
Mixing Concrete												
18	Cement Mixer Truck (Discharging)			80	69	66	70	71	69	64	58	75
19	Cement Mixer Truck (Idling)			77	71	65	65	66	66	60	51	71
20	Concrete Mixer Truck			83	74	66	69	70	78	60	55	80
21	Large Lorry Concrete Mixer	216		80	71	65	72	71	72	68	56	77
22	Large Concrete Mixer	167	26 t	72	73	79	72	69	67	63	60	76
23	Small Cement Mixer	2		61	65	58	58	57	53	51	49	61
Pumping Concrete												
24	Concrete Pump + Cement Mixer Truck (Discharging)	223	8 t I 350 bar	69	64	64	66	63	59	53	47	67
25	Concrete Pump + Concrete Mixer Truck (Pumping to 5th Floor)	171	6 t I 350 bar I 150 mm diameter	83	81	78	79	77	74	71	66	82

Ж Drive by maximum sound pressure level in L_{max} (Octave Bands) and L_{Amax} (Overall Level)

26	Concrete Pump + Concrete Mixer Truck (Idling)	171	6 t I 350 bar I 150 mm diameter	75	76	71	70	71	68	64	60	75
27	Concrete Mixer Truck			84	74	74	73	73	75	65	59	79
28	Concrete Mixer Truck (Discharging) & Concrete Pump (Pumping)		26 t (capacity) I 7 cu m + 22 m boom	79	80	73	72	69	68	59	53	75
29	Truck Mounted Concrete Pump + Boom Arm		26 t	83	77	75	75	74	75	67	63	80
30	Truck Mounted Concrete Pump + Boom Arm		17 t	71	76	71	76	76	72	66	62	79
31	Truck Mounted Concrete Pump + Boom Arm (Idling)		22 m boom	84	75	71	70	70	69	61	52	75
32	Concrete Mixer Truck + Truck Mounted Concrete Pump + Boom Arm			73	73	77	76	72	70	65	62	78
Concreting Other												
33	Poker Vibrator			82	80	80	73	69	72	70	65	78
34	Poker Vibrator	2.2		62	70	70	64	62	61	59	56	69
35	Vibratory Tamper	1.1	15 kg	59	71	54	56	57	55	55	49	63
36	Pump Boom + Vibrating Poker			71	68	68	67	65	64	59	56	71
37	Concrete Placing Boom		142 mm diameter I 24 m reach	63	68	65	62	59	53	53	49	65
Lifting												
38	Wheeled Mobile Telescopic Crane	610	400 t	80	79	73	74	73	73	64	55	78
39	Mobile Telescopic Crane	315	80 t	87	82	78	74	71	67	60	52	77
40	Mobile Telescopic Crane (Idling)	315	80 t	75	72	65	62	61	60	52	45	66
41	Mobile Telescopic Crane	280	100 t	73	71	68	70	66	63	54	49	71
42	Mobile Telescopic Crane (Idling)	280	100 t	71	67	64	61	60	56	50	41	64
43	Wheeled Mobile Crane	275	35 t	80	76	71	63	64	63	56	50	70
44	Wheeled Mobile Crane (Idling)	275	35 t	73	66	55	56	56	53	45	36	60
45	Mobile Telescopic Crane	260	55 t	90	81	78	74	77	76	69	61	82
46	Mobile Telescopic Crane	240	50 t	78	69	67	64	62	57	49	40	67
47	Mobile Telescopic Crane (Idling)	240	50 t	67	66	59	58	56	53	44	35	61
48	Tower Crane	88	22 t	82	77	80	76	66	66	56	50	76
49	Tower Crane	51	12 t	84	79	80	76	70	63	57	51	77
50	Tracked Mobile Crane	390	600 t I 125 m	68	71	68	62	66	66	55	46	71
51	Tracked Mobile Crane (Idling)	390	600 t I 125 m	66	67	60	61	62	61	50	40	66
52	Tracked Mobile Crane	240	105 t	73	71	66	67	74	66	58	49	75
53	Lorry with Lifting Boom	50	6 t	81	78	76	74	72	69	64	56	77
54	Telescopic Handler	76	4 t	79	73	66	65	78	66	54	47	79
55	Telescopic Handler	75	3.7 t	82	72	63	65	67	64	56	49	70
56	Wheeled Excavator	63	14 t	87	84	80	81	78	75	69	67	83
57	Lifting Platform	35	8 t	78	76	62	63	60	59	58	49	67

58	Lifting Platform (Idling)	35	8 t	72	71	59	59	56	56	52	45	63	
59	Diesel Scissor Lift	24	6 t	80	77	74	74	74	71	65	63	78	
60	Diesel Scissor Lift (Idling)	24	6 t	74	72	68	68	64	61	57	56	70	
61	Caged Material Hoist (Electric)		500 kg	64	64	65	65	63	61	59	52	68	
62	Site Lift for Workers			68	63	64	63	59	60	58	51	66	
Trenching													
63	Tracked Excavator	223	40 t	77	86	75	75	71	69	64	55	77	
64	Tracked Excavator	107	22 t	74	80	75	73	69	66	60	51	75	
65	Tracked Excavator	95	21 t	76	74	68	70	65	63	59	55	71	
66	Wheeled Backhoe Loader	63	8 t	72	63	67	67	63	62	56	50	69	
67	Mini Tracked Excavator		5 t	87	79	76	70	68	64	57	48	74	
68	Mini Tracked Excavator	30	5 t	71	71	66	59	59	58	54	48	65	
Core Drilling Concrete													
69	Core Drill (Electric)		250 mm diameter bit	75	74	75	72	74	75	80	80	85	
Cutting Concrete Floor Slab													
70	Petrol Hand-held Circular Saw	3	9 kg I 300 mm diameter	72	89	81	80	80	82	86	85	91	
Cutting Concrete Blocks I Paving Slabs													
71	Circular Bench Saw (Petrol - Cutting Concrete Blocks)			85	74	72	70	72	76	82	77	85	
72	Hand-held Circular Saw (Petrol - Cutting Concrete Blocks)	3	9 kg	69	75	77	74	71	70	74	69	79	
73	Hand-held Circular Saw (Cutting Paving Slabs)	1.5	7.6 kg I 235 mm diameter	73	67	70	68	73	78	78	77	84	
Moving Equipment													
74	Tractor (Towing Equipment) ж	100		79	71	78	75	78	70	61	55	80	ж
75	Tractor (Towing Trailer) ж	71	3.5 t	93	86	76	76	73	72	64	59	79	ж
Power for Site Cabins													
76	Diesel Generator	6.5		80	74	57	54	53	48	45	37	61	
77	Diesel Generator			70	62	62	57	53	52	48	41	60	
78	Diesel Generator			64	67	68	65	58	54	49	42	66	
79	Diesel Generator			69	71	68	61	57	51	46	44	64	
80	Diesel Generator			54	64	59	56	55	52	49	45	60	
81	Petrol Generator		2 t	63	57	58	53	51	46	38	33	56	
82	Diesel Generator		2 t	64	61	59	53	49	47	42	35	56	
83	Diesel Generator	3	210 kg	57	71	65	61	60	56	52	44	65	
84	Diesel Generator			75	72	76	70	69	65	56	47	74	

ж Drive by maximum sound pressure level in L_{max} (Octave Bands) and L_{Amax} (Overall Level)

Power for Welder													
85	Diesel Generator	4	18 kg	69	69	67	60	59	60	56	53	66
Power for Lighting													
86	Diesel Generator	15		78	71	66	62	59	55	56	49	65
87	Diesel Generator	7.5	6 kVA I 3000 rpm	77	72	64	60	59	57	54	42	65
Pumping Water													
88	Water Pump (Diesel)	10	100 kg	70	65	66	64	64	63	56	46	68
89	Water Tanker Extracting Water (Vacum Pump)			81	82	67	72	71	74	73	66	79
Sweeping & Dust Suppression													
90	Road Sweeper	70		80	75	69	75	71	67	61	58	76
91	Dust Suppression Unit Trailer			78	73	74	80	70	68	60	56	78
Miscellaneous													
92	Mounting Supports for Directional Drill (Hydraulic Hammer)			77	83	73	68	73	80	84	77	87
93	Angle Grinder (Grinding Steel)	2.3	4.7 kg	57	51	52	60	70	77	73	73	80
94	Petrol Generator for Hand-held Grinder	3.75	105 kg	77	74	71	70	69	68	66	62	75
95	Handheld Cordless Nail Gun		15 to 50 mm nails	63	65	65	66	65	69	64	61	73
96	Directional Drill (Generator)	106		67	80	74	72	72	72	68	61	77