

Midland Metro:

Wednesbury to Brierley Hill  
Extension

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# **Code of Construction Practice Part 1**

September 2005

Final Version

# CODE OF CONSTRUCTION PRACTICE

## MIDLAND METRO

### Part 1

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# 1 Preface

## 1.1 General

1.1.1 This document is the Code of Construction Practice (“CoCP”) Part 1. It is referred to in each of the Local Authority Agreements. Its purpose is to set down a series of measures to minimise the impacts of Construction of the Extension on the environment. It defines minimum standards of Construction practice acceptable to Centro and the local authorities, and required of the Concessionaire. The Code applies equally to Works within the public highway, off the highway and Site compounds unless the context dictates otherwise.

1.1.2 The Concessionaire is to prepare a Site specific document for each and every Site that is to be used to construct the Works, whether such Sites are compounds (where the Concessionaire has his Site offices, plant and materials storage etc.), or those areas where the temporary and permanent Works are to be constructed. These Site specific documents are to show how the Concessionaire intends to comply with CoCP Part 1 at each such Site. This set of documents will constitute the CoCP Part 2.

1.1.3 The CoCP addresses the Concessionaire’s general obligation in so far as they affect the environment, amenity and safety of local residents, businesses, the general public and the surroundings in the vicinity of the proposed Works and associated worksites. It does not attempt to address the Concessionaire’s responsibility to those working on or visiting the Site of Construction activities. These are regulated through statutory controls. Notwithstanding any reference to such controls in this document, the Concessionaire is to at all times comply with relevant legislation.

## 1.2 Definitions and Abbreviations

1.2.1 In this Code the following terms are to have the following definition.

Centro	The West Midlands Passenger Transport Executive
Concessionaire	The body, or bodies, awarded the contract(s) by Centro to design and construct any part of the Extension
CoCP	This Code, including a general section Part 1 and a series of Site specific sections Part 2
Concession Contract	The contract between Centro and the Concessionaire.

Construction	All Site related activities including but not restricted to Site investigations, Site preparation, demolition, materials delivery, spoil and waste materials removal and disposal associated with the Works.
Environmental Management System (EMS)	An organisational structure, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving and reviewing the environmental policy.
Extension	The Wednesbury to Brierley Hill Midland Metro Line 1 Extension.
Highway Authority	As defined in the Highways Act 1980
Limits of Deviation	The extent of the area included within the Order over which powers to construct the Works are granted by the Order.
Limits of Land to be Acquired or Used	The extent of the area included within the Order over which powers to acquire or use land are granted by the Order.
Local Authority	The Local Authority within whose jurisdiction the particular Site or construction activity is situated.
Order	The Midland Metro (Wednesbury to Brierley Hill and Miscellaneous Amendments) Order 2005. Statutory Instrument 2005 No. 927.
Order Plans	Plans and sections forming part of the Order documents.
Planning Direction	A direction made under Section 90 (2A) of the Town and Country Planning Act 1990.
Section 61 Application	An application for a Section 61 Consent.
Section 61 Consent	Consent granted by the Local Authority under the Control of Pollution Act 1974 Section 61.

Site	Land used and/or occupied by the Concessionaire for the purposes of executing the Works.
Traffic Signs Regulations	The Traffic Signs Regulations and General Directions 2002 or as subsequently amended.
Works	The Works authorised by the Order.

1.2.2 A list of abbreviations used in this document is given in **Appendix A**.

### 1.3 Control of Pollution Act

1.3.1 The Concessionaire is to obtain the agreement of the Local Authority in accordance with the provisions of Section 61 of the Control of Pollution Act 1974.

### 1.4 Applicable Standards, Codes and Acts of Parliament

1.4.1 There are many Standards, Codes of Practice and Acts of Parliament which cover environmental and related matters and which are applicable to the matters set out in the CoCP. A list of some of these is given in **Appendix C**, the list is provided for initial guidance only and should not be regarded as being comprehensive. Notwithstanding any references within the CoCP to such documents, the Concessionaire is responsible for ensuring that he and his agents identify and comply with any legislative requirements, standards or codes of practice applicable at the time of Construction activities. Compliance with this CoCP will not absolve the Concessionaire, principal contractor and contractors from compliance with all legislation and bylaws relating to their Construction activities.

1.4.2 The Concessionaire is recommended to join the National “Considerate Constructors Scheme”, or other similar scheme, further information and registration forms can be found on the internet at [www.considerateconstructorsscheme.org.uk](http://www.considerateconstructorsscheme.org.uk) or by contacting them at Considerate Constructors Scheme, PO Box 75, Ware, Hertfordshire, SG12 9UY. The Concessionaire will be obliged to offer up any reports carried out under the scheme, or similar scheme, on the request of Centro or the Local Authority.

1.4.3 In order to maintain stated standards in the field of environmental management tools and systems, the Concessionaire is to comply with the Concessionaire’s Environmental Management System, which is to be an Eco-Management and Audit Scheme (EMAS), and/or an ISO 14001 accredited scheme.

## **2 Roads, Footways and Cycleways**

### **2.1 Permanent and Temporary Closures and Diversions**

- 2.1.1 The Concessionaire should note the provisions of the New Roads and Street Works Act 1991 and Traffic Management Act 2004. The Concessionaire should make early contact with the Local Authority's Traffic Manager to enable the proactive management of road networks.
- 2.1.2 In order to construct the Extension, it will be necessary to close or divert sections of highway, including footways, cycleways and other rights of way during the Construction period either on a temporary or permanent basis.
- 2.1.3 Details of the locations of the proposed permanent closures and diversions are shown on the Order Plans. It is the Concessionaire's responsibility to finalise the arrangements for these closures and diversions with the Local Authorities in accordance with the requirements of the Order.
- 2.1.4 The Concessionaire is to ensure, where these are required, that alternative arrangements are put in place where Construction Works interfere with or affect the normal operation of a street and/or footway and/or cycleway. Such arrangements are to be agreed in writing with the Local Authority and include reasonable measures to minimise disruption in the street.
- 2.1.5 The Concessionaire is to keep open all public and private roads and footways that cross the Site, unless their permanent or temporary diversion or closure is specified in the Order.
- 2.1.6 Centro has agreed a number of temporary diversions in advance with Sandwell MBC around existing bridges that are to be demolished and rebuilt as part of the Works. The temporary diversion drawings can be found in the general tender documents. The Concessionaire should review the proposed diversions and will be responsible for the final approval of all diversions, including the Centro proposals, prior to any Construction Works taking place.
- 2.1.7 Wherever the Extension Works interfere with existing public or private roads or other ways over which there is a public or private right of way for any traffic, the Concessionaire is to construct diversion ways except where the Order provides for those roads or other ways to be permanently stopped up without provision of a substitute. The standard of Construction and lighting is to be suitable in all respects for the class or classes of traffic using the existing ways, and the widths of the diversions are not to be less than that of the existing way unless agreed with the Local Authority and/or owner of the private road in writing. The Concessionaire is to agree diversions and closures with the Local authority in writing with a view to minimising disruption during Construction.

2.1.8 Diversion ways are to be constructed in advance of any interference with the existing ways and are to be maintained to provide adequately for the traffic flows.

2.1.9 The Concessionaire is to be responsible for supplying, erecting, maintaining for the requisite periods and subsequent dismantling all statutory and public information notices. The nature and location of such notices is to comply with all statutory requirements and the reasonable requirements of the relevant Local Authority.

## 2.2 Pedestrian and Cycle Routes

2.2.1 All temporary and diverted footways which replace footways that are currently accessible to wheelchairs and pushchairs are to continue to be useable by such users. All temporary and diverted footways are to provide direct links wherever possible and avoid long detours.

2.2.2 Clear signage in accordance with the Traffic Signs Regulations is to be provided at all times for all diverted pedestrian and cycle routes.

2.2.3 The requirements in CoCP Part 1 may be varied by agreement with and are subject to the requirements of the relevant Highway Authority

## 2.3 Maintenance and Repair of the Highway

2.3.1 The Concessionaire is to take every precaution to prevent its operations, whether by carting or otherwise, from damaging the roads and footways in the vicinity of the Construction Works. The Concessionaire is to carry out all maintenance Works as are necessary to maintain the roads and footways included in the Works in a serviceable condition as approved and agreed in writing by the Local Authority.

2.3.2 All temporary footways and ramps must be surfaced in non-slip material and kept free of mud and debris.

2.3.3 The Concessionaire is to so order the Construction of the Works as will afford access for the Local Authority to maintain its highway lighting.

## 2.4 Lorry Movements

2.4.1 The Concessionaire, its principal contractor and contractors and suppliers moving large and/or heavy loads, Construction plant, materials and spoil (including vehicles used for carrying such when running empty) are to minimise the use of public highways as far as is reasonably practicable, when waiting to enter Construction Sites.

2.4.2 Access routes for HGVs are to be agreed in writing with the Local Authority in advance.

2.4.3 Vehicles arriving or leaving the Site are to do so during normal working hours as specified in Section 4 of the CoCP unless otherwise agreed in writing with the Local Authority.

2.4.4 The Concessionaire is to take all reasonable measures to ensure that delivery vehicles do not park on the highways prior to entering the Site. In addition, the Concessionaire is to take all reasonable measures to ensure that vehicles used by the principal contractor's and contractors' staff for travelling to and from the Works are not parked on the highway.

2.4.5 The Concessionaire when entering into any sub-contract for the execution of any part of the Works or for the supply or transport of heavy loads, Construction plant, materials or spoil in relation to the Works is to incorporate in any such sub-contract provisions requiring the principal contractor and contractors to comply with the requirements of this section.

## 2.5 Mud and Debris

2.5.1 The Concessionaire is to take strict measures to minimise the spillage of mud and debris on roads arising from excavation Works through:-

- a) the provision of easily cleaned hard standing for vehicles entering, parking and leaving the Site;
- b) the provision of wheel washing facilities including, where practicable, mechanical wheel spinners;
- c) the use of mechanical road sweepers, surface flushing apparatus, gully cleaners and other such equipment to clean the hard standing and to remove any mud or debris deposited by Site vehicles on roads, footpaths, gullies or drains in the vicinity of the Site. The road sweepers and other equipment are to be readily available at all times throughout the Construction Works;
- d) the complete sheeting of the sides and tops of all vehicles carrying spoil or debris;
- e) ensuring that vehicles are loaded in such a manner as to prevent spoil falling off during transit, are not overloaded; and
- f) compliance with the requirements regarding dust outlined in Section 6 of this CoCP.

## 2.6 Traffic Safety and Control and Site Access

2.6.1 All Site accesses to and from the highway are to be of sufficient width to provide safe access and egress, whether such accesses are accommodating two-way or one way in and one way out, traffic arrangements.

- 2.6.2 The Concessionaire is to provide, erect and maintain such traffic signs, road markings, new signage, lamps, barriers, traffic control signals and such other measures as may be necessitated by the Construction Works in accordance with the requirements of the Local Authority. Compliance with this clause is not to relieve the Concessionaire of any of its other obligations and liabilities under current legislation and Chapter 8 of the Traffic Signs Manual.
- 2.6.3 The Concessionaire is not to commence any work that affects the public highway until all traffic safety measures necessitated by the work are fully operational.
- 2.6.4 The traffic signs, road markings, new signage, lamps, barriers and traffic control signals and other measures are to be in accordance with the requirements of the Traffic Signs Regulations. They are to include appropriate advance warning and give way signage as appropriate for Works traffic.
- 2.6.5 The Concessionaire is to keep clean and legible at all times traffic signs, road markings, new signage, lamps, barriers and traffic control signals and is to position, reposition, cover or remove them as required by the progress of the Works and to the approval of the Local Authority.
- 2.7 Access Across Site and to Frontages
- 2.7.1 The Concessionaire is to take all reasonable precautions in carrying out the works to prevent or reduce any disturbance or inconvenience to the owners, tenants or occupiers of adjacent properties, and to the general public.
- 2.7.2 The Concessionaire is to provide and maintain any guard rails, fences, gates, lights, bridges, steps, handrails, etc., needed for alternative access and they are to be of such size, strength and Construction as will be adequate for their purpose.
- 2.7.3 The Concessionaire is to render every reasonable assistance to occupiers of premises affected by the Construction Works to enable them to get materials or goods into or out of their premises and is to liaise with them to establish their particular requirements in this respect. The key to this is timely consultation with frontagers, generally discussed at Section 15 of this document and the separate Communications Plan to be developed by the Concessionaire for agreement with Centro.

### **3 Protection of the Water Environment**

#### **3.1 Waste Water and Groundwater**

- 3.1.1 The Concessionaire is to develop and implement a plan to provide drainage of Construction Sites along the route of the Extension. The plan is to include measures to ensure that surface water run-off is contained and managed appropriately.
- 3.1.2 Discharge of washout from temporary Construction laydown and storage areas into local watercourses is to be prevented. The Concessionaire is to take full account of the Environment Agency's pollution prevention guidelines (PPGs).
- 3.1.3 Waste water and Site discharges are only permitted where effluent quality and discharge location is acceptable to the relevant authority, be it the Environment Agency or relevant sewerage authority as appropriate.
- 3.1.4 The Extension affects 2 water companies. Severn Trent Water should be contacted for all sewerage details and permissions and South Staffordshire Water should be contacted for all water supply details and permissions.
- 3.1.5 Prior to any excavation below the water table, including any Site de-watering, the Concessionaire is to inform the Environment Agency and the local water supply company of the Works to be constructed. Details of the Works, de-watering and disposal measures are to be agreed with the Environment Agency in accordance with the Water Resources Act 1991, as modified by the Environment Act 1995.
- 3.1.6 The Concessionaire will comply with BS 6031: 1981 Code of Practice for Earthworks, regarding the general control of Site drainage.
- 3.1.7 In order to prevent the pollution of surface and groundwaters arising from the storage, handling and use of silt and cement, the Concessionaire is to ensure that the following measures are adhered to:
  - a) The washout from mortar and concrete mixing plant, or the cleaning of ready mixed concrete lorries must not be allowed to flow into any drain or watercourse.
  - b) Site roads must be regularly swept in order to prevent silt, oil or other materials from entering any drain or watercourse.
  - c) Wheel washes and plant washing facilities are to be securely constructed with no overflow and the effluent is to be contained for proper treatment and disposal in accordance with the Environment Agency guidelines, PPG 13 - High Pressure Water and Steam Cleaners.

- 3.1.8 Where contaminated land is identified within the Limits of Deviation, a full management plan is to be prepared by the Concessionaire to comply with all relevant handling and disposal legislation (including de-watering discharges from piling operations). Detailed Site investigations at all Sites where earthworks or piling are planned are to be carried out prior to Works commencing, in order that appropriate mitigation can be implemented. See Section 7.0 for further guidance.
- 3.1.9 The Concessionaire is to ensure that any water that has come into contact with contaminated materials is disposed of in accordance with the Water Resources Act 1991, Control of Pollution (Applications, Appeals and Registers) Regulations 1996 and Water Industry Act 1991 (as amended by the Water Industry Act 1999) (if disposed of to a public sewer) to the satisfaction of the Environment Agency, Severn Trent Water utility company or the Local Authority (as appropriate).
- 3.1.10 The Concessionaire is to apply for consents and approvals:-
- a) from the Environment Agency or relevant Land Drainage Authority for any discharge into a watercourse, river or soakaway;
  - b) from Severn Trent Water for any discharge into a sewer
- 3.1.11 A discharge consent system is to be applied to all discharges.
- 3.1.12 The Concessionaire is to make provisions to ensure that oil drums and containers or other potential contaminants stored on the Site are controlled in accordance with the Control of Substances Hazardous to Health Regulations 2002, the Control of Pollution (Oil Storage) Regulations 2001 and the Groundwater Regulations (1998) are properly isolated and bunded and that no oil or other contaminants are allowed to reach watercourses, groundwater or, aquifers. Storage locations for such materials are to be positioned away from watercourses.
- 3.1.13 In the event of a pollution incident involving surface and/or groundwater, the Concessionaire is to inform the Environment Agency or the Local Authority as appropriate immediately and take prompt action to minimise the effect. The Concessionaire is to develop and agree an Incident Management Plan in consultation with the Environment Agency or relevant local water company.

## 3.2 Protection of Aquifers

- 3.2.1 The Concessionaire is to have due regard for underlying aquifers and adhere to the Environment Agency's Groundwater Protection Policy and the Groundwater Regulations 1998. In all instances, appropriate protection of aquifers is to be undertaken, following liaison with the

Environment Agency and the local water supply company regarding piling and Construction techniques to be employed. Details of appropriate measures to prevent groundwater contamination (including monitoring) are to be agreed with the Environment Agency prior to commencement of the Construction Works.

### 3.3 Control and Management of Foul Drainage

- 3.3.1 Foul water produced by the Construction workforce is to be contained by temporary foul drainage to be installed by the Concessionaire. All foul water is to be deposited off Site by a licensed operator, or disposed of to the public foul sewer if approval from the relevant sewerage undertaker is obtained per the Water Industry Act 1991 (as amended by the Water Industry Act 1999).

## 4 Noise and Hours of Working

### 4.1 Hours of Working

- 4.1.1 The normal hours of working and permissible levels of noise may vary from Site to Site depending upon the nature of the area through which the Works are being constructed. These are to be as stated in the relevant Site specific sections in Part 2 of this CoCP, and are to be agreed by the Concessionaire with the relevant Local Authority in writing.

- 4.1.2 Except where otherwise stated in Part 2 of this CoCP, normal working hours are to be as follows:

Monday – Friday	0700 – 1900
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Saturdays	0700 – 1300
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- 4.1.3 In consideration of local residents, certain Saturday Works might need to commence at times later to those shown above, the Concessionaire should consult with the Local Authority in advance and incorporate the agreed start times into the CoCP Part 2 for the relevant site.

- 4.1.4 Work outside of these hours must be approved by the Local Authority in writing. These hours of work do not apply to equipment which is required to operate continuously, although thorough consideration to the types of equipment employed should be given and silent or acoustically shielded equipment given preference over other types where available. In general, night time working (any time outside the hours quoted above in para 4.1.2 and all day Sunday) is to be kept to a minimum. However, for some Sites where night-time working is required and agreed in advance, in writing,

with the Local Authority, it is to be subject to specified noise limitations as stated in section 4.2 below.

4.1.5 Additional or alternative working hours needed for emergency reasons are to be advised to the Local Authority at the earliest practicable opportunity.

#### 4.2 Noise Mitigation on Site

4.2.1 The Concessionaire is to have a general duty to take all practicable measures to minimise disturbance from noise. The noise limits specified in this section or which may be agreed with the Local Authority must not be regarded as a licence to make noise up to the allowable limit.

4.2.2 The Concessionaire is to liaise with and consult each Local Authority with regard to permissible levels of noise. The Concessionaire is to apply in good time under the Control of Pollution Act 1974 for a Section 61 Consent and take such other steps as may be necessary to enable the Extension Works to proceed in accordance with the Concession Agreement. The Section 61 Application should also specify the system for on Site monitoring of noise levels.

4.2.3 Prior to the commencement of any Construction work at any work Site, the Concessionaire will be required to demonstrate to the Local Authority and Centro that it can comply with the agreed noise limits for that work Site. This is to be done on the basis of its Contractor's intended and clearly stated methods of working, types of plant to be used and noise mitigation measures.

4.2.4 Where practicable, a minimum of 1 week prior to the commencement of any construction work (except in the case of emergencies which could not have reasonably been foreseen or planned for by a competent Concessionaire), occupiers of all accommodation in the vicinity shall receive notification from the Concessionaire detailing the work to be undertaken, the start and end times / dates and a telephone number which residents can use to contact the Concessionaire at any time that work is ongoing to discuss noise and any other relevant issues. Section 15 of this document generally details Public Relations and notes the need for a separate Communications Plan which is to be developed by the Concessionaire for agreement with Centro.

4.2.5 The Concessionaire is to allow representatives of Centro and the relevant Local Authorities to access work Sites at any time to monitor noise levels.

4.2.6 If the Concessionaire wishes to change its proposed method of working from that upon which it has demonstrated compliance with the agreed noise levels, then it must repeat the above process.

4.2.7 Subject to the specific requirements of the Local Authority, the minimum requirements set out below must be met.

4.2.8 In the event that higher noise levels are necessary for certain specific activities and after the Concessionaire has obtained a Section 61 Consent in respect of such higher levels, Centro will agree to the higher noise levels authorised.

#### 4.3 Noise limits

4.3.1 Maximum noise levels measured 1 metre from any occupied part of a dwelling or other building used for residential purposes, generated by Construction plant and equipment, including the movement of vehicles to and from the Site are not to exceed the following limits, except by prior agreement with the Local Authority

Day	Time	Averaging Period (T)	Limit $L_{Aeq,T}$ dB
Monday – Friday	0700 – 0800	1 hour	70
	0800 – 1800	10 hours	75
	1800 – 1900	1 hour	70
	1900 – 2200	1 hour	65
Saturday	0700 – 0800	1 hour	70
	0800 – 1300	5 hours	75
	1300 – 1400	1 hour	70
	1400 – 2200	1 hour	65
Sundays and Public holidays	0700 – 2200	1 hour	65
Any day	2200 – 0700	1 hour	55

4.3.2 The maximum noise levels measured 1 metre from any part of any school, college or other teaching facility resulting from any operation by the Concessionaire on the Site and concerned in any way with the Construction of the Works are not to exceed the following limits during the periods when the teaching facility is in use:

At any time  $L_{Aeq}$  dB(A) 65 (1 hr)

Peak Noise Level  $L_{Amax}$  dB(A) 70 (1 min)

4.3.3 The maximum noise level measured 1 metre from any part of any office building or other noise sensitive building during the periods when the building is in use is to be as defined in the table under Clause 4.3.1 above.

4.3.4 Noise limits and noise control requirement will not apply for emergency Works.

#### 4.4 Noise mitigation at receptor properties

4.4.1 In extreme circumstances and where the Concessionaire's predictions, or actual sound level measurements, indicate that for occupied dwellings the noise limits set out in Section 4.3 will be exceeded for more than 10 out of any 15 consecutive working days, even after the Concessionaire has exhausted all Best Practicable Means (BPM), the Concessionaire will install appropriate mitigation measures. (Best Practicable Means are defined in Section 72 of the Control of Pollution Act 1974 as those measures which are "reasonably practicable having regard among other things to local conditions and circumstances, to the current state of technical knowledge and to financial implications").

4.4.2 Where these measures comprise noise insulation, this is to be in accordance with the specification contained in Schedule 1 of the Noise Insulation (Railways and Other Guided Transport Systems) Regulations 1996 (as amended 1998).

#### 4.5 Noise Control

4.5.1 Without prejudice to Clauses 4.1 to 4.4 above, the Concessionaire is to comply with the recommendations set out in BS 5228 "Noise Control on Construction and Open Sites".

## 5 Vibration

### 5.1 Vibration - general

5.1.1 The Concessionaire is to have a general duty to minimise the disturbance caused by vibration from Construction activities. The Concessionaire is to ensure that measures are taken to:

- a) protect residents and users of buildings close by from disturbance or harm; and
- b) protect buildings from physical damage.

- 5.1.2 The Concessionaire is to consult and liaise with the Local Authority and is to in good time submit a Section 61 Application in order to establish the maximum permissible levels of vibration. The Section 61 agreement is to also specify the system for on Site monitoring of vibration levels where necessary. Information on the vibration level policies of the Local Authorities, where they exist, should be included for in the relevant Site Specific sections in Part 2 of the CoCP.
- 5.1.3 Subject to the specific requirements of the Local Authority, the following minimum requirements must be met.
- 5.1.4 To protect residents and users of buildings from disturbance and harm the Concessionaire is not to, as far as practicable, exceed Vibration Dose Values as specified in BS6472:1992 "Guide to evaluation of human exposure to vibration in buildings (1 Hz to 80 Hz)" which would result in a "low probability of adverse comment".
- 5.1.5 To protect buildings from physical damage, peak particle velocity levels are not to exceed 5mm/sec except for particularly sensitive buildings where the level is not to exceed 3mm/sec.

## **6 Dust and Air Pollution**

### **6.1 Dust**

- 6.1.1 The Concessionaire is to take all reasonable measures to keep dust to within acceptable levels during both Construction and demolition Works. Such measures are to include, but not be limited to:
- a) the provision of easily-cleaned hard standing for vehicles;
  - b) the enclosure of loose material stockpiles at all times and damping down of dusty materials using water sprays during dry and windy weather;
  - c) hard surfacing of heavily-used areas is to be kept clean by wet brushing and regular water spraying;
  - d) control of cutting or grinding of material on Site by water suppression to cutting and grinding machines, to minimise or mitigate dust;
  - e) complete sheeting of sides and tops of all vehicles carrying spoil and other dusty material;
  - f) watering of unpaved surfaces and roads, and
  - g) limitation of vehicle speeds on unpaved surfaces to 20kph.

- h) Storage of cement and other dust generating materials in silos with appropriate filters and overfill alarms or storage bags.
  - i) When the contents of vehicles carrying materials which may be dusty are tipped on site, the materials shall be subject to water spray during the tipping process, where deemed necessary and agreed by the Concessionaire and Local Authority.
- 6.1.2 For each of the working Sites, the Concessionaire is to submit to the Local Authority the proposed method, the frequency and location of monitoring. Baseline levels of dust will also be agreed prior to commencement of Construction. The Concessionaire is to also agree, in writing, action levels for dust pollution with the Local Authority. The Concessionaire is to monitor the level of dust pollution using an objective method of measurement. In the event that the action levels are exceeded, the Concessionaire is to implement such further reasonable measures as are necessary to bring the levels of dust below the levels agreed with the Local Authority.
- 6.2 Air Pollution
- 6.2.1 The Concessionaire is to comply with the provisions of the Environmental Protection Act 1990, Environment Act 1995, the Clean Air Act 1993, the Pollution Prevention Control Act 1999, the Pollution Prevention Control (England and Wales) Regulations 2000, and the Health and Safety at Work Act 1974.
- 6.2.2 The Concessionaire is to comply with the Control of Substances Hazardous to Health Regulations 2002 and comply with Health and Safety Executive Guidance Note EH 40 (2003) on Occupational Exposure Limits.
- 6.2.3 The Concessionaire is to also comply with the Control of Lead at Work Regulations 2002.
- 6.2.4 The Concessionaire is to take precautions to limit smoke emissions or fumes from Site plant or stored fuel. Plant is to be well maintained and measures are to be taken to ensure that it is not left running for long periods when not directly in use.
- 6.2.5 No materials, of any kind, will be burned on site. Also see Section 11.

## **7 Disposal of Waste and Contaminated Materials**

### **7.1 Waste**

- 7.1.1 The Concessionaire should note that the Local Authorities encourage sustainability and recycling of materials wherever possible, suitable and practicable. Discussion with the relevant Local Authority should be carried

out as early as possible in the process with regard to recycling and identification and treatment of potentially contaminated materials.

7.1.2 The Concessionaire is to take precautions and develop a management plan which is to:

- a) define responsibility for waste management to a named individual;
- b) provide clear information on Site waste management, including disposal routes and licensing requirements;
- c) identify, quantify and categorise the various types of waste likely to arise from the Construction of the scheme;
- d) identify waste minimisation measures;
- e) identify which materials are to be segregated on Site for re-use or recycling; and
- f) describe facilities for the collection of data.

7.1.3 The plan is also to be developed in accordance with the principles of the Reduce – Re-use – Recover (ie recycling, composting, energy production) – Disposal waste hierarchy outlined in the UK Waste Strategy, 2000. Where necessary, the plan is to outline what is required to fulfil the waste minimisation procedure, including for example, the provision of skips, designated for the collection of different materials

7.1.4 The plan is to include an audit programme to be undertaken by the Concessionaire to demonstrate compliance with the statutory requirements.

7.1.5 Waste arising from the Works which is classed as acceptable fill is wherever practicable to be used in Construction Works.

7.1.6 The disposal of waste, including any surplus spoil, is to be managed so far as is reasonably practicable to contribute towards the environmental and development benefits arising from the use of surplus material and reduce any adverse environmental effects of disposal.

7.1.7 The Concessionaire is to comply with approved guidance and procedure on the identification, handling, storage, recovery and dispersal of waste. The Concessionaire is also to comply with the measures set out in Section 3 of this CoCP concerning discharges to controlled waters and waste water.

7.1.8 The Concessionaire shall make provision for a suitable environmental specialist to identify any Hazardous Waste as defined in the Hazardous Waste (England and Wales) Regulations 1996 so that it can be suitably

managed, treated and disposed of during the Works. Hazardous Waste is defined in Part 2 of the above referenced Regulations.

## 7.2 Contaminated Land and Materials

- 7.2.1 The Concessionaire is encouraged to utilise the risk based approach for identifying and remediating contaminated land put forward by the Environment Agency in their document "Contaminated Land Report 11 - Model Procedures for the Management of Contaminated Land", internet download available free of charge from [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk), published by Environment Agency, Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, BS32 4UD. Additional reference information is given in Appendix C.
- 7.2.2 Before the development commences a desktop study and Site investigation is to be carried out with respect to land affected by the Works (including land within the Limits of Deviation that has already been remediated) in order to identify all potential contaminants, pathways and receptors and other relevant characteristics of the site and its setting.
- 7.2.3 It should be noted that Centro have obtained significant ground investigation information in developing the scheme, reports and location drawings of which can be found in the general tender documentation. This information should be reviewed as necessary and used as the starting point for any further site investigation deemed necessary.
- 7.2.4 A contaminated land assessment report and management plan is to be prepared by a reputable consultant. This is to identify any necessary measures to render the land fit for the intended purpose and long term measures that are necessary with respect to contamination remaining on the Site. These measures are to be implemented by the Concessionaire.
- 7.2.5 The contaminated land assessment report and management plan is to be developed in consultation with and submitted to the Local Authority .
- 7.2.6 Any contaminated material encountered is to be dealt with in compliance with best practice, statutory guidance and Local Authority requirements and, if necessary, disposed of at Sites possessing a valid waste management licence.
- 7.2.7 The Concessionaire is to identify those areas within the Site where contaminated land may be encountered and is to be required to;
- a) carry out appropriate Site investigation to the satisfaction of the Local Authority to determine the extent and type of contamination;

- b) carry out risk assessment evaluations to consider potential sources, pathways and receptors;
  - c) liaise with the Local Authority and the Environment Agency with a view to addressing their reasonable requirements and agreeing control or protection measures for dealing with contaminants identified by the risk assessment evaluation;
  - d) develop transport and other management procedures to be followed in the event that contaminated or hazardous materials are discovered on Site;
  - e) obtain any necessary license for the storage, treatment and disposal of waste (including dewatering discharge);
  - f) use registered waste carriers or seek registration as a waste carrier for the handling of all wastes, including contaminated materials; and
  - g) ensure that removal and disposal of contaminated materials complies with a strict consignment note system and that delivery is to appropriate licensed disposal facilities.
- 7.2.8 Appropriate precautions must be taken if materials containing asbestos are encountered. The Concessionaire is to comply with the Control of Asbestos at Work Regulations 2002, the Asbestos (Licensing) Regulations 1983 (as amended) and is to observe the exposure limits and measurement for asbestos which are set out in HSE Guidance Note EH 10 2001. The Concessionaire is to comply with all current HSE approved guidance and codes of practice relevant to the Works being undertaken.
- 7.2.9 If materials containing lead are encountered, the Concessionaire is to comply with The Control of Lead at Work Regulations 2002.
- 7.2.10 In undertaking work on contaminated Sites useful information concerning the safe operation and redevelopment of contaminated Sites may be found in HSG 66 HSE Protection of Workers and the General Public during the Development of Contaminated Land 1991.
- 7.2.11 In the case where identified contaminated material has to go off site to a licensed tip, and where its source, pathway and receptor can be accurately identified, the Concessionaire should consider the merits of applying for HM Customs and Excise Landfill Tax Exemption.

## **8 Urban Ecology**

### **8.1 Wildlife Areas**

8.1.1 The Concessionaire is to comply with the provisions of the Wildlife and Countryside Act 1981 (as amended), Conservation (Natural Habitats etc) Regulations 1994 as amended by the Conservation (Natural Habitats etc) (Amendment) (England) Regulations 2004 and Countryside and Rights of Way Act 2000 and any other relevant nature conservation legislation.

8.1.2 Dust and air pollution must be controlled as set out in section 6 above, to protect adjoining wildlife.

8.1.3 Suitable precautions are to be taken to prevent entry of pollutants into any bodies of water, especially to the canal or river systems as set out in section 3.

## 8.2 Trees

8.2.1 Loss of trees is to be avoided where reasonably possible. Works on or adjacent to trees are to comply with BS3998:1989 "Recommendations for tree work" and BS 5837:1991 "Guide for trees in relation to Construction".

8.2.2 Adverse effects on all trees within the working corridor, whether statutorily protected or not are to be minimised by the adoption of suitable mitigation, including, but not limited to:

- a) selective removal of branches in accordance with the relevant British Standard;
- b) use of matting around the root to prevent excess soil compaction;
- c) use of suitable protection around the trunk to prevent any damage;
- d) hand excavation in the vicinity of roots of trees to be retained to avoid unnecessary damage to roots;
- e) Construction activity around the tree is to be controlled to minimise compaction of the ground beneath the entire canopy of the tree. No heavy materials, Site cabins or plant are to be stored or Construction traffic movements made under the canopy of the tree.

8.2.3 Trees are defined, for the purpose of this CoCP as trees of over 20cm girth at a height of 1.5 metres above ground level.

8.2.4 Any tree damaged or cut down without approval or which dies as a consequence of the Construction is to be replaced by a suitably sized transplant of a species and in a location to the written approval of the Local Authority.

8.2.5 The following BS standards are relevant to the protection of trees:

BS 3936 - 1:1992: Nursery stock. Specification for trees and shrubs

BS 3998:1989 – Recommendations for tree work

BS 4043:1989 - Recommendations for transplanting root-balled trees

BS 4428:1989 - Code of practice for general landscape operations (excluding hard surfaces)

BS 5837:1991 – Guide for trees in relation to Construction

## **9 Archaeology**

### **9.1 Archaeological Features**

9.1.1 Any features of archaeological importance are to be dealt with by a written scheme of investigation prepared and submitted by the Concessionaire for the reasonable approval of the relevant Local Authority as part of the Planning Direction.

9.1.2 Areas where a watching brief will be required are to be identified in the written scheme of investigation and appropriate measures identified should significant archaeological remains be found.

9.1.3 Any archaeological works carried out are to be performed by a suitably qualified body/person.

### **9.2 Listed Buildings**

9.2.1 The Concessionaire is to comply with any listed building consent granted in parallel with the approval of the Order and the requirements of the relevant legislation in respect of listed buildings and in particular, the Planning (Listed Buildings and Conservation Area) Act 1990.

## **10 Site Boundaries/Hoardings**

### **10.1 Fencing and Hoardings**

10.1.1 The Concessionaire is to agree in writing with the Local Authority in advance a scheme of temporary boundary treatment during Site clearance, demolition and Construction.

10.1.2 The acceptable forms of Site boundary may include;

- a) post and chain link/weldmesh for minimum security;
- b) a 2.4m minimum height plywood fenced timber framed, painted boundary hoarding, of a surface density of not less than 6Kg/m<sup>2</sup> for normal security and noise limitation;

- c) other designs where a particular appearance or acoustic rating is needed.
- 10.1.3 Construction fenceings or hoardings that cause poorly lit walkways are to be fitted with bulkhead lights wherever reasonably practicable.
- 10.1.4 Gates in the fencing or hoarding are, as far as is practicable, to be positioned and constructed to minimise the noise transmitted to nearby noise sensitive buildings from the Site direct or from plant entering or leaving the Site.
- 10.1.5 There is to be provided at each enclosed work Site an information board detailing information on the Site programme and estimated duration of the Works, together with telephone contacts (including an emergency telephone number) for use by members of the public who wish to lodge complaints or comments.
- 10.2 Security
- 10.2.1 Adequate security is to be exercised by the Concessionaire to prevent unauthorised access to Site areas off the highway and gates are to be closed and locked when not in use.
- 10.2.2 Security cameras, where used, are not to be directly pointed at non-Construction areas, unless reasonably required to do so for security purposes. In any case the provisions of the Data Protection Act should be complied with.
- 10.3 Access for Fire Appliances
- 10.3.1 West Midlands Fire Brigade is to be consulted on the layout and provision of Site access and their reasonable requirements are to be incorporated into Site access arrangements.

## **11 Site Activities**

### 11.1 Good Housekeeping

- 11.1.1 The Concessionaire is to follow a "good housekeeping" policy at all times. This is to include, but not necessarily be limited to, the following requirements:
- a) open fires are to be prohibited at all times;
  - b) rubbish is to be removed at frequent intervals and the Site kept clean and tidy;

- c) hoardings are to be frequently inspected, repaired and re-painted as necessary;
  - d) adequate toilet facilities are to be provided for all Site staff and kept clean;
  - e) the wheel washing facilities are to be brushed clean frequently.
- 11.1.2 All lorries entering and exiting the Site are to do so in a forward direction wherever possible. Where reversing is essential, it is to be carried out under the supervision of a banksman. Entry/exit conditions are to be subject to prior discussion with the Local Authority. All loading and unloading of vehicles is to take place off the public highway wherever practicable.

## 11.2 Site Clearance

11.2.1 The Concessionaire is to clear up all working areas both within the Site and accesses as work proceeds and when no longer required for the carrying out the Works.

11.2.2 All surplus soil and materials, temporary roads, hard standing, plant, sheds, offices and temporary hoarding/fencing are to be removed, post holes filled and the surface of the ground restored as near as practicable to its original condition.

## 11.3 Pest Control

11.3.1 The Concessionaire is to ensure that risk of infestation by pests or vermin is minimised by adequate arrangements for the disposal of food waste or other waste material attractive to pests. If infestation occurs action is to be taken as required by the Local Authority Environmental Health Officer.

## 11.4 Use of Existing Structures

11.4.1 The Concessionaire is not to locate stockpiles for materials, stores, plant or temporary Works upon or adjacent to existing structures such as bridges, viaducts, towpaths, walls and embankments in such a way as to damage these structures.

# 12 Safety

## 12.1 Emergency Contacts and Procedures

12.1.1 The Concessionaire is to prepare and maintain an Emergency Contacts Set of Procedures for each work Site which is to be displayed prominently at each Site.

12.1.2 Copies of the procedures are to be issued to the Local Authorities, Fire, Police and Ambulance Services and any other statutory body if appropriate. The procedures should detail all emergency contact telephone phone numbers for the Local Authorities, Fire, Police and Ambulance Services and other statutory bodies identified.

## 12.2 Health and Safety at Work Act 1974

12.2.1 All Sites and activities are to comply with the Act and associated regulations including the Construction (Health, Safety and Welfare) Regulations 1996 and the Construction (Design and Management) Regulations 1994 (as amended).

## 12.3 Crane Arcs

12.3.1 Cranes arcs are to be confined within the Site boundaries if practicable to do so. Any arcs that might affect neighbouring properties are to only do so with the owner's permission, and with the written permission of the Local Authority if affecting any public highway. Any permission required is to be obtained prior to erection and operation of the crane. In all cases a suitably trained banksman will be required.

## 12.4 Unexploded Bombs

12.4.1 The attention of the Concessionaire is drawn to the fact that in the unlikely event of any undisturbed bombs being discovered, the Police are to be informed immediately and workers are to be made aware of any such presence whilst undertaking work at the Site.

## **13 Lighting**

13.1.1 Lighting to Site boundaries is to be provided with illumination sufficient for the safety of passing public, including disabled people. Precautions are to be taken to avoid shadows being cast on surrounding footpaths and roads.

13.1.2 Site lighting is to be positioned and directed so as to minimise annoyance to residents and businesses and to prevent distraction or confusion to passing motorists.

## **14 Protection of Existing Installations**

### 14.1 Information

14.1.1 The Concessionaire is required to make his own investigations and to take all appropriate action concerning existing foundations, buildings,

structures, walls, roadways, railways, pipes, sewers, cables and other services, apparatus and installations.

14.1.2 The Concessionaire should consult with each Local Authority in advance to establish the status of any sensitive structures affected by the Works by reference to the relevant register kept by the Local Authority.

#### 14.2 Safeguarding

14.2.1 The Concessionaire is to properly safeguard all foundations, buildings, structures, walls, roadways, railways, pipes, sewers, cables and other services, apparatus and installations from harm or deterioration during the Construction period and take all measures required for their support and protection during the Concession period.

#### 14.3 Schedule of Public Authorities & Statutory Undertakers

14.3.1 A Schedule of Public Authorities & Statutory Undertakers is given in **Appendix B** for information only. Whilst the information is believed to be current at the time of writing, it is the responsibility of the Concessionaire to correctly identify and contact all relevant Public Authorities & Statutory Undertakers.

### 15 Liaison with the Local Authorities and the Public

#### 15.1 Liaison Manager

15.1.1 The Concessionaire will appoint a liaison manager to manage public relations, public information issues and press relations matters. The liaison manager will be responsible for jointly managing communications to these audiences in partnership with Centro.

#### 15.2 Public Relations

15.2.1 The Concessionaire, through the liaison manager, is to establish a communications plan to be agreed with Centro, Head of Communications. Centro will clear all media announcements by the Concessionaire prior to issuing.

15.2.2 The Concessionaire is expected to be considerate of those directly affected by the Works and will provide timely information of the Works in advance by whichever media is deemed suitable to minimise the effects of the disturbance and allow others to make alternative arrangements if necessary. The ways in which this information is disseminated should be captured and agreed in the communications plan.

15.2.3 The liaison manager will establish flexible procedures, through the communications plan, for giving advance notification of, and information

concerning, all main Site activities relating to this Code to the Local Authorities, the Police, the Fire Brigade, other interested bodies and the Public. Such information is to include, but not be limited to, any alterations or changes to working hours and locations that have been agreed between the Concessionaire, the Local Authority and affected frontagers. Further guidance on the anticipated communications plan can be found in the general tender documents.

### 15.3 Public Complaints

15.3.1 The Concessionaire through the liaison manager is to introduce a system for the recording of all complaints which are to be collated and responded to by them within reasonable timescales and copies made available to Centro and the Local Authority. The Concessionaire through the liaison manager is to be proactive in reducing complaints.

### 15.4 Construction Staff

15.4.1 The Concessionaire is to ensure that all Site Construction staff are easily identifiable to the public by use of identity cards or an equally effective system.

### 15.5 Health and Safety File (CDM Regulations 1994)

15.5.1 A pre-tender health and safety file can be found in the general tender documentation. The Concessionaire should make suitable provisions to retain and update the health and safety file during the term of the Concession. The Concessionaire will be obliged to offer up information contained within the health and safety file on the request of the Local Authorities, Centro or their agents in the case where future planned construction works might impact on existing Metro infrastructure. Any changes should be added to the file by the organisation carrying out the change and the Concessionaire/Centro informed accordingly of said change. At the end of the Concessionary period the Concessionaire will pass the up to date health and safety file to Centro for future safe keeping.

## **APPENDIX A** Abbreviations

The abbreviations below have been used throughout the Construction Code of Practice.

CoCP	Construction Code of Practice
DfT	Department for Transport
Technical Abbreviations (Noise)	
$L_{Aeq}$	the equivalent continuous sound level (A-weighted). This is defined as the level of notional steady sound which, at a location and over a defined period of time, would have the same A-weighted acoustic energy as the fluctuating noise.
$L_{Amax}$	the peak or maximum A-weighted noise level over a given period of time
dB(A) (A-weighted)	decibel units (A-weighted) the noise level with a frequency characteristic approximating to that of the human ear

**APPENDIX B** Schedule of Public Authorities and Statutory Undertakers

The following information is believed to be correct at the time of writing, but it is the responsibility of the Concessionaire to correctly identify and contact all relevant Public Authorities and Statutory Undertakers.

<b>Company/Organisation</b>	<b>Contact</b>
British Waterways Willow Grange Church Road Watford WD17 4QA	
BT PP3D-4 3rd floor 3 Brindley Place Off Broad St Birmingham B1 2JB	Kim Hadley 0121 329 6379
BT plc (HNS) PO Box 12137 Birmingham B1 2XT	John Kelly (BT)
Cable & Wireless Atkins Telecoms 10th Floor East The Axis Holliday Street Birmingham B1 1TP	Mark Lloyd 07803 259833
Carlton Television Gas Street Birmingham B1 2JT	Peter Hudson 0121 643 9898
Central NetWorks Toll End Road Tipton West Midlands DY4 0HH	Phil Reed 07973 843048

CENTRO Centro House 16 Summer Lane Birmingham B19 3SD	
Head of Roadside Infrastructure (Stops)	Michael Simmonds 0121 214 7377
Bus Network Manager (Services)	Clive Whatling 0121 214 7119
COLT Telecommunications St Stephen's Street Zone 2B - Central Gate New Town Birmingham B6 4RG	Mick Ramsay 07968 798238
Dudley MBC Chief Executive's Department Council House Dudley DY1 1HF	
Easynet Ltd 70 Buckingham Avenue Slough SL1 4PN	Chris Birch 07718 511425
Energis C/o O'Donnell Brothers Ltd New Tyne Iron House High Row Lemington Newcastle upon Tyne NE15 8SE	Mark Lee 0191 264 0404
Environment Agency Wrens Court Unit 15-17 Lower Queen Street Sutton Coldfield West Midlands B72 1RT	

Fibernet Group plc Rosalind House Jays Close The Viables Basingstoke Hampshire RG22 4BS	Doug Sawyer 07795 291196
Fujitsu Telecommunications Europe Ltd Post Point 5 Solihull Parkway Birmingham Business Park Birmingham B37 7YU	Dave Thompson 0121 717 6147
Global Crossing (UK) Telecommunications Connect House 3rd Avenue Crewe Cheshire CW1 6XU	Sandra Reay 01270 725236
HMRI Rose Court 2 Southwark Bridge LONDON SE1 9HS	David Keay 020 7556 2100
Hutchison 3G UK Limited 4060 Lakeside Solihull Parkway Birmingham Business Park Birmingham B37 7YN	See BT (HNS)
IPM Communications c/o Inter-Phone Public NetWorks Ltd The White House Lichfield Street Tamworth B79 7QF	Alan Dunn 01827 287851

Kingston Communications (Hull) PLC Unit 1, Alder Court Rennie Hogg Road Riverside Business Park Nottingham NG2 1RX	Brian Campbell 0115 851 2022
Mainline Pipelines C/o Fisher German The Grange 80 Tamworth Road Ashby de la Zouch Leicestershire LE65 2BW	Tam Bream 01530 412821
MCI Worldcom UK Field Operations, Room 2.37 2-6 St Pancras Way London NW1 1AO	Peter Henley 0207 984 2511
NTL Foleshill Enterprise Park Courtauld's Way Coventry CV6 5NX	Dave Titcomb 07968 860844
NWP Spectrum Ltd Parker House Maylands Avenue PO Box 688 Hemel Hempstead Herts HP2 4WA	Jalal Habib 01442 205500
Orange plc 2420 The Crescent Solihull Parkway Birmingham Business Park Solihull B37 7YE	Dawn Edwards 0870 372 6724

Sandwell MBC Sandwell Council House PO Box 2374 Oldbury West Midlands B69 3DE	
Severn Trent Water WaterWorks Road Edgbaston Birmingham B16 9DD	Mark Kerr (Sewers) 0121 452 3406  Stuart Bengé (Water)
South Staffordshire Water Green Lane Walsall West Midlands WS2 7PD	Steve Saunders 01922 638282
Telewest Communications plc Cablephone House Small Heath Business Park Talbot Way Birmingham B10 0HJ	Dave Lewis
Thus Unit 2, Kingsland Grange Woolston Warrington WA1 4RW	Helen Grimley 01925 512467
T-Mobile Ltd Units 8/9 Maidwell Drive Highlands Industrial Estate Solihull Birmingham B90 4QN	Jon Chown 0121 623 1589
Transco West Midlands Office Stafford Road Wolverhampton WV10 6HZ	Bruce Dodson 01902 826079

Travel West Midlands (Bus Services) 1 Sovereign Court 8 Graham Street Birmingham	John Wright 07768 553616
Vodafone Ltd Bell House 2 The Connection Newbury Berkshire RG14 2FN	
West Midlands Ambulance Service Unit 9 Waterfront Business Park Waterfront Way Brierley Hill West Midlands DY5 1LX	01384 215555
West Midlands Fire Service Headquarters Lancaster Circus Queensway Birmingham B4 7DE	Stn Officer Keith Stanton 0121 380 6406
West Midlands Police Police Headquarters Lloyd House Colmore Circus Birmingham B4 6NQ	Insp Keith Arnold 0121 626 6085
Your Communications Hathersage Road Manchester M13 0EH	Karen Diprose 0161 609 7024

## **APPENDIX C** Relevant British Standards and Guidelines

### **General**

In addition to compliance with all legal requirements applicable at the time for the Construction Works and compliance with certain British Standards referred to in the Code, the following British Standards and guidelines issued by various statutory bodies must be complied with. This is not an exhaustive list

### **British Standards Institution**

BS 5228 Noise control on Construction and open Sites:

- Part 1 (1997): Code of Practice for basic information and procedures for noise and vibration control.
- Part 2 (1997): Guide to noise and vibration control legislation for Construction and demolition, including road Construction and maintenance.
- Part 4 (1992) Code of Practice for noise and vibration control applicable to piling operations.

BS 6031: 1981 Code of Practice for earthworks.

BS 5930: 1999 Code of Practice for Site Investigations

BS 6472: 1992 Guide to evaluation of human exposure to vibration in buildings (1 Hz to 80 Hz).

BS 7385: Evaluation and measurements for vibration in buildings:

- Part 1 (1990) Guide for measurement and vibrations and evaluation of their effects on buildings.
- Part 2 (1993) Guide to damage levels from ground-borne vibration.

BS 7580: 1997 Specification for the Verification of Sound Level Meters

- Part 1 Comprehensive Procedure
- Part 2 Shortened Procedure for Type 2 Sound Level Meters

BS 10175: 2001 Investigation of Potentially Contaminated Sites - Code of Practice

### **Health and Safety Executive**

HSE Guidance Notes HSG 150 (1996) - Health and safety in Construction work.

HSE Guidance Notes EH 10 (2001) Asbestos: exposure limits and measurement of airborne dust concentrations.

HSE Guidance Notes EH 40 (2003) - Occupational Exposure Limits.

HSE Guidance Note HSG 66 (1991) Protection of Workers and the General Public During Development on Contaminated Land.

HSE Guidance Note L11 (1999) A Guide to the Asbestos (Licensing) Regulations 1983 (as amended)

### **Environment Agency Pollution Prevention Guidelines (PPG)**

PPG1 - General Guide to the Prevention of Pollution of Controlled Waters.

PPG2 - Above ground oil storage tanks.

PPG3 - The use and design of oil separators in surface water drainage systems.

PPG4 - Disposal of sewage where no mains drainage is available.

PPG5 - Works in, near or liable to affect watercourses.

PPG6 - Working at demolition and Construction Sites.

PPG7 - Fuelling Stations -Construction and operation.

PPG8 - Safe storage and disposal of used oils.

PPG10 - Highway Depots.

PPG11 - Industrial Sites.

PPG13 - The use of high pressure water and steam cleaners.

PPG18 - Control of spillages and fire fighting runoff.

PPG19 - Garages and vehicle service centres.

PPG 20 - Dewatering of Underground Ducts and Chambers

PPG 21 – Pollution Incident Response Planning

PPG22 - Dealing with spillages on highways.

PPG 23 – Maintenance of Structures over Water

PPG 26 – Storage and Handling of Drums and Intermediate Bulk Containers

**Department for the Environment, Food and Rural Affairs Planning Policy Guidance (PPG)**

PPG2 – Green Belts.

PPG9 - Nature Conservation.

PPG13 - Transport.

PPG14 - Development on Unstable Land.

PPG15 - Planning and the Historic Environment.

PPG16 - Archaeology and Planning.

PPG23 - Planning and Pollution Control.

PPG24 - Planning and Noise.

PPG25 – Development and Flood Risk

**Department for the Environment, Food and Rural Affairs Guidance**

DoE/Defra Contaminated Land Research Reports (CLR), 1 – 11 various authors  
1994 - 2003 DoE A Guide to Risk Assessment and Risk Management for  
Environmental Protection (1995).

DoE Waste Management Papers.

Environment Protection Act 1990 Section 34 Waste Management, The Duty of Care, A Code of Practice (1996).

DoE Industry Profile Series

Traffic Signs Manual (1991).

DCMS Circular 14/97.

### **Guidance on Contaminated Land**

ICE Site Investigation Steering Group: Site Investigation in Construction Sites, Vol. 4 *Guidelines on the Safe Investigation by drilling of landfills and contaminated land* (1993).

CIRIA *Remedial treatment of contaminated land* Series: SP101 to SP112; CIRIA (1995)

CIRIA Report C552 Contaminated Land Risk Assessment. A Guide to Good Practice (2001)

CIRIA Report R149 Protecting Development from Methane (1996)

CIRIA Report R132 A Guide to Safe Working on Contaminated Sites (1996)

Environment Agency Contaminated Land Report 11 - *Model Procedures for the Management of Contaminated Land*

### **Guidance on Trees**

BS 5837: 1991 Guide for Trees in relation to Construction.

National Joint Utilities Group (NJUG) Publication 10: Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees, 1995.

Tree Roots, Leaflet No. 6, The Arboricultural Association.