London Borough of Southwark Technical Guidance for Demolition and Construction

Guidance document for all developers and contractors undertaking works in the Borough

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Southwark Council
southwark.gov.uk

Contents

1.0 Introduction

Large parts of Southwark have been undergoing redevelopment for many years and the regeneration will continue for the foreseeable future with Southwark Council committed to building 11,000 new council homes by 2043, with the first 1,500 to be delivered by 2018.

Residents, businesses and visitors will be affected by both the direct effects of construction work and the cumulative effect of the storage and transportation of building materials and waste. New communities and businesses, whose own construction once affected the established neighbourhood, now have to thrive amongst the latest developments which inevitably are in closer proximity, sharing access and space.

Southwark Council recognises the on-going importance of both revitalising the Borough and ensuring that quality of life is maintained, so that residents and businesses are protected from the environmental impacts of demolition and construction.

Impacts include noise and vibration, dust and air pollution, congestion and contamination of land and water resources. The Council is responsible for delivering local strategic plans to reduce traffic, improve public transport and movement of people, improve air quality and land remediation and to ensure sustainable construction.

This document outlines a good practice approach to construction in Southwark and sets out reasonable measures expected to be employed by developers and contractors undertaking any works in the borough. Mitigation measures are outlined to reduce the impact their work will have on those living and working nearby.

While there will inevitably be some level of disturbance associated with a demolition and/or construction site, the adoption of relevant measures within this document should improve a developers environmental protection performance and reduce the level of adverse impact on neighbouring Southwark residents.

This guidance prescribes standards to be followed for construction works. Not all the provisions of the guidance will be appropriate for smaller developments, but all developers should comply with the spirit of this document and with the requirements appropriate to all construction sites.

This document is a good practice guide to construction. It does not replace consultation between developers and regulators. This guidance outlines some legal requirements but it is not an authoritative statement of law.

This technical guidance does not apply to ‘DIY’ works carried out by property occupiers.

Further information and advice on this guidance can be obtained from Southwark Council’s Environmental Protection Team at environmental.protection@southwark.gov.uk.

2.0 Overview / Main Highlights

Key summary points for contractors undertaking work in Southwark;

- **Development of a site specific Construction Environmental Management Plan (CEMP), which may or may not be a requirement of the planning process.**

- **Employment of or a designated role for an Environmental Manager to oversee resident liaison, compliance and monitoring checks for the CEMP, to make first contact with the council and key stakeholders etc.**

- **Prior to any works taking place, a written notification shall be sent to surrounding residents with relevant contact details of the Environmental Manager and brief summary of works, start date and outlining how notifications will be distributed throughout the build process.**

- **Before any works on a major development take place, it is strongly advised to apply to the Environmental Protection Team for prior consent for works through Section 61 of the Control of Pollution Act 1974. Without a Section 61 notice in place, the Council may take enforcement action by imposing a Section 60 notice on the developer.**

- **Noisy working hours permitted in Southwark are as follows;**
    - **Monday to Friday 08:00 – 18:00**
    - **Saturday 09:00 – 14:00**
    - **NO works on Sundays and Bank Holidays**
- **Excessively noisy works to take place on a 2 hours on/off basis, for instance;**
    - **ON - Monday to Friday 08:00 - 10:00, 12:00 - 14:00 & 16:00 - 18:00**
    - **ON - Saturdays 11:00 - 13:00 only**

- **Noise levels;**
    - **70 dB(A) $L_{eq\ (l0\ h)}$ Monday to Friday working day (08:00-18:00)**
    - **70 dB(A) $L_{eq\ (5\ h)}$ Saturday working day (09:00 – 14:00) &**
    - **75 dB(A) $L_{eq\ (15min)}$ at any time.**

- **Dust levels; 200 µg/m^3 averaged over a 15-minute period**

- **Vibration levels;**
    - **1mm/sPPV for occupied residential and educational buildings**
    - **3mm/sPPV for occupied commercial premises where work is not of an especially vibration sensitive nature or for potentially vulnerable unoccupied buildings**
    - **5mm/sPPV for other unoccupied buildings**

3.0 Purpose of the guidance

This **Technical guidance** has been prepared by Southwark's Environmental Protection Team who, with the Noise and Nuisance Team, address environmental issues associated with the construction industry and work together with Southwark's Network Management Team, Highways Licensing Team & Building Control Team to apply the relevant regulatory mechanisms.

Adoption of this guidance by contractors will ensure appropriate preventative and mitigation measures are applied and more harmonious site relations are established through liaison between the developer, the regulators and local communities and businesses. It will also secure the protection of the local environment in the vicinity of active sites.

This guidance applies to all forms of construction and demolition work including: general site activities; preparation; demolition; excavation; tunnelling; building; structural alterations; cleaning and maintenance; transportation of materials and spoil to or from the site; roads, pavements, railway works and other related engineering, landscaping and construction activities.

This guidance also applies to statutory undertakers

This guidance shall be introduced to developers during the planning application process for major developments, where it will feature as a good practice guidance document to assist in forming any Construction Environmental Management Plans. This guidance also advises on related matters, enforced by other agencies.

Adherence to this guidance will demonstrate a positive commitment to minimising environmental impact and will be a principal means for the assessment of **Best Practicable Means (BPM)** compliance by the Council.

This guidance covers factors likely to affect people or the environment outside the site. Site health and safety issues are set out in the Health and Safety at Work etc. Act 1974 and other regulations and are not addressed in this guidance. The Health and Safety Executive should be consulted concerning matters relating to health & safety of site staff. However, some aspects of safety can affect other people or the environment outside the worksite and this guidance addresses these issues, where relevant.

It is intended that the provision of this guidance should be referred to, or directly incorporated within, construction contracts to reduce the impact on the environment during all stages of the development process. Developers and contractors should ensure that their subcontractors and workers are aware of the provisions of this guidance and follow it.

4.0 Application of the guidance

4.1 General

This guidance is intended to be followed by all involved in construction work.

The effects of construction work should be considered at the planning stage of any project. Where adverse environmental impacts are identified, the means of preventing these impacts or counteracting the effects of them should be included in development planning at the earliest possible stage. The means of dealing with adverse environmental impacts should also be discussed with the authorities responsible for controlling them at the earliest opportunity. In some cases it may be possible to identify alternative means of construction that will have less severe impact.

Contractors and subcontractors may be faced with practical and financial difficulties and completion of the project may be delayed if they are required to change construction practice or introduce environmental protection measures that could have been anticipated at an earlier stage and incorporated into the contract. Developers should ensure that requirements to ensure environmental protection are included in tender documents.

4.2 Role of the Developer and Contractor

The developer or Principal Contractor should establish and maintain contact with the Council, the local residents or tenants association and business organisations and keep them informed of construction matters likely to affect them. The contact information for key Council departments is included in Section 12 of this document.

Neighbours should be informed of the start date, duration and nature of the project, the principal stages of the project and the contact details of the contractor. This should to be done by providing a monthly newsletter, on paper at first, but by email once relevant email contacts are collated.

On major schemes Principal Contractors should set up regular meetings with local residents, businesses and interested parties to advise of progress, upcoming works that may cause a higher level of disturbance than normal and any ‘Out of Hours’ and/or weekend working planned. This also provides an opportunity for residents to voice any concerns, issues or complaints.

4.3 Site Construction Supervision

There should be full-time staff employed to supervise the activities on site and ensure that the relevant practices and standards in this Technical Guidance are adhered to.

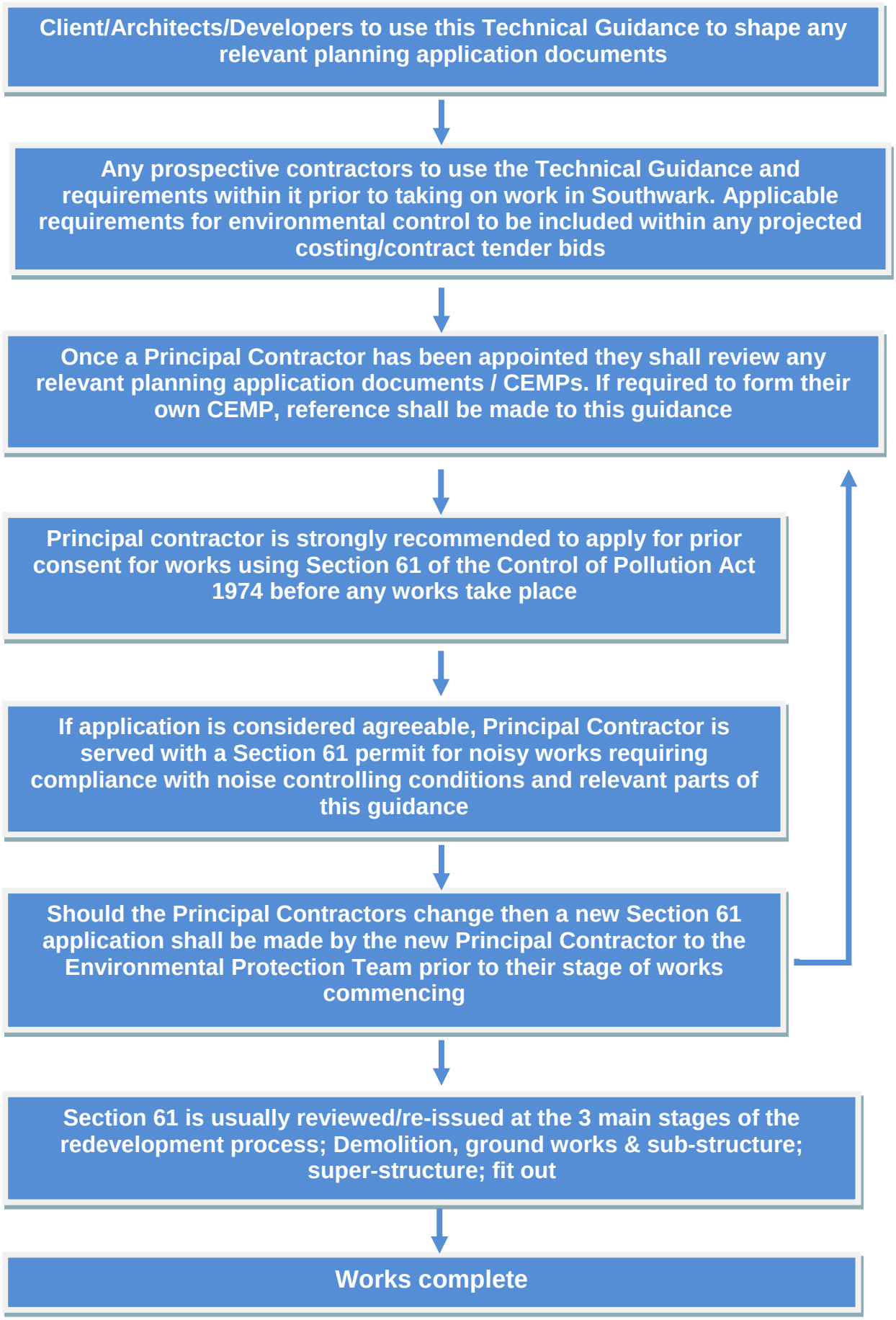
4.4 Public Complaints Procedure

Members of the public should be able to contact responsive staff from the main contractor to seek information, to lodge a complaint or request an action at any time the site is operational.

There should be a system to record complaints on site that is collated in a timely manner, detailing any corrective action taken and any visits or inspections by regulatory officers.

Records are required to show due diligence.

Application of guidance summary;



5.0 Pre-commencement / Section 61

5.1 Requirements of Developer/Principal Contractor

Application for Planning Permission shall be made to Southwark Council's Planning & Building Control Service. The developer should ascertain whether a separate planning permission for any demolition work is required. For further information please refer to Planning and Building Control's web pages;
http://www.southwark.gov.uk/planning-and-building-control

Application for Building Regulations Approval shall be made to Southwark Council Building Control Team or an approved building control body.

The developer must notify the local Health and Safety Executive office where construction work is anticipated to last for over 30 days, have more than 20 workers working at the same time at any point on the project or exceed 500 person days. HSE form F10 can be used to make the notification; https://www.hse.gov.uk/forms/notification/f10.htm

The Construction (Design and Management) Regulations 2015 came into force in Great Britain on 6 April 2015. They set out what those involved in construction work need to do to protect themselves or anyone the work affects from harm. The developer should notify the Council, Police, Fire Brigade and other interested parties of the site location, the address of the entrance and developer contact details before site work starts.

5.2 Control of Pollution Act 1974

5.2.1 Major works

The Council requests that the developer or Principal Contractor on any major development apply for prior consent to conduct noisy construction works using **Section 61 of the Control of Pollution Act 1974**. The application shall be made to Southwark's Environmental Protection Team a minimum of 28 days before works commence on site.

The Section 61 process puts the emphasis on developers to open communication with the Council which in turn provides a platform for knowledge sharing and a chance for a relationship to be established between both parties before the working hours and conditions of work are agreed prior to works commencing.

Should developers of Principal Contractors choose not to apply for prior consent under Section 61 of the act and commence works on site, then, after a substantiated noise complaint the Council will likely serve a notice under **section 60** of the Act whereby hours, terms and conditions will be proscribed by the Council. This could impact on a developers programme both in time and cost.

5.2.2 Minor works

Short term Section 61 permissions, also referred to in Southwark as 'Out of Hours' (OOH) permissions, should be sought for any noisy works taking place outside of the standard working hours – further information on this is provided in Section 7.

5.3 Role of the Council

The Council may nominate a member of staff to be the site's contact for day-to-day problems on environmental matters within the Council's remit. Issues that cannot be resolved at the site will be dealt with by the appropriate team at Southwark Council offices.

6.0 Starting on site – Safety and security

Safety provisions in this document cover aspects of safety likely to affect people outside the worksite. They do not cover safety provisions affecting construction workers either above or below ground. The safety of site workers is the concern of the Health and Safety Executive. All site work shall be carried out under the provisions of the Health and Safety at Work etc. Act 1974, to the satisfaction of the local HSE officer.

6.1 Hoarding & Sheeting

Worksites should be completely fenced to prevent public access. The minimum standard of hoarding should be a 3m minimum height, plywood faced, timber-framed boundary hoarding with a density of not less than 7.5 kg/m^2, for security, noise and dust control. A higher standard may be required in some circumstances. Hoardings should not have any sharp or splintered edges for reasons of pedestrian safety.

Fans and facade netting shall be installed to contain falling debris.

Sheeting, e.g. Monarflex, shall be installed tight to scaffolding to enclose site works and act as a dust and visual barrier.

Hoardings which encroach on the public highway require a licence under S172 of the Highways Act 1980 and shall comply with the requirements of Section 4 of the "Guidance Notes for Activities on the Public Highway". Application for a hoarding licence should be made to Southwark Council Highways Licensing Team;
http://www.2.southwark.gov.uk/downloads/download/4496/hoarding_licence

Hoardings should be frequently inspected and repaired and repainted as necessary by the contractor. Cleaning of hoardings should only take place during normal working hours. Offensive graffiti shall be removed as quickly as practicably possible.

The hoarding should clearly display publicity material including information on the site programme, the telephone contacts for complaints and/or enquiries, the name of the site manager (daytime) and an emergency out of hours contact. Signs to indicate any changes to pedestrian/cycle routes around the site should also be displayed. Where practical and safe, observation panels should be provided to cater for public interest.

Hoarding lighting must be provided at least for the official hours of darkness when vehicle lights must be on (this means from half an hour after sunset to half an hour before sunrise). It also includes any time when visibility is seriously reduced, for example by fog.

Hoardings should be structurally secure and designed to withstand wind and likely vehicle impacts.

Hoardings that are located within 16m of flood defences require consent under the byelaws of The Environment Agency Thames Region.

6.2 Gates

Gates in the fencing or hoarding should, as far as is practicable, be positioned and constructed to minimise vehicle noise impacting on noise sensitive buildings, either from the worksite direct or from plant entering and leaving the site.

Gates should be constructed to allow a minimum clear opening of 4.5m and should swing open into the site. Details of gates should be agreed with Southwark Council Network Management and/or Highways Licensing teams.

All gates should be controlled to give the minimum amount of time open for passage of vehicles to minimise plant and vehicle noise impacts on the locality.

Access to the site should be situated to ensure minimum disturbance to occupants of noise or dust sensitive premises e.g. schools, care homes, hospitals, residences etc., from vehicles entering or leaving the site.

6.3 Scaffolding, Gantries etc.

Scaffolding that encroaches on the Public Highway requires a licence under S169 of the Highways Act 1980;
http://www.2.southwark.gov.uk/downloads/download/4499/scaffold_licence

Gantries over the public highway require a licence under S168 of the Highways Act 1980.

Temporary vehicle crossovers require a licence under S184 of the Highways Act 1980.

Applications for these licences should be made to Southwark Council Highways Licensing Team;
http://www.2.southwark.gov.uk/info/200444/highway_licensing

Scaffolding which encroaches over the river, onto the foreshore or within 16m of flood defences requires consent under the byelaws of The Environment Agency Thames Region.

6.4 Crane Arcs

Crane Arcs must be confined within the site periphery unless agreed otherwise with the Council, Police and any third party land and property owners. Site cranes require a licence under S177 of the Highways Act 1980, if the jib at any point extends over the public highway. Applications for this licence should be made to Southwark Council Highways Licensing Team.

6.5 Security

The work site should be secure at all times and larger sites should be staffed by security on a 24 hour basis. Adequate security should be exercised by the contractor to prevent unauthorised entry to or exit from the site. Site gates should be closed and locked when there is no site activity and site security provisions should be enacted.

Provision of alarms must follow HSE requirements and comply with BS EN 50131 1-3 as appropriate.

The security of neighbouring property should be considered. Care should be taken not to leave scaffolding and ladders or any other site equipment that facilitates access to neighbouring property.

Site security cameras, where used, should be sited in locations that will not cause offence to off-site local residents or businesses, e.g. not look directly into private premises windows/gardens off site.

6.6 Lighting

Site boundaries should be provided with illumination sufficient to protect the safety of passing public, including the physically disabled. In particular, precautions should be taken to avoid strong shadows being cast on the surrounding footpaths and roads. Hoardings erected resulting in poorly lit walkways should have bulkhead lights fitted.

Site lighting should be positioned and directed to not intrude unnecessarily on adjacent buildings and land uses, or to cause distraction, glare or confusion to passing drivers on surrounding public highways.

Good practice guidance for lighting installations can be sought from the Institute of Lighting Professionals ‘Guidance Notes for the reduction of Obtrusive Light’ document (2011).

6.7 Good Housekeeping

The contractor should follow a "good housekeeping" policy at all times. This will include, but not necessarily be limited to, the following requirements:

Ensuring that any waste is removed at frequent intervals during standard working hours and the site is kept clean and tidy. Food waste and cigarette litter shall be cleaned up and removed daily.

Part II of the Environmental Protection Act 1990 imposes a duty of care on the producer of waste to ensure that it is properly categorised and transferred and is not disposed of illegally by others. A waste minimisation policy should be considered, different waste streams adequately stored and segregated to prevent mixing, recycling maximised and risks of fire and the attraction of pests/vermin reduced.

Staff toilet facilities must be kept clean and maintained in working order.

A designated smoking area shall be provided, located away from sensitive boundaries and residential neighbours. The area should have adequate waste bins which are emptied daily.

7.0 Environmental Controls

7.1 Noise & Vibration

Contractors need to protect persons living and working in the vicinity of, and those working on, construction and open sites against noise and vibration.

Excessive noise and vibration can cause significant disturbance and health impacts, destroy residential amenity and cause considerable inconvenience to neighbour. In some circumstances vibration can cause building damage.

7.1.1 Legal requirements / Control of Pollution Act 1974

The Council requests that the developer or Principal Contractor apply for prior consent for their proposals to conduct noisy construction works using **Section 61 of the Control of Pollution Act 1974**. The application is made to Southwark's Environmental Protection Team and should be submitted a minimum of 28 days before works commence on site.

The Section 61 process gives the developer an opportunity to comply with the Council requirements of controlling noise on construction sites. It also allows developers to open up communication channels with the Council which in turn provides a platform for knowledge sharing and a chance for a relationship to be established between both parties before the working hours and conditions of work are agreed prior to works commencing.

Should developers or Principal Contractors not apply for prior consent under Section 61 of the Act and commence works on site, the Council, should a substantiated complaint be received, will likely serve a Notice under **Section 60** of the act. The Section 60 notice will set the hours of working, terms and conditions that the developer must comply with. This could impact on a developers programme both in terms of time and cost.

Before works on site commence, the Environmental Protection Team requests the contractor to submit to the Council for approval a Method Statement as part of the Section 61 application. This should detail;

- Information on the proposed development, length of contract and start date.
- Detailed description of the phase(s) of works (demolition, sub-structure, super-structure, cladding & fit out) to which the permission will apply.
- Information on the type of plant to be used and the predicted noise levels from listed activities and plant.
- A programme of work indicating the cumulative level of noise for each activity and predicted noise levels at the closest noise sensitive receptors.
- A detailed list of noise and vibration control and mitigation methods to be employed on site.
- Predicted calculations of L_{eq} and L_{max} noise levels at closest noise sensitive buildings/receptors.

The contractor is encouraged to attach any Demolition and/or Construction Environmental Management Plans and plans of the site (approved or proposed) to accompany the Section 61 application.

The contractor is also required to comply with the other relevant provisions in the Control of Pollution Act 1974 and the Environmental Protection Act 1990.

7.1.2 Noise & Vibration Guidance

The contractor must comply with the recommendations set out in **BS 5228:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites** (or most recent revision).

BS 5228 Part 1 (Noise) and Part 2 (Vibration) outline **best practice** for noise and vibration control in respect of construction operations and aim to assist architects, contractors, site operatives, designers, developers, engineers, local authority environmental health officers and planners.

Contractors are at all times required to employ 'Best Practicable Means' (BPM) for noise control. BPM is defined in Section 72 of the Control of Pollution Act 1974 as follows;

"Best practicable means".

(1) This section shall apply for the construction of references in this Part of this Act to best practicable means.

(2) In that expression "practicable" means reasonably practicable having regard among other things to local conditions and circumstances, to the current state of technical knowledge and to the financial implications.

(3) The means to be employed include the design, installation, maintenance and manner and periods of operation of plant and machinery, and the design, construction and maintenance of buildings and acoustic structures.

(4) The test of best practicable means is to apply only so far as compatible with any duty imposed by law, and in particular is to apply to statutory undertakers only so far as compatible with the duties imposed on them in their capacity of statutory undertakers.

(5) The said test is to apply only so far as compatible with safety and safe working conditions, and with the exigencies of any emergency or unforeseeable circumstances.

(6) ***Subject to the preceding provisions of this section, regard shall be had, in construing references to "best practicable means", to any relevant provision of a code of practice approved under the preceding section.***

7.1.3 Noisy working hours

Hours of noisy construction operation will usually be restricted to the following and includes deliveries and collections, maintenance and cleaning**:**

- **0800 - 1800 hours Mondays to Fridays**
- **0900 - 1400 hours Saturdays**
- **NO WORKING Sundays, Bank or Public Holidays**

7.1.4 Short term 'Out of Hours' (OOH) Section 61 permissions

A short term OOH Section 61 permission is required for any noisy works taking place within Southwark outside of the working hours listed in section 7.1.3 and is suitable **for any works that will last less than 8 weeks.**

This permission is relevant for any sized construction site, statutory undertakers and works taking place on highways and Transport for London TLRN routes.

The following details will be required for any application to be accepted;

- Details of reasons why works cannot be undertaken during normal working hours
- Location
- Proposed days and hours of work
- Equipment to be used
- Noise mitigation to be employed
- Details of proposed public relations (i.e. letter drop to surrounding residents and businesses)

The application must be made to the Environmental Protection Team, supported by legitimate and valid reasons as to why works need to be undertaken 'Out of Hours'. Any application that does not provide valid reasoning will likely be refused in the interests of protecting and preserving the amenity of Southwark residents.

Applications are required to be received a **minimum of 7 days** before works are planned to commence, to permit processing. **Applications that are submitted late will be refused**.

Contractors will be required to distribute leaflets or letter drop notifications to surrounding residents, businesses and interested parties giving reasonable notice before the OOH works commence. The notification shall include details of the type of works, the reasons for the works, the hours of working and contact details for a manager who will present when the works take place.

7.1.5 Noise & Vibration Levels

7.1.5.1 Noise

The following noise levels apply to all demolition and construction sites within the borough of Southwark;

Parameter :	TRIGGER (AMBER)	ACTION (RED)
Noise level :	75 dB(A) $L_{eq\ 15min\ (short\ term)}$ 70 dB(A) $L_{eq\ 10hr\ (08:00\text{-}18:00)}$	80 dB(A) $L_{eq\ 15min\ (short\ term)}$ 75 dB(A) $L_{eq\ 10hr\ (08:00\text{-}18:00)}$

Continuous noise monitoring is required on all MAJOR developments

Noise shall be continuously measured at the site boundary at agreed perimeter locations, particularly boundaries with sensitive receptors in close proximity.

Different levels, monitoring locations or measurement periods may be applied according to specific circumstances.

Sound levels should be monitored according to the methods set out in Appendix B of BS 5228: Part 1. All measurements should be made on a sound level meter complying with BS EN 61672-1:2013 *Electroacoustics – Sound Level Meters Part 1 – Specifications.* A programme of noise monitoring by a suitably qualified noise practitioner will be agreed between the developer and the Council.

For minor sites, a twice daily spot noise survey using a calibrated hand held meter 1m from the nearest noise sensitive boundary/façade may suffice.

Southwark's classification for major and minor sites is as follows;
MINOR & SMALL-SCALE – 1-9 dwellings, commercial up to 999sqm and other minor development.
MAJOR – more than 10 residential units and/or 1000sqm of commercial floor space.

Where plant and/or equipment is used continuously and cannot meet the noise limits even with Best Practicable Means employed, then the developer must employ a staggered approach to works, i.e. 2 hours on, 2 hours off. For example 'on' hours; **08:00 – 10:00, 12:00 – 14:00, 16:00 – 18:00, Saturday 11:00 – 13:00 only**, unless otherwise agreed in writing with the Environmental Protection Team.

7.1.5.2 Vibration

Vibration affecting occupied buildings shall not exceed levels that are likely to give rise to damage to the building or discomfort to the occupants of the building. Vibration affecting unoccupied buildings shall not exceed levels that are likely to give rise to damage to the building. It will normally be appropriate to set limits in terms of Peak Particle Velocity (PPV).

In the absence of any other restrictions the following vibration limits shall apply:

- **1mm/sPPV at occupied residential and educational buildings**
- **3mm/sPPV at occupied commercial premises where work is not of an especially vibration sensitive nature or for potentially vulnerable unoccupied buildings**
- **5mm/sPPV at other unoccupied buildings**

In situations where vibration is likely to be continuous during demolition or construction it may be appropriate to set limits in terms of Vibration Dose Value (VDV), whereby the contractor will comply with BS 6472: 2008, Guide to Evaluation of Human Exposure to Vibration in Buildings (l Hz to 80 Hz). The standards for vibration assessment are defined in this British Standard.

Continuous vibration monitoring is required on all MAJOR developments during demolition, piling, excavation or any other ground/sub-structure works. The Environmental Protection Team may consider ceasing the need for continued monitoring during the super-structure phase but only when in receipt of evidence demonstrating that vibration levels being caused by the site works over an agreed amount of time are no longer of concern.

7.1.6 Noise & Vibration Control Measures

- The contractor must comply with The Control of Noise at Work Regulations 2005 in order to protect on site personnel. http://www.hse.gov.uk/noise/regulations.htm

- Noisy plant or equipment shall be situated as far as possible from noise sensitive buildings. Barriers (e.g. site huts, acoustic sheds, or partitions) to mitigate noise affecting sensitive buildings should be employed where practicable.

- The operation of static noisy plant or construction activities shall be placed within a shed or an enclosure lined with sound absorbent material.

- Vehicles and plant used for the purpose of the works shall be fitted with effective exhaust silencers, maintained in good and efficient working order and be operated in such a manner as to minimise noise emissions. The contractor must ensure that all plant complies with the relevant statutory requirements e.g. NRMM Regs. All construction vehicles should have upward pointing exhausts.

- Compressors shall be fitted with properly lined and sealed acoustic covers that should be kept closed whenever in use. Pneumatic percussive tools should be fitted with anti-ring devices, mufflers or silencers of the type recommended by the manufacturers.

- Machines in intermittent use shall be shut down in the intervening periods between work or throttled down to a minimum where this is not possible.

- Noise emitting static machinery that is required to run continuously shall be housed in a suitable acoustic enclosure.

- All vehicles and plant servicing the site shall be fitted with white noise/broadband vehicle reversing alarms.

- Plant shall be maintained in a good and workmanlike condition so that extraneous noise from mechanical vibration, creaking and squeaking is reduced to a minimum.

- Equipment that breaks concrete, brickwork or masonry by bending or bursting shall be used in preference to percussive tools where practicable. It is better to avoid the use of impact tools where the site is close to occupied premises.

- Rotary drills and bursters actuated by hydraulic, chemical or electrical power shall be used for excavating hard or extrusive material where practicable.

- Care should be taken to reduce impact noise when loading or unloading vehicles, scaffolding or moving materials, etc.

- Equipment powered by mains electricity shall be used in preference to equipment powered by internal combustion engine or locally generated electricity where practicable.

- The contractor shall ensure that measures are taken to protect the residents, users of buildings close by and passers-by from nuisance or harm and protect buildings from physical damage caused by vibration. Limits for vibration should be approved by the Council.

Off-site mitigation

When BPM is being employed but noise levels from certain works will likely cause severe disturbance then the contractor is expected to offer off-site mitigation to all noise sensitive receptors in the vicinity, e.g. a respite location in the day with adequate welfare provisions, a hotel room away from the site impacts until the highly disruptive works are complete.

7.1.7 Piling

The noise sensitivity of the area should be considered when determining the method of piling to be used. The use of conventional impact hammer methods should be avoided. Non-percussive pile reduction techniques are now considered best practice. Common methods of piling include; traditional augered piling, continuous flight augered (CFA) piling, secant piled walls and rotary piling.

Piling contractors shall avoid 'shaking' drilling instruments (rotating drills back and forth quickly) to dislodge excess spoil or fine sediment. Quieter, alternative methods of removing excess spoil shall be employed on site e.g. removal of spoil by hand tools or installation of fixed scraping devices.

Developers should plan piling programmes which factor in time at the end of each day to allow for unforeseen delays in concrete deliveries to ensure works cease on time or through and, where possible move the piling rig around the site to avoid prolonged activity in any one area. Repeated and regular overruns due to poor time management are not permitted.

CASE STUDY: Noise mitigation & process for acceptable out of hours working

PROBLEM

Principal Contractor fell behind with scaffolding and complex façade installation works.

Approached the Environmental Protection Team (EPT) to work weekends for 3 months to complete works by scheduled completion date.

Works involved machinery, use of the hoist and installation works considered noisy, with the works adjacent to a boundary with numerous residential receptors.

SOLUTION

Contractor was advised to approach the issue of working weekends at a monthly residents meeting to gauge response and incorporate any feedback.

Contractor was advised to submit a Section 61 'Out of Hours' (OOH) Control of Pollution Act 1974 application form to cover the works.

Contractor then drew up a Noise Management Plan covering all details of works and detailing noise mitigation measures for each aspect.

Contractor was requested to undertake continuous noise monitoring prior to the works commencing to develop baseline data, then continue with the monitoring throughout the works so that Southwark's EPT could monitor the impact of works.

Contractor sent out a letter drop to all surrounding residents and businesses that could conceivably be affected by the works 2 weeks prior to works commencing.

Section 61 OOH permission was granted firstly as a trial period to monitor compliance. Works were then granted full permission as the operations were shown to be adequately controlled and managed.

7.2 Dust & Air Pollution

Continuous day to day works and use of machinery on site, coupled with numerous vehicle movements to and from site, can result in demolition and construction sites emitting high volumes of dust and emissions to atmosphere. Construction is a significant source of particulates (PM_{10}/$PM_{2.5}$) and Nitrogen Dioxide (NO_2) pollution.

Air pollution harms the environment and human health and wellbeing. Poor air quality can cause serious health problems, shorten life and reduces the quality of life for all exposed to it. In June 2012 the World Health Organisation (WHO) confirmed that fumes from diesel engines are carcinogenic. Its research determined that exposure causes lung cancer and tumours to the bladder. The latest evidence suggests that construction and demolition activity is responsible for 15 per cent of air pollutant emissions in London.
Construction and demolition activities can result in the following air quality impacts:

- Visible dust plumes;
- Dust deposition;
- Elevated PM_{10} and $PM_{2.5}$ concentrations
- Increased concentrations of Nitrogen Dioxide (NO_2).

Air pollutants result from dust generating activities on-site such as the breaking-up of materials and the movement of soil and materials, as well as from the exhaust of diesel powered machinery and vehicles, both static and non-road mobile machinery (NRMM). Vehicles accessing and travelling across the site can also generate dust.

7.2.1 Legal requirements

Southwark has declared all areas of the borough north of the A205 South Circular Road to be an Air Quality Management Area (AQMA). NO_2 levels in this area do not meet the legally enforceable national air quality objective limits.

The majority of construction sites in Southwark have residents living in the vicinity who are already exposed to levels of air pollution above the legal limits. Developers are required to demonstrate that their activities on site and vehicles operating on and off site will not cause further adverse impact on local air pollution.

Developers for all major sites are required to submit details regarding measures to control dust and emissions to the Local Authority, either through a condition within a relevant planning permission, a planning legal agreement or by approval of a site specific Construction Environmental Management Plan.

Where planning permission is not required, developers are strongly recommended to implement the relevant elements of this guidance.

Section 80 and 81 of the Building Act 1984 requires that any person intending to carry out demolition works in the borough to give notice to Southwark Council. The demolition contractor must submit a written demolition notice to the Building Control team well before demolition works commence;
http://www.southwark.gov.uk/planning-and-building-control/building-control

Dust nuisance can also be assessed through using statutory nuisance provisions under Section 80 of the Environmental Protection Act 1990. The Environmental Protection Team may serve an abatement notice on a developer when it is considered that a dust nuisance has occurred or **is likely to occur.**

7.2.2 Dust Guidance

All major developments in Southwark are considered 'high risk'. The highest level of dust control, including continuous monitoring of dust deposition, will be required to be employed at all times

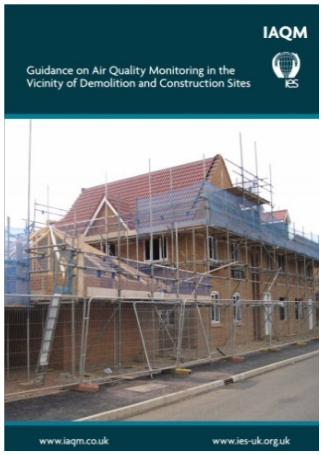
Greater London Authority (GLA) Guidance

The contractor shall comply with the **GLA's 'The Control of Dust and Emissions during Construction and Demolition' Supplementary Planning Guidance (2014) or most recent revision.**

This Supplementary Planning Guidance (SPG) seeks to reduce emissions of dust, PM_{10} and $PM_{2.5}$ from construction and demolition activities in London. It also aims to manage emissions of Nitrogen Oxides (NO_x) from construction and demolition machinery by means of implementing a non-road mobile machinery ultra-low emissions zone.

The document identifies **best practice** for mitigating and managing air quality impacts that is relevant and achievable, with the over-arching aim of protecting public health and the environment.

Institute of Air Quality Management (IAQM) Guidance



Developers and principal contractors should refer to the IAQM's document **'Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites' (2012) or most recent revision.**

Constructing buildings, roads and other infrastructure can have a substantial impact on local air quality. The most common impacts are increased particulate concentrations and dust soiling. Depending on the risk of dust effects occurring, monitoring may need to be carried out during both demolition and construction activities to ensure that the applied mitigation measures are effective in controlling dust emissions to within acceptable limits and that there are no significant nuisance impacts on the surrounding environment.

Developers and contractors should refer to the IAQM's document for the **'Assessment of Dust from Demolition and Construction' (2014) or most recent revision.**

This document provides guidance for developers, their consultants and environmental practitioners on how to undertake a construction impact assessment (including demolition and earthworks). The construction impact assessment may be a standalone document (possibly including other environmental impacts such as noise) or may be incorporated into an Air Quality Assessment or EIA.

7.2.3 Dust levels

Continuous dust monitoring is required on all MAJOR sites in Southwark

In the absence of any other national control limit, the IAQM's recommended site action levels are adopted, these are:

PM10 CONCENTRATIONS – Continuous monitoring

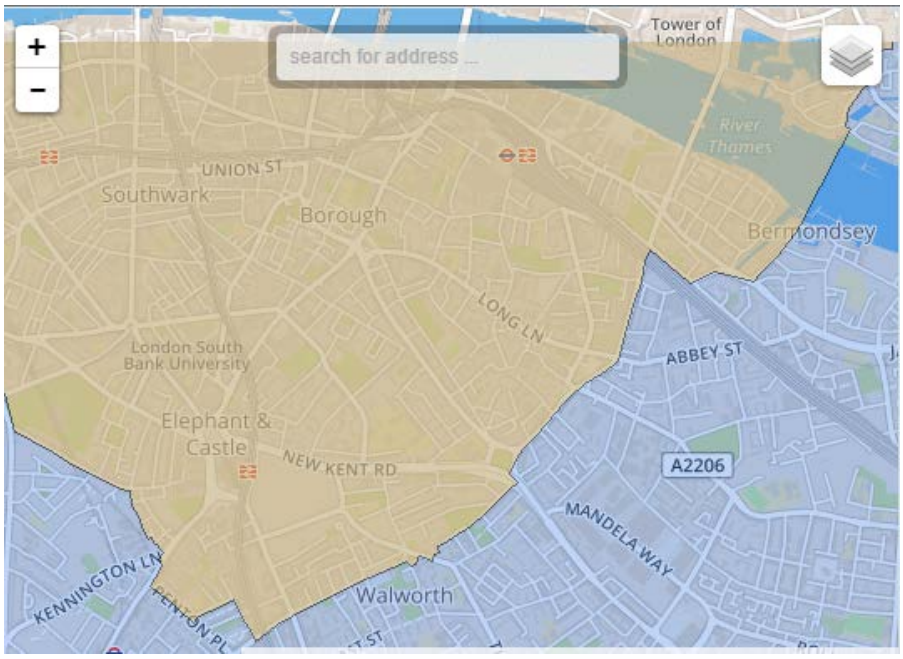
Parameter	TRIGGER (AMBER)	ACTION (RED)
Environmental Dust Units - PM_{10}	200µg/m^3 15 min	250µg/m^3 15min

DUST DEPOSITION – Batch Monitoring can be used to supplement continuous monitoring

- **Frisbee-type Deposition Gauges: 200 mg/m^2/day, averaged over a 4-week period**
- **Glass Slide Deposit Gauges: 25 soiling units (SU) per week, measured as a running 4-week average**
- **Sticky Pads: 2-5% EAC/day, measured over a 1-week period**

7.2.4 Non Road Mobile Machinery (NRMM)

The latest version of the London Atmospheric Emissions Inventory estimates that in 2010 the NRMM used on construction sites was responsible for 12% of NOx emissions and 15% of PM10 emissions in Greater London. From 1 September 2015 NRMM with a net power of between 37kW and 560kW (used in London) has regulated emissions standards for both Nitrogen Oxides (NOx) and Particulate Matter (PM). These standards are based upon engine emissions standards from EU Directive 97/68/EC. More information and guidance on how to read engine plates can be found at https://nrmm.london/nrmm



This map shows the area where NRMM regulations will apply in Southwark.

There are two zones - Greater London (shown in blue), and the Central Activity Zone (CAZ) (shown in orange). The CAZ area has a tighter emissions standard applied to it.

The interactive map is available at: http://nrmm.london/nrmm/nrmm-map

NRMM used on the site of any major development within Greater London (blue) will be required to meet **Stage IIIA** of the Directive as a minimum; and NRMM used on any site within the CAZ (orange) will be required to meet **Stage IIIB** of the Directive as a minimum.

All Light Goods Vehicles & Heavy Duty Vehicles servicing sites must meet emission criteria EURO 6

7.2.5 Dust control measures

Site layout

When planning construction works developers shall:

- Locate machinery and dust generating activities away from off-site sensitive receptors.
- Create a physical distance and/or barriers between dust/emission generating activities and receptors.
- Install solid screens/barriers around dust generating activities and stockpiles. These should be as high as the relevant stockpiles in question as a minimum.
- Cover, seed, fix, or compact and profile stockpiles to prevent wind whipping.
- Remove loose small grain materials as soon as possible.

Site maintenance

Developers should keep the construction sites in good order. Measures required include;

- The site or construction area should be bunded to prevent runoff. Runoff and mud should be contained and managed as it leads to re-suspended dust on haul routes and highways when it dries and pollutes local waterways and sewers when washed off.
- Hoardings, fencing, barriers and scaffolding should be regularly cleaned using wet methods to prevent re-suspension of particulate matter. Developers should collect used water and maximise the re-use of recycled and non-potable water.
- Regular checks for soiling due to dust of buildings within 100 m of the site boundary should be carried out with cleaning, using wet methods, carried out where and when visible dust deposition can be seen to be occurring.
- Require a change of shoes and clothes by staff and visitors before going off-site.
- Provide personal cleaning facilities such as showers and boot cleaners on site.
- Hard surface all major haul routes, inspect and repair them regularly and keep clean from debris at all times.

Transport to site

To reduce dust and particulates associated with vehicles, e.g. exhaust emissions, re-suspension or wind blow dust, all developers should carry out the following controls:

- All vehicles should switch off engines when not in use – no idling vehicles.
- Fixed wheel and/or vehicle washing on leaving site e.g. drive through, under vehicle jets or hand held jet washers.
- All loads entering and leaving site to be covered.
- Hard surfacing and effective wet cleaning of haul routes.
- Enforced a 5mph speed limit on site.
- Use fixed or mobile irrigators or sprinkler systems to effectively damp internal haul routes and external roads up to 100m from site entrance(s) a minimum of once a day.

IDLING IMPACT – During the peak excavation works, a major development may require 6 muck away vehicles an hour. If each vehicle is stationed for 5 minutes and left idling, this would equate to 30mins per hour and over the 10 hour working day would equate to 5 hours of unnecessary vehicle exhaust fumes being emitted per day. Enforcing no engine idling will also save money on fuel costs.

London Low Emission Zone

All mobile vehicles associated with demolition or construction shall comply with the vehicle engine and exhaust emission standards of the London Low Emission Zone.

Reducing vehicle idling

The site shall be managed so that vehicles do not have to wait to park safely. However, should vehicles have to wait they should not idle. If a vehicle is stationary for more than a minute, turning off the engine is required by The Road Traffic (Vehicle Emissions) (Fixed Penalty) (England) Regulations 2002.

Site activities

Diesel or petrol generators

Even modern diesel or petrol powered plant items emit higher levels of PM and NOx than electric equivalents. Therefore, wherever possible, renewable, mains or battery powered plant items should be used.

Cutting, grinding and sawing

Cutting, grinding and sawing should not be conducted on-site and pre-fabricated, pre-cut materials and modules should be brought to site. In cases where on site cutting, grinding and sawing must take place on site this must be done using equipment fitted with functional dust arrestment/suppression. Alternatively a water efficient spray over the material as it is being cut will greatly reduce the amount of dust generated. http://www.hse.gov.uk/pubns/cis36.pdf

When scrabbling best practice is to: pre-wet work surfaces; screen off work areas; and wet sweep away all arisings.

Mobile crushing plant
Crushing is an inherently noisy and dusty activity. Developers shall formally notify the local authority if a crusher is to be used on site. Mobile crushing plants are authorised as Local Authority Pollution Prevention & Control (LAPPC) processes under the Environmental Protection Act 1990 by the authority where they are registered (rather than the authority in whose area in which they are used). This is required even if they are only on site for a few days. Developers must keep a copy of the LAPPC permit on-site and adhere to the conditions of use at all times. It is mandatory to use best available techniques in accordance with the relevant Process Guidance note at all times.

Crushing plant and the discharge from crushers and grading screens should be enclosed in a temporary shed and have a fine spray of water fed into the top of the crusher hopper at all times whilst in use.

Concrete batching
As for mobile crushing plants, construction sites with concrete batching plants will likely be categorised as medium or high risk. Developers should treat such plant as a permitted LAPPC process under the Environmental Protection Act 1990, even if temporary, and employ the following best practice: Notify the local authority a concrete batcher is to be used on site; use best available techniques identified in the Process Guidance note; and carry out these processes in an enclosure, wherever possible.

Chutes, conveyors and skips
Skips, chutes and conveyors should be completely covered or enclosed to ensure that dust does not escape. Drop heights should be minimised to control the fall of materials.

Damping down

Developers will need to wash or dampen haul routes both within and outside the site. This is particularly important for sites close to residential properties or other sensitive receptors and during dry or breezy conditions. Developers should consider the environmental and economic benefits of using a groundwater source on site, as opposed to bringing drinking quality water onto site for the purpose of dust suppression. Where possible the source of water should be sustainable and the re-use be optimised.

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- Clean road edges and pavements using wet cleaning methods.
- Use wet cleaning methods and mechanical road sweepers on all roads within 100m of the site entrance at least once a day.
- Consider using fixed or mobile sprinkler or irrigator systems.
- Where possible, use a sustainable source of water.
- Contact the Environment Agency for advice regarding recycling any collected material or handling run-off water according to their legal requirements.
- Provide hard-standing areas for vehicles and inspect and clean these areas daily.

Stockpiles and storage mounds

Developers should avoid long-term stockpiles on site unless they are designed and planned to perform the function of visual or noise screening. If they are necessary, the following measures should be in place:

- Make sure that stockpiles exist for the shortest possible time.
- Do not build steep sided stockpiles or mounds or those that have sharp changes in shape. Profile to minimise wind whip.
- Whenever possible site stockpiles away from the site boundary, sensitive receptors, watercourses and surface drains.
- Wherever possible, enclose stockpiles, keep them securely sheeted or employ irrigators.
- When siting stockpiles take into account the predominant wind direction to reduce the likelihood of affecting off-site receptors.
- Seed, re-vegetate or turf long term stockpiles to stabilise surfaces or use surface binding agents that have been approved by the Environment Agency.
- Re-use hardcore material to avoid unnecessary vehicle trips.
- Erect fences or use windbreaks such as trees, hedges and earth-banks of similar height and size to the stockpile to act as wind barriers and keep these clean using agreed wet methods regularly.
- Store fine or powdery material (under 3mm in diameter) inside buildings or enclosures.

Sand Blasting

The work area should be close-sheeted to reduce dust nuisance from grit. Routine checking is required to ensure that the sheeting remains sound and sealed during the operation. Particular attention should also be given to the working platform to ensure that it is properly sheeted and sealed to contain dust.
http://www.hse.gov.uk/pubns/guidance/cn7.pdf

Non-siliceous grit should be used to prevent long-term irreversible lung damage from silica dust to workers.

Adequate PPE and sheeting should be provided when sand blasting any structure painted with lead based paint. Please refer to the Control of Lead at Work Regulations 2002.
http://www.hse.gov.uk/pUbns/priced/l132.pdf

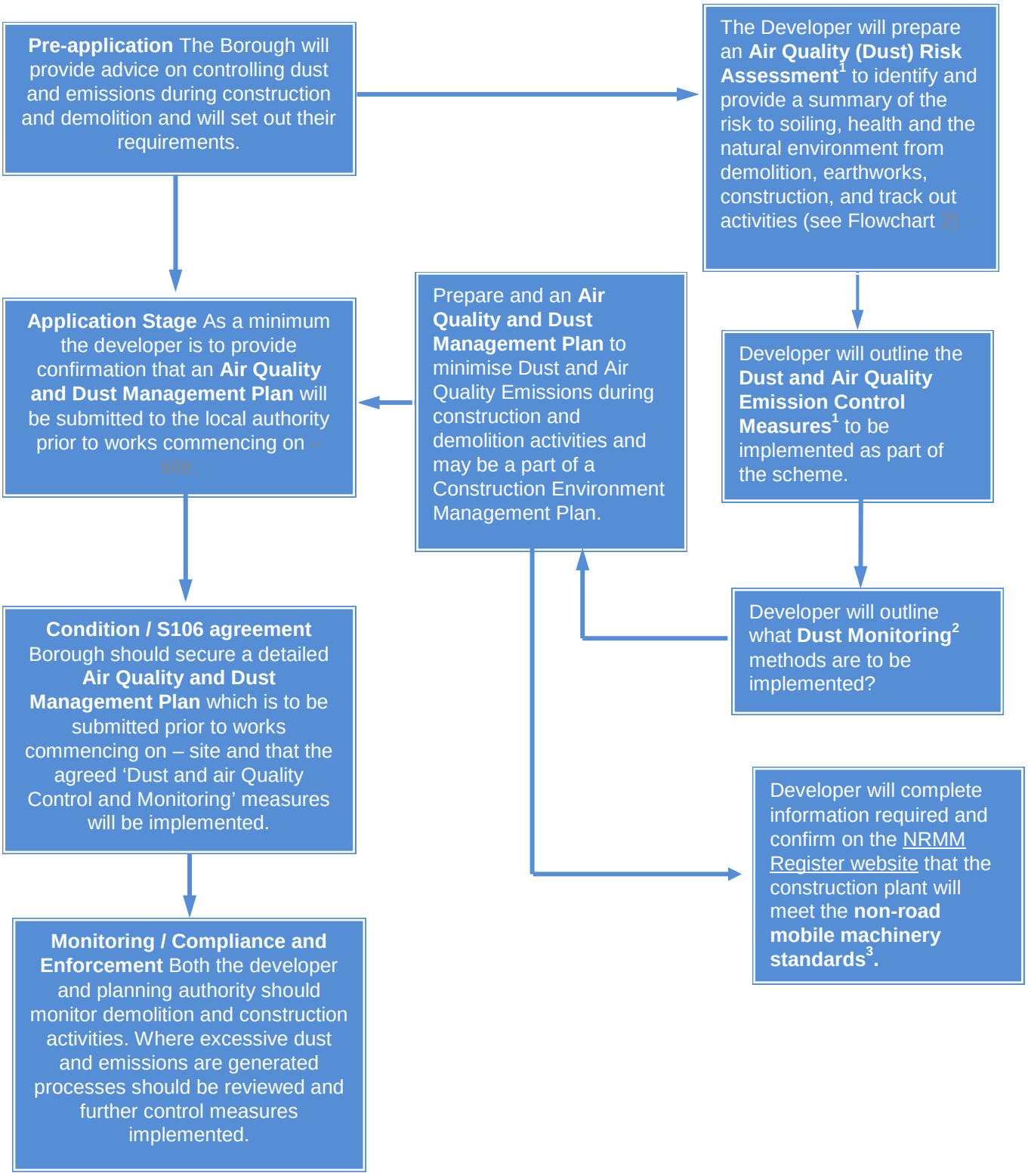
In cases where water is used for large scale cleaning and blasting projects the requirements of Environment Agency and Thames Water Utilities Ltd must be complied with.

All grit must be prevented from falling into or ending up in rivers or watercourses. Please refer to the Water Resources Act 1991.

The contractor shall take all necessary precautions to prevent the occurrence of smoke emissions or fumes from site plant or stored fuel oils to prevent the emissions or fumes drifting off-site. Plant shall be well maintained and measures taken to ensure that it is throttled down or turned off when not in use.

PPG6 ‘Construction and demolition sites: prevent pollution’ guidance document was withdrawn on 14 December 2015 however, it can still be referenced as a good guide to pollution control;
https://www.gov.uk/government/publications/construction-and-demolition-sites-ppg6-prevent-pollution

Dust and Emissions Control Flow Chart through the Planning Process



[1] For further guidance see IAQM – "Guidance on the assessment of dust from demolition and construction" accessed at http://www.iaqm.co.uk/ext/guidance/construction-dust-2014.pdf

[2] For further guidance see IAQM – "Guidance on Air quality Monitoring in the Vicinity of Demolition and Construction Sites" accessed at http://www.iaqm.co.uk/ext/guidance/construction-dust-2014.pdf

[3] The minimum, non – road mobile machinery standard in the Borough are for developments in the Mayor's Central Activity Zone is Stage IIIB and Stage IIIA for the rest of the Borough until 2020.

8.0 Transport Logistics

8.1 Lorry Movements

The contractor shall use a fixed route for HGVs travelling to and from the worksite as agreed with the Council's Network Management Team and the Police. Construction site vehicles should not be permitted to use streets serving residential areas or schools, or where they will have an adverse effect on local business, unless unavoidable.

No daytime or night-time lorry parking shall be permitted in the vicinity of the worksite. Vehicle movements shall be planned to ensure that vehicles do not arrive or depart outside permitted working hours. If necessary a holding area should be identified and agreed with the Planning Service and Network Management Team.

Vehicles waiting to enter or leave a site must switch off their engines. Concrete mixers are the only exception.

The contractor shall use in-cab communication systems to maintain control of HGV movements and avoid obstructing roads. For sites in areas where streets are narrow or congested arrangements should be made for vehicles to wait at locations agreed with the Council before being called up to the site, or 'one way' inbound and outbound routes identified. To temporarily remove on-street parking facilities contact the Parking department at Southwark Council. http://www.southwark.gov.uk/parking

HGVs shall enter and exit the site in a forward direction except in those cases where on site space restrictions do not permit this.

HGVs - Standards

All HGV's regularly serving the site shall be readily identifiable to that site by stickers/notices displayed in prominent positions. Identification should be easily legible at a distance of 20m and shall be of a design specific to the site.

8.2 Roads and Footpaths

All temporary and diverted footways should be designed for access for wheelchairs and pushchairs. It should be ensured that reasonable pedestrian routes are provided throughout the construction period that meet the following requirements:

- Any temporary footways and carriageways shall have uniform surfaces; there should be no steps and any gradients should be no greater than 1 in 12.
- Pavement ramps should be provided at all junctions of footways and carriageways. Gradients must not exceed 1 in 12 and the base of the ramp must be flush with the carriageway.
- All temporary footways and ramps should be surfaced in nonslip material.
- The pavement width around the worksite should not be less than 2m at any point.
- Clear signage should be provided at all times for each pedestrian route, particularly where the destination building has been obscured by the construction site.
- All openings or obstructions on to the carriageway and/or footway must be barricaded with a continuous rail (lit at night) strong enough to offer adequate resistance from collapse should a person with compromised eyesight walk into it; a tapping rail must be provided.
- Headroom clearance over footways must be a minimum of 2.3m. A horizontal clearance of 0.6m will be provided from the kerb-line for any hoarding projection less than 5.1m high, to avoid damage to or by vehicles. If any projection is over the highway, the clearance must be a minimum of 5.1m.
- All pedestrian routes diverted onto the carriageway must be clearly defined by continuous barriers.

Provision should be made to prevent vehicles crossing the pavement in order to service the site from coming into contact with pedestrians. Vehicles manoeuvring in public areas must be under the direction of adequate numbers of experienced banks-staff.

All loading and unloading of vehicles shall take place off the public highway, whenever possible.

The contractor shall give notice of planned closures or diversions of roads and footpaths to the Council, the Police, the London Fire & Rescue Service and other emergency services. This shall be sufficiently in advance of the required closure or diversion dates. A Traffic Regulation Order will need to be imposed by the Traffic Authority, defining the

details of how, where, when and for how long access is to be restricted or diverted and must comply with the requirements of the Highways Act 1980.

The contractor will be responsible for any damage caused to roads, kerbs or footpaths in the vicinity of the worksite by their activities and will carry out temporary or permanent reinstatement as required. Permanent reinstatement standards must be agreed with the Council Highways Service prior to work being carried out.

8.3 Skips

The placing of skip containers on the highway requires a skip license from Southwark Council Highways Licensing Team. Contractors shall comply with any conditions to ensure free passage of public transport, traffic and access when delivered, during use and when removed.

Care must be observed to not exceeding the loading level and all skips containing waste shall be covered during transportation. Skips should be kept covered when not in active use and should be removed as soon as practicable.

8.4 Holding / Lay off areas

Developers are strongly encouraged to acquire holding areas in the close vicinity to a working site where vehicles can stop and be brought to site when convenient to do so. A holding area prevents any unforeseen backups in deliveries/vehicle movements to site and minimises knock on impacts to traffic flow and parking. Acquiring a holding area can prevent circulation trips due to a driver arriving early or being unable to load, in turn reducing fuel costs and the level of pollution in the locality of the site.

8.5 Works on Transport for London Road Network (TLRN) aka 'Red Routes'

The Traffic Management Act (2004) (TMA) was introduced to tackle congestion and disruption on the road network. The TMA places a duty on local traffic authorities to ensure the expeditious movement of traffic on their road network and the networks of surrounding authorities. The TMA gives authorities additional tools to better manage parking, traffic enforcement and the management of street works.

One of the most important considerations for developers and their contractors is the assurance that they can safely construct without delays and at excessive cost. Having a good understanding of Transport for London's (TfL) processes and timescales is recommended.

London's sensitive road networks

There are two road networks in London which have been designated for their strategic importance to road users. TfL has been given certain powers on each to fulfil the requirements of the TMA.

The Transport for London Road Network (TLRN) - Red Routes.
https://tfl.gov.uk/modes/driving/red-routes

The Strategic Road Network (SRN) - Yellow Routes with high bus and traffic volumes.

A list of the roads designated as Strategic roads can be found at;
http://www.legislation.gov.uk/uksi/2005/476/schedule/made

Works impact assessment and Permit process

For works that are proposed on or impact on either TLRN or SRN roads, contactors are required to submit a TMA notification. These notifications form part of an audit process to ensure any proposed works do not impact on the road network. In order to implement works on the TLRN you contractors require a permit. If not already registered with the London Permit Scheme applications can be made to; Section50@tfl.gov.uk

Lane Rental

The Transport for London Lane Rental Scheme (TLRS) was introduced on 11 June 2012 and updated on 1 July 2014. Works undertaken on traffic sensitive roads may be chargeable at a daily rate.
For specific details on Lane Rental areas, see:
http://www.oneroadnetwork.org/library/street-works---tma/tfl-s-lane-rental-scheme/tfl-lane-rental-street-lists/file1871/

For further information on all the above details, see:
Construction Guidance Document for Contractors – www.oneroadnetwork.org

9.0 Pollution Control & Urban Ecology

9.1 Asbestos

Common sources of Asbestos are:

- Thermal and acoustic insulation materials.
- Fire resistant walls and partitions, asbestos cement sheets or flooring materials.
- Pipe lagging and water tanks.

The removal of, or working with asbestos must be undertaken only by HSE licensed contractors.

The contractor must observe and comply with the following:
- Control of Asbestos at Work Regulations 1987
- Control of Asbestos in the Air Regulations 1990
- Control of Pollution (Special Waste) Regulations 1996
- Environmental Protection Act 1990 s34
- Relevant codes of practice e.g. COP3 (work with asbestos insulation etc.) and COP21 (control of asbestos etc.)

Relevant HSE guidance notes: e.g. EH 10, 35, 36, 37, 40, and MS 13

All asbestos waste must be disposed of in receptacles labelled in compliance with the Carriage of Dangerous Goods by Road and Rail (Classification, Packaging & Labelling) Regulations 1994.
The disposal of waste materials containing asbestos must be arranged in advance. Materials must be deposited at an appropriately licensed disposal site. Disposal sites shall be agreed by the contractor, the Environment Agency and the Council. The contractor will obtain a licence from HSE to remove asbestos insulation or coating. The contractor should have written description of the nature and type of asbestos from an analysis report. The contractor must also comply with the Control of Pollution (Special Waste) Regulations 1996.

9.2 Lead

Common Sources of Lead are:

- Stripping and burning off old paintwork.
- Cutting and burning of steelwork covered with lead based paint.
- Cleaning and shot blasting of buildings.
- Removal of old petrol tanks from filling stations. The contractor must observe and comply with the following: The Control of Lead at Work Regulations 1998 The Approved Code of Practice to the above regulations and the Waste Management "Duty of Care" Code of Practice.

Lead containing waste may constitute ‘special waste’. The Control of Pollution (Special Waste) Regulations 1996 must be complied with where necessary. The Environment Agency may be contacted for advice, if required.

9.3 Polychlorinated Biphenyls (PCBs)

PCBs are highly carcinogenic. Common sources of PCBs are electrical, refrigeration and heating equipment. PCBs can leak out when dismantled or when being removed. Checks for leaks should be made around welds and flanges.
PCBs are subject to Control of Pollution (Special Waste) Regulations 1996. The Waste Management "Duty of Care" Code of Practice should be adhered to. PCBs must never be poured into drains, sewers or onto land. PCBs must be properly disposed of.

9.4 Demolition Waste Removal

All old and disused services pipes and voids should be removed or filled to avoid providing harbourage for pests. Drains should be sealed off at the sewer connection with the agreement of Thames Water Utilities Ltd.

Fly tipping is not permitted. All waste must be removed using a registered carrier of waste and disposed of to sites authorised to receive that particular category of waste. Deposition at final destination must be in accordance with the requirements of the Environmental Protection Act 1990 and the Control of Pollution (Special Waste) Regulations 1996. Advice on the disposal of inert demolition waste and the locations of approved sites, or location for re-use, must be agreed with the Environment Agency.

To prove the correct depositing of excavated material and to prevent the occurrence of fly tipping, a ticket system should be operated at all sites. The contractor should provide to the client’s satisfaction and the satisfaction of the

Council a sequentially numbered ticket system (complying with the Waste Management "Duty of Care" Code of Practice) to confirm that each lorry load of spoil or waste is deposited at an approved site or location.

The contractor must comply with the Control of Substances Hazardous to Health Regulations (COSHH) 1999 and HSE Guidance Note EH 40, Occupational Exposure Limits (latest edition), to ensure contaminated excavated materials are handled and disposed of properly and in accordance with the law.

Any contaminated material should be analysed to determine a correct categorisation for the waste. Disposal should be only at a licensed waste site for that waste category. Enquiries regarding to appropriate sites can be made to the Environment Agency. Sheeting of all sides and proper covering of all vehicles carrying spoil and other materials should be undertaken to prevent any dust pollution or cross contamination. After demolition the site must be left clear of all demolition wastes except for those to be recycled on site.

For further information refer to DEFRA's 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites' (2009).

9.5 Contaminated Land Investigation

The Environment Act 1995 established a new regime (effective from April 2000) for identification and treatment of contaminated land. The Council is legally required to produce and publish a strategy.

Sites need to be properly assessed and investigated to determine whether they are contaminated, and the remediation proposals incorporated into the development plan. (Environmental Protection Act 1990 Part IIA – Environment Act 1995)

The main objectives of the investigation are to assess the impact of contamination, if any, on the users (present and future) of the site, to protect workers during redevelopment, to protect constructed structures, materials and service lines, to safeguard the local environment during construction and to protect water aquifers.

The investigation process should follow a scientific approach, with the extent of sampling being more robust where contamination is expected due to previous land uses. It is important that a risk assessment of the pollutants found is carried out. This should follow the source, pathway, to receptor principle contained within the new contaminated land guidelines. Details of the investigation and proposed remediation treatment should be submitted to Local Authority for approval, usually required through a planning condition on the relative development site. The Environment Agency is responsible for approval at certain high risk 'special sites'.

Before and during construction operations it may be necessary to monitor the emission of land gas. Should this prove to be necessary, the contractor will be required to establish a programme of testing for methane and other hazardous gases by an expert in the field.

Land Contamination - standards

Land contamination is a material consideration for the purpose of Town and Country Planning Acts and the condition to carry out soil investigation may be required by planning condition.

Developers/landowners and contractors should have regard to the requirements or details of the Council's Contaminated Land Inspection Strategy, published in June 2001. The methodology for investigation is set out in the DETR documents listed below:

- A Framework for Assessing the Impact of Contaminated Land on Groundwater and Surface Water (CLR No 1)
- Guidance on Preliminary Site Investigation of Contaminated Land (CLR No2)

Risk Assessment should be modelled using Contaminated Land Exposure Assessment (CLEA) or Scottish and Northern Ireland Framework for deriving targets to minimise the adverse effects of exposure to contaminants in soil (SNIFFER).

The Inter-departmental Committee for the Reclamation of Contaminated Land (ICRCL) known as the Kelly's guidelines are not based on health risk and therefore are less applicable to the new regime. These guides should only be used as the basis for determining remediation where the above models are not applicable.

Specific measures not detailed above may be required to contain Contaminated Land within the project site. Developers must comply with and implement remediation strategies from any relevant approved reports.

9.6 Water Pollution & Control of Site Run Off

The contractor must take measures to ensure that any liquids of a potential hazardous nature on site are controlled in accordance with COSHH Regulation and are properly bunded to avoid contaminants from reaching water courses or groundwater, including aquifers. Please refer to requirements within the Environmental Protection Act 1990 & Environment Act 1995.

In the case of excavation works below the water table or works including extensive site dewatering, the contractor must inform the Environment Agency of the works to be conducted. The dewatering and disposal measures must be agreed with the Environment Agency and where appropriate an abstraction licence shall be obtained by the contractor.

Construction site run off and all waste water arising from the site shall be disposed of in accordance with the requirements of the Environment Agency and Thames Water Utilities Ltd. Adequate water collection systems should be in place to take care of storm flows. Prior written consent of the Environment Agency is required for dewatering from any excavation or development to a surface watercourse. Please refer to the Water Resources Act 1991.

9.7 Archaeology

On sites of known and potential archaeological importance archaeological investigation may be required. This can take place before planning permission is granted or may be a condition attached to the planning permission. Archaeological investigations take place prior to the start of construction works but in some cases it may be necessary for the archaeological contractors to be on site at the same time as construction contractors. The developer will follow the specific requirements of the planning permission or the instruction of the Borough Archaeologist.

On sites where preservation of archaeological remains has been agreed but unforeseen changes in ground-works design and location become necessary, then they will need to be discussed in advance with the Council. If the changes render preservation impracticable then provision will be made for the excavation of the threatened remains and the contractor will follow the specific requirements of the Council.

Enquiries regarding archaeology need to be made to the Design & Conservation Team within the Planning Department.
http://www.southwark.gov.uk/planning-and-building-control/design-and-conservation

9.8 Protection of Trees

Before carrying out any tree works, the contractor must ensure compliance with the Town & Country Planning Act 1990 by giving a schedule of tree works to the Planning Department to check whether any trees are protected by Tree Preservation Orders or are in a designated conservation area. On some contaminated sites it may not be possible to undertake the remedial treatment to the fullest extent due the presence of mature trees and desire to leave the root system intact. Advice should be sought from the Tree Officer in these circumstances.

Trees should never be used for external fixtures and fittings.

9.9 Tree Replacement

Whilst every reasonable attempt should be made to preserve all trees, any tree that is cut down, is badly damaged or dies as a consequence of the construction should be replaced. Replacement trees should be of a type, size, number and at a location agreed with the Council. They should be suitably protected from vandalism and drought where appropriate. Every tree planted should be replaced until those required are properly and fully established.

Enquiries regarding trees should be addressed to Southwark Council's Trees team.

Tree Protection - standards

The contractor should follow the specific requirements of the Council. No trees will be interfered with unless specifically agreed with the Council.

Adverse effects on trees on or in the vicinity of work sites should be minimised by the following:

- No materials or soil should be stored against the trunks;
- No flames should be allowed within 5m of the outer branches of the tree's crown;
- No change in soil level should be permitted within 2m of the trunks without the express approval of the Council.

Where sufficient working space permits, a protective around the trees should be established. The following standards must be applied:

- Trees should be fenced off until all development work is completed. Protection in accordance with BS 5837:2012 should consist of scaffold poles to which is attached chestnut paling fencing (1.2m high) erected at the crown

perimeter of each tree. Where the concentration of construction activity is particularly intense, hoarding of at least 2.4m high should be erected, comprising of a scaffolding framework supporting minimum 20mm exterior grade ply or other robust man-made boards.
- Trenches for underground services should be located outside the branch spread of trees and roots over 5cm diameter should be retained; but if they have to be severed they should be cut using a sharp tool.

Where working space is restricted, the following standards should be applied:
- Tree trunks should be directly protected from mechanical damage using an inner ring of matting/material and an outer ring of chestnut paling fencing.
- The lower branches should be selectively removed in an approved manner in accordance with BS 3998 to reduce mechanical damage by construction plant.
- Service trenches should be as far as reasonably practicable from the tree and must be hand-dug if within the crown zone and/or within 2m of the trunk of a tree to be retained; roots of a diameter of over 2.5cm should be retained but if they have to severed, they should be cut using a sharp tool. Trenches should be back-filled with excavated soil except for street trees for which an inert granular material and top soil mix may be preferred to aid aeration and reduce compaction.

9. 10 Encroachment into Wildlife Areas

The contractor must comply with the requirements of the Wildlife and Countryside Act 1981 together with the specific provisions agreed with the Council. The following general principles will be applied where practicable:

- Wherever wildlife habitats remain alongside working areas, provision shall be made where possible by the involvement of local wildlife trusts to prevent encroachment onto valuable ecological areas that are not required for essential construction.
- Wildlife habitats disturbed by construction work shall be properly restocked to an equivalent or richer environmental status after work ceases.
- Suitable precautions will be taken to prevent the entry of pollutants into any bodies of water.
- Uncommon plant species will be transplanted to other, safer local sites of similar habitat conditions.

9.11 Protection of River Corridors and Wetland Features

The contractor should ensure that polluting materials are not allowed in or near rivers and that vegetated buffer zones to watercourses and wetland features are retained.

Care should be taken to prevent the introduction or spread of invasive or nuisance species such as Japanese Knotweed, Giant Hogweed and other plants covered by the Weeds Act 1959 and Wildlife and Countryside Act 1981 (as amended).

9.12 Rodent Infestations

Baiting for rodent pests prior to any disturbance of the site will be necessary. The intention must be to determine what, if any, infestation exists on the site; and then to take steps to eradicate it. Poison must be laid in position in containers which comply with the relevant Health and Safety requirement and which eliminate any danger to children, household pets and other wildlife. Workers should be advised of symptoms and dangers of Weil's disease. Food waste should be stored in pest proof containers / bins.

9.13 Finishes and Maintenance Works

At the completion of works the contractor must leave the site free from plant, rubbish and any unwanted materials. Temporary works, equipment, signage etc. should be removed.

Any landscaping must allow proper drainage and should fit in with existing environment.

10.0 Relevant legislation, standards and codes

ACTS

Control of Pollution Act 1974

Environment Act 1995

Environmental Protection Act 1990

Health and Safety at Work etc Act 1974

Highways Act 1980

Town and Country Planning Act 1990

Traffic Management Act 2004

Water Resources Act 1991

Water Resources Act 1991

Weeds Act 1959

Wildlife and Countryside Act 1981

REGULATIONS

Construction (and Design) Management Regulations 2015

Control of Asbestos in the Air Regulations 1990

Control of Asbestos at Work Regulations 1987

Control of Lead at Work Regulations 2002

Control of Noise at Work Regulations 2005

Control of Pollution (Special Waste) Regulations 1996

Control of Substances Hazardous to Health Regulations (COSHH) 1999

Road Traffic (Vehicle Emissions) (Fixed Penalty) (England) Regulations 2002

STANDARDS

BS 5228:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites

BS 5969: 1981 (1989) Specification for Sound Level Metres

BS EN 61672-1:2013 Electroacoustics – Sound Level Metres- Part 1 – Specifications

BS 6472:2008 Guide to Evaluation of Human Exposure to Vibration in Buildings

BS 5837:2012 Trees in relation to design, demolition and construction

BS EN 50131 – Standards for Intruder Alarm Systems

CODES OF PRACTICE

DEFRA's 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites' (2009)

GLA's 'The Control of Dust and Emissions during Construction and Demolition' Supplementary Planning Guidance (2014)

IAQM's 'Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites' (2012)

IAQM's 'Assessment of Dust from Demolition and Construction' (2014)

Institute of Lighting Professionals 'Guidance Notes for the reduction of Obtrusive Light' document (2011)

11.0 Glossary

Southwark/The Council/The Borough – The London Borough of Southwark
AQ – Air Quality
BPM – Best Practicable Means
BS – British Standard
CCS – Considerate Constructors Scheme
CEMP – Construction Environmental Management Plan
CFA – Continuous Flight Augered method of piling
CoPA – Control of Pollution Act 1974
EIA – Environmental Impact Assessment
EPT – Southwark Council's Environmental Protection Team
GLA – Greater London Authority
HSE – Health and Safety Executive
IAQM – Institute Air Quality Management
LPA – Local Planning Authority, which when referred to in this document is Southwark
Noise Team – Southwark Council's Noise & Nuisance Team
NO_x – Nitrogen Oxides
NO_2 – Nitrogen Dioxide
NRMM – Non Road Mobile Machinery
OOH – Out of Hours work, relating to section 61 exemptions
PM_{10} / $PM_{2.5}$ – Particulate Matter. 10 or 2.5 micrograms (µg)
PPV – Peak Particle Velocity, with regards to vibration
SPG – Supplementary Planning Guidance
SRN – Transport for London Strategic Road Network
S106 – Planning obligations under *Section 106* of the Town and Country Planning Act 1990
S60 / Section 60 – Notice through Control of Pollution Act 1974
S61 / Section 61 – prior consent Notice through Control of Pollution Act 1974
TfL – Transport for London
TLRN – Transport for London Road Network. Aka 'Red Routes'
TLRS – Transport for London Lane Rental Scheme
VDV – Vibration Dose Values, with regards to vibration.
WHO – World Health Organisation

12.0 Useful contacts

Southwark

Postal address: Southwark Council, PO BOX 64529, London SE1P 5LX
Visiting: Southwark Council, 160 Tooley Street, SE1 2QH
Switchboard: 0207 525 5000

Environmental Protection Team
T: 0207 525 4261 E: environmental.protection@southwark.gov.uk

Noise & Nuisance Team
T: 0207 525 5777 E: noiseandnuisance@southwark.gov.uk
W: http://www.southwark.gov.uk/noise-and-antisocial-behaviour

Network Management Team
T: 0207 525 5000 E: SouthwarkPermits@southwark.gov.uk
W: http://www.2.southwark.gov.uk/info/200083/roadworks_and_highway_improvements

Highways Licensing Team
T: 0207 525 5000 E: highwayslicensing@southwark.gov.uk
W: http://www.2.southwark.gov.uk/info/200444/highway_licensing

Trees Team
T: 0207 525 0511 E: trees.envl@southwark.gov.uk
W: http://www.2.southwark.gov.uk/info/505/trees

Building Control
T: 0845 600 1285 E: building.control@southwark.gov.uk
W: http://www.southwark.gov.uk/planning-and-building-control/building-control

Planning Department
T: 020 7525 5403 E: planning@southwark.gov.uk
W: http://www.southwark.gov.uk/planning-and-building-control

Design & Conservation Team
T: 0207 525 5000 E: designconservation@southwark.gov.uk
W: http://www.southwark.gov.uk/planning-and-building-control/design-and-conservation

Other

Metropolitan Police – Southwark
Emergency: 999
Non-emergency: 101
W: https://www.met.police.uk/
Abnormal loads: https://www.met.police.uk/tell-us-about/abnormal-vehicle-loads/

London Fire Brigade
London Fire Brigade, 169 Union Street, London, SE1 0LL
Emergency: 999
T: 020 8555 1200
E info@london-fire.gov.uk

Health and Safety Executive (HSE) – London
Rose Court, 2 Southwark Bridge, London, SE1 9HS
T: 0845 345 0055 (general enquiries)
W: http://www.hse.gov.uk/construction/

Environment Agency
National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY
T: 03708 506 506 (general enquiries)
E: enquiries@environment-agency.gov.uk

Thames Water Utilities Ltd
T: 08459 200 800
W: https://www.thameswater.co.uk

Transport for London (TfL)
Palestra House, 197 Blackfriars Road, London, SE1 8NJ
W: https://tfl.gov.uk
T: 0343 222 1234 (customer service)