CONTAMINATED LAND STRATEGY

ENVIRONMENTAL PROTECTION ACT 1990 PART IIA

ADOPTED 2002
REVISED 2010

PUBLIC PROTECTION
ENVIRONMENTAL SERVICES
LONDON BOROUGH OF BROMLEY
CIVIC CENTRE
STOCKWELL CLOSE
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Executive Summary

Legislation for dealing with contaminated land issues, set out in the Environmental Protection Act 1990, came into force on 1st April 2000. These laws placed a statutory obligation on local authorities to address land contamination issues in their area and set-up and maintain a register of details of any land classed as 'Contaminated Land'.

One of the first tasks required from the new legislation was the requirement of a strategic framework of how the local authorities intended to implement the new statutory obligations. This strategy was therefore produced in response to statutory requirements and set out how London Borough of Bromley addresses, plans to address and remedy land contamination issues within its borough.

The original strategy was adopted in June 2002, following consultation. This revised strategy takes into account all changes in relevant legislation, regulations and guidance within the last eight years and includes both the progress and experience since the strategy was first adopted.

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1 Introduction

1.0 Summary

Section 57 of the Environment Act 1995 inserted important provisions for dealing with contaminated land into Part 2A of the Environmental Protection Act 1990.

This regime requires, amongst other things, all Local Authorities to inspect their areas for contaminated land, and produce a strategy outlining how they approach this task.

The main aim is to help address the problem of historical contamination of land and the risks it can pose to people's health and the environment. It contains the main legislative provisions of the new contaminated land regime with further detail contained in The Contaminated Land (England) Regulations 2006 (SI 1380), and statutory guidance update published in September 2006 (DEFRA Circular 01/2006)

The Government sees a central purpose of the regime as being to encourage voluntary remediation of land affected by contamination (without Part 2A actually being used to require it). Normally, Part 2A would only be used to require remediation if no better solution were available.

The main elements of contaminated land legislation are:

- Part 2A of the Environmental Protection Act
- Statutory Guidance . The statutory guidance can be found at Annex 3 of Defra Circular 01/2006. It forms part of the Part 2A legal regime. It elaborates on various aspects of the Act, including the definition of "contaminated land"; identification and remediation; and liability for who pays for remediation.
- Contaminated Land (England) Regulations 2006. The Regulations elaborate on various details of the Part 2A regime – e.g. dealing with issues such as what qualifies as a "special site"; public registers; remediation notices; and setting the rules for how appeals can be made against decisions taken under the Part 2A regime.

1.1 Definition of Contaminated Land

Section 78A(2) of Part IIA defines contaminated land as:

"any land which appears to the Local Authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that -

a) significant harm is being caused, or there is significant possibility of such harm being caused; or

b) pollution of controlled waters is being, or is likely to be, caused.

Section 78A(4) then continues to define harm as "harm to the health of living organisms or other interference with the ecological systems of which they form part and, in the case of man, includes harm to his property."

The act does not explain what it means by 'significant' in the terms 'significant harm and significant possibility of significant harm' The statutory guidance forms part of the Part IIA regime and require local authorities to make decisions on significance in accordance with the statutory guidance.

The Statutory Guidance (DEFRA Circular 01/2006) explains broadly what is meant by 'significant harm'. It helps explain the basis of how local authorities should decide whether there is a '**significant** possibility of significant harm (SPOSH)' whilst leaving considerable discretion.

Part IIA introduces the concept of 'SPOSH', and local authorities are required by the legislation to have regard to the statutory guidance when determining whether land poses 'SPOSH'.

Further non statutory 'Guidance on the Legal Definition of Contaminated Land' was published in July 2008 by DEFRA. This is intended to address any uncertainty to which legislation and statutory guidance have given rise.

Defining 'Contaminated Land' in law is not straightforward. The law takes a risk-based approach which is explained in **1.7** below.

1.2 Regulatory Role of a Local Authority

The primary regulatory role under Part IIA of the Environmental Protection Act 1990 (hereafter referred to as 'Part IIA') rests with local authorities. This reflects existing functions under the statutory nuisance regime, and also complements the planning authority role.

Under s.78B(1) of Part IIA, every local authority shall cause its area to be inspected from time to time for the purpose:

a) of identifying contaminated land; and
b) of enabling the authority to decide whether any such land is land which is required to be designated as a special site.

In outline, the role of local authorities under Part IIA are:

a) to cause their areas to be inspected to identify contaminated land;
b) to determine whether any particular site is contaminated land.;
c) to act as enforcing authority for all contaminated land which is not designated as a 'special site'. (The Environment Agency are the enforcing authority for special sites)

Based upon the above roles, the enforcing authority has four main tasks:

a) establishing who should bear responsibility for the remediation of the land (the 'appropriate person or persons')

b) to decide after consultation, what remediation is required in any individual case and to ensure that such remediation takes place, either through agreement with the appropriate person, or by serving a remediation notice on the appropriate person if agreement is not possible or, in certain circumstances, through carrying out the work themselves.

c) where a remediation notice is served, or the authority itself carries out the work, to determine who should bear what proportion of the liability for meeting the costs of the work; and determining the apportionment of the cost of remedial works amongst the appropriate people.

d) to record certain prescribed information about their regulatory actions on a public register.

1.3 Regulatory role of the Environment Agency

The Environment Agency is the Government's principal scientific and technical advisor on contaminated land. In this capacity the EA has produced government – backed non statutory guidance on various aspects of contaminated land. As mentioned above, one of their main duties will be to act as the Enforcing Authority for Special Sites.

A special site is contaminated land which also meets the criteria set out in The Contaminated Land (England) Regulations 2006. Examples of special sites include land contaminated by waste acid tars, contaminated military sites and land causing the pollution of certain controlled waters as defined in Regulation 2 of The Contaminated Land (England) Regulations 2006.

Their other duties include:

1. Assisting local authorities in identifying contaminated land, especially where pollution of controlled waters is involved.
2. Provide site specific guidance to local authorities on remediation of contaminated sites.
3. Publish reports on the state of contaminated land in the UK
4. Assess applications made for Contaminated Land Capital Projects Programme. (note they used to advise DEFRA on this)

Other government departments, agencies and local authorities play a role in overseeing and delivering policy on contaminated land

1.4 Regulatory Roles of other Statutory Bodies

Defra: the Department for Environment, Food and Rural Affairs oversees contaminated land legislation (Part 2A of the Environmental Protection Act) and policy associated with it (e.g. negotiation of the proposed EU Soil Framework Directive). Defra used to run the Contaminated Land Capital Projects Programme, which assists local authorities in investigating and remediating contaminated land – This has now been handed over to the Environment Agency.

CLG: The Department for Communities and Local Government oversees the planning system, including how land contamination should be dealt with under Planning Policy Statement 23 . CLG also oversees policy on the development of brownfield land (e.g. in pursuit of the Government's housing targets).

Health Protection Agency: The HPA is the Government's principal scientific and technical adviser on health effects of toxic substances. It works closely with the Environment Agency and the Food Standards Agency on producing technical guidance on contaminated land (as it relates to human health). The HPA also provides advice to local authorities in relation to specific cases of land contamination.

At the time of writing, (September 2010) it has been announced by the Government that the HPA are to be disbanded/merged and staff reduced with other departments due to cost cutting and it is unclear who will take on these functions/roles.

Natural England: Natural England is a non-departmental government body which aims to help conserve and enhance England's natural environment. It can provide advice on the impacts of land contamination on biodiversity and the natural environment, and it works closely with the Environment Agency to provide guidance on these matters.

British Geological Survey: for information relating to geological conditions and the provision of geological data.

1.5 Requirement for a Strategic Approach

The statutory guidance requires the local Authorities to take a strategic approach to the inspection of its area for contaminated land. This approach aims to ensure that pieces of land causing the most serious problems are identified and dealt with first.

Paragraph B9 of the statutory guidance states that the local Authority's approach to the identification of contaminated land should:

(a) be rational, ordered and efficient;

(b) be proportionate to the seriousness of any actual or potential risk;

(c) seek to ensure that the most pressing and serious problems are located first;

(d) ensure that resources are concentrated on investigating in areas where the Authority is most likely to identify contaminated land;

(e) ensure the local Authority efficiently identifies requirements for the detailed inspection of particular areas of land.

The approach taken should reflect local circumstances, for example any evidence available on significant harm or pollution of controlled waters; and the history of industrial use or other contaminating activities in its area.

The Local Authority should consult on its contaminated land inspection strategy, in particular with statutory bodies such as the Environment Agency, Natural England, English Heritage and the Department for Environment, Food and Regional Affairs (DEFRA).

There is no established approach which is applicable to every local authority. An authority in an area of heavy industry subject to extensive residential development would have a different approach to a sparsely populated rural one. In regards to the London Borough of Bromley it would sit somewhere in the middle.

1.6 Principles of Pollutant Linkages

London Borough of Bromley will search land within its boundaries which demonstrates the occurrence of both sensitive receptors and sources of potential contamination, linked through a pollution pathway.
Where all three elements exist, the council will undertake a formal risk assessment in accordance with established scientific principles in order to establish whether there is potential for them coming together and causing significant harm, the significant possibility of significant harm or the pollution of controlled waters. This is known as a ***pollutant linkage***.

The statutory guidance introduces the concept of pollutant linkages. For a piece of land to be defined as contaminated, there must be a route (pathway) by which a contaminant can cause harm to a receptor.

1.7 Principles of Risk Assessment

The identification of contaminated land is based on the principles of risk assessment.

The statutory guidance defines risk as the “combination of the probability, or frequency, of an occurrence of a defined hazard and the magnitude (including the seriousness) of the consequences.

Risk assessment first involves the local authority being satisfied of the existence of a pollutant linkage. The local authority must then satisfy itself that significant harm is being caused to the receptor, or there is significant possibility of significant harm; or there is pollution of controlled waters, or there is likely to be such pollution.

It is important that the problem of contaminated land is approached in a risk based manner. In this way, resources are targeted on those areas where there is most likely to be a problem, and the remediation carried out will be cost-effective

1.8 General Policy of the London Borough of Bromley

London Borough of Bromley's contaminated land inspection strategy must be set within the context of other Council policies and initiatives. These are outlined below.

1.8.1 Bromley's Local Area Agreement 2008-11

Bromley's second Local Area Agreement (LAA) is an agreement, struck between the Government and the local authority and its partners, working through the Local Strategic Partnership (LSP), to improve public service outcomes for residents of the Borough. The LAA is a new approach to the way the Council and its partners can use Government funding to support the implementation of national, regional and local priorities in local areas. Within the LAA, resources – which were previously earmarked for specific purposes - can be re-directed to areas of local priority.

The LAA consists of 6 different, but inter-connected service areas. Each area has a limited number of key outcomes and a number of priority national indicators which flow from them. The same key outcomes are also found in our supporting strategic documents and plans. The 6 areas are:

Children and Young People
Safer Bromley
A Quality Environment
Local Economy
Supporting Independence
Cross-cutting

1.8.2 Building a Better Bromley 2020 Vision - Sustainable Community Strategy

This is a comprehensive 10-year strategy to improve the economic, social and environmental well-being and health of people who live and work in Bromley. The plan sets the direction and policies which other plans should help to deliver and sets out the key priorities revealed in our consultations with residents.

The contaminated land regime will have impacts on both enhancing the environment, and supporting the community and local economy. Also, by adopting a strategic approach to the identification and remediation of contaminated land this will assist in improving service delivery.

1.8.3 Brownfield Development

This also contains an objective, in line with Government Policy, to increase the number of developments on brownfield sites in order to minimise the loss of greenfield sites.

This issue is also covered in the Council's Best Value Performance Plan.

1.8.4 Planning – Local Development Framework

The Local Development Framework (LDF) is the name given to the portfolio of local development documents (LDDs) which will provide the main planning framework for the Borough. Bromley's Unitary development Plan was adopted on 2006 and is now incorporated in the LDF.

The terms LDF and LDD are introduced by the Planning and Compulsory Purchase Act 2004, which came into force in September 2004.

Consultation on the Draft Supplementary Planning document was carried out in February / March 2010 and this includes a section on the mitigation of environmental impacts. ER7 deals specifically with contaminated land

CONTAMINATED LAND *POLICY ER7*

Where development of contaminated land, or land suspected of being contaminated, is proposed, the Council will require the submission of details of site investigations and proposed remedial action. Planning permission will be refused unless an appropriate and acceptable level of remedial action can be achieved.

1.9 Objectives of Strategy Document

There are several objectives of this inspection strategy:

- To meet the legal requirement to produce a contaminated land inspection strategy

- To set out how the framework of how London Borough of Bromley intends to approach the problem of contaminated land. It is not intended to provide a detailed account of how this work will be undertaken.

- To inform stakeholders of the Local Authority's intentions. This includes statutory bodies such as the Environment Agency, property owners and occupiers, developers and so on.

- Identification of potential receptors and the conditions for there being a significant possibility of significant harm as listed in Tables A and B of the statutory guidance

- Commencing a detailed investigation of all high priority sites, utilising conceptual models in the evaluation of risk to receptors and taking appropriate action where necessary;

- Establishing appropriate contacts within external agencies and internal departments relevant to the investigation of contaminated land;

- Completing a detailed investigation of sites with medium and low priorities;

- A regular review of the strategy to ensure focus on its aims and objectives;

- Creating a contaminated land register for public viewing where there are entries on it.

2 Characteristics of the London Borough of Bromley

2.0 Summary

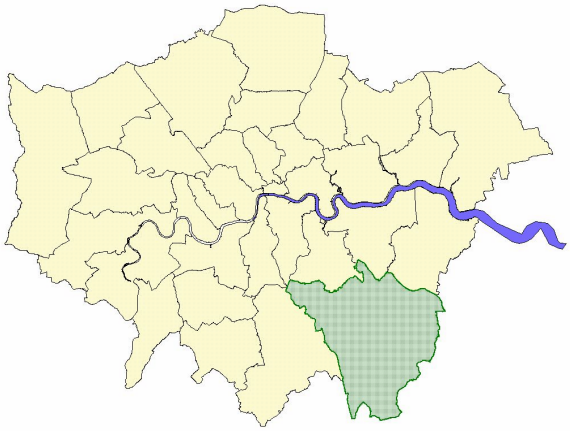
This chapter of the strategy sets out various characteristics of the London Borough of Bromley that may be relevant to the identification of contaminated land. It sets the scene and the context for decisions taken as to how London Borough of Bromley will approach the identification of contaminated land within the Borough.

2.1 Location

The London Borough of Bromley is situated in the South East of London/ North West of Kent. It was formed in 1965 from the Boroughs of Bromley and Beckenham and the urban districts of Orpington, Penge and the Chislehurst Part of Chislehurst & Sidcup. The Borough now extends from Penge, Mottingham and St Paul's Cray, south to Biggin Hill.

It is, geographically, the largest London Borough with an area of over 15 000 hectares.

Figure 1 - Location of London Borough of Bromley



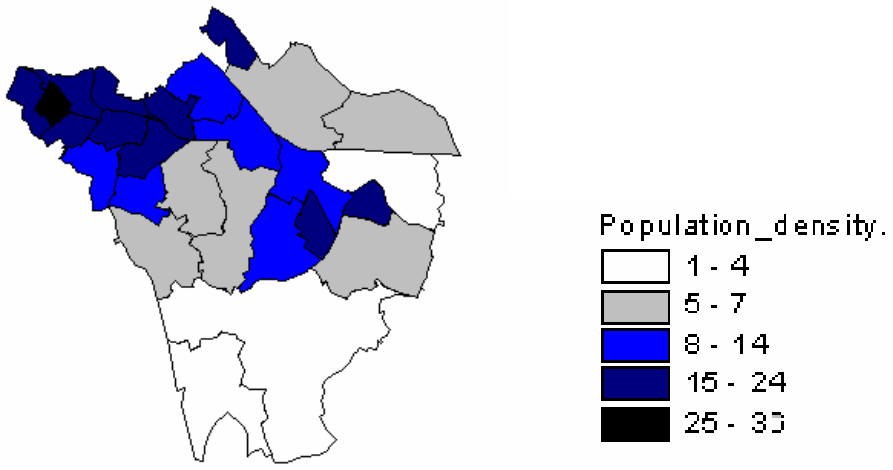
2.2 Population

The population of the London Borough is approximately 300 000. The population is not spread evenly throughout the Borough as shown by the map below.

The northern half of the Borough is the most densely populated area, and of this, the north-western corner is the most densely populated. Penge is the most densely populated ward with 77 people per hectare.

The southern part of the Borough is far less developed. Darwin and Biggin Hill Wards have less than 30 residents per hectare

Figure 2 - Population Densities by Ward



2.3 Land Use

London Borough of Bromley has its own airport. Biggin Hill airport was used as a base for RAF fighter command during the second world war. It is now a civil airport and used extensively by private aircraft and for a limited number of scheduled flights. There is lots of business use on site and is also a large source of employment.

The main employment area in the Borough is Bromley Town Centre where there is approximately 200 000 m^2 of office floor space, over one-third of the total provision in the Borough. Orpington has the next largest concentration of office space with approximately 50 000 m^2. Other office space is spread

across the Principal District Centres – Beckenham, Penge, Petts Wood and West Wickham.

The London Borough of Bromley has not had a history of widespread industrialisation. However, there are some industries that have historical associations with the Borough. For example the GlaxoWellcome Laboratories at Langley Court used for research into and the production of various pharmaceutical products. Part of this site has now been redeveloped for residential use. Other examples include paper mills in the Crays and Bollom in Orpington who pioneered the manufacture of brightly coloured paints after the Second World War. Chalk mining once occurred in Chislehurst and this lead to the formation of Chislehurst Caves

There has been a decline in manufacturing industry in the Borough. However, over 100 hectares of land are currently in industrial or warehousing use. These uses are mainly situated within the Business Areas in the Cray Valley, Lower Sydenham, Elmers End and Biggin Hill Airport.

As discussed in section 2.2, the majority of residential premises are located in the Northern part of the Borough. There are over 7 700 hectares of Green Belt Land in the Borough – more than half the area. The southern part of the Borough is mostly Green Belt land, so further development is strictly controlled. A significant number of farms are located here.

There are also a significant number of parks and open spaces in the Borough. One of the largest, and perhaps most well known is Crystal Palace Park, site of the old Palace that was destroyed by fire in 1936

2.4 Other Receptors

2.4.1 Scheduled Ancient monuments

These sites may require special protection from contamination since by their very nature they cannot be rebuilt. There are eight of these in the Borough, indicated on the map and listed below:

1. Fordcroft, Poverest Road, Orpington – a Romano British site/ Anglo Saxon Cemetery
2. Caesar's Camp, Holwood Park, Keston – an Iron Age hill fort
3. Camp on Keston Common, Keston – earthworks
4. The Temple, west of Keston Court, Westerham Road, Keston – a Romano-British mausoleum
5. Romano-British villa, Crofton Road, Orpington

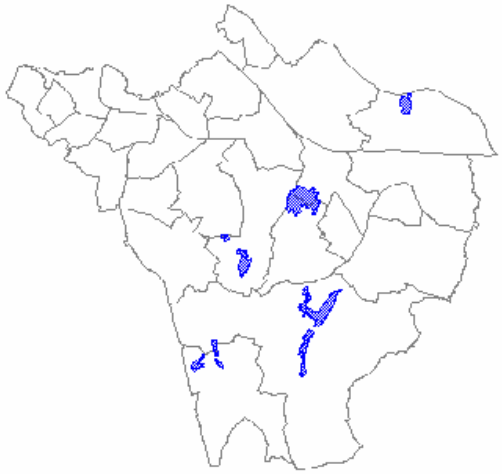
6. St Botolph's Church, Ruxley – a former mediaeval church on the site of an earlier church
7. Romano-British site, Wickham Court Farm, West Wickham – site of a substantial Romano British settlement
8. Ice Well at High Elms

Site 1, 3, 4, 5, 7 and 8 are owned by the Council.

Figure 4 – Scheduled Ancient Monuments in London Borough of Bromley

2.4.2 Sites of Special Scientific Interest (SSSIs)

Figure 5 - SSSIs in London Borough of Bromley



Sites of Special Scientific Interest are of national importance by reason of such things as flora, fauna or geology. There are 6 SSSIs in the Borough:

1. Crofton Woods
2. Downe Bank and High Elms
3. Keston & Hayes Commons
4. Elmstead Pits
5. Ruxley Gravel Pits
6. Saltbox Hill

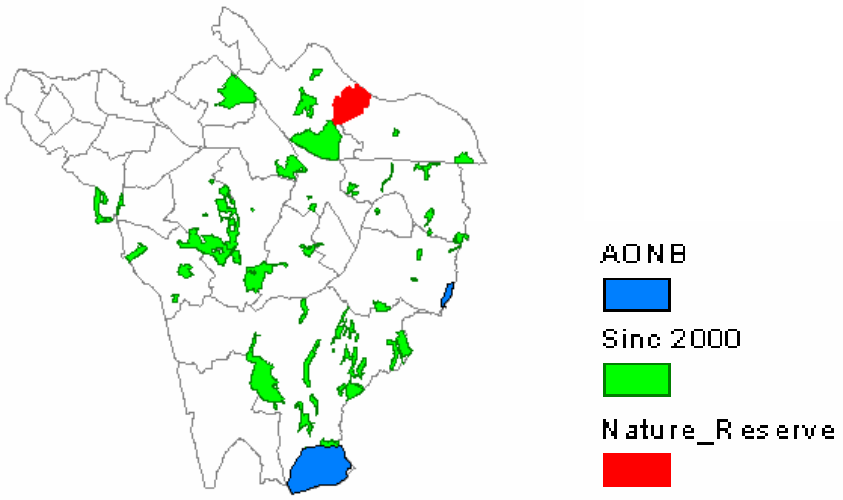
2.4.3 Other Ecological Areas

There are 2 nature reserves located in Scadbury Park, Chislehurst, near to the A20 and Jubilee County Park in Petts Wood. There are also 32 sites of nature conservation interest across the Borough, all shown in figure 6. Also, part of the south-eastern tip of the Borough is included in the North Kent Downs Area of Outstanding Natural Beauty.

There are also proposals for a World Heritage Site in the Downe area of the Borough. This proposed site includes Charles Darwin's home at Down House and the surrounding countryside.

Unesco will decide on the 'Darwin at Downe' bid for World Heritage status in 2010. The proposed area covers 10 square km and may include a larger buffer zone, which is in the process of being identified

Figure 6 - Other ecologically sensitive areas in the London Borough of Bromley



The GLA re-surveyed [and re-named the Sites of Nature Conservation Interest (SNCI's) Sites of Importance for Nature Conservation (SINCs)] since 2002, the areas and number of individual sites have increased from 51 (1,108.8 ha) to 97 (2,690.9 ha)

The UDP identifies three Local Nature Reserves (Scadbury Park, Jubilee Country Park and High Elms Country Park). In October last year 2009 a new Local Nature Reserve was declared - Hayes Common, Keston Common, Ravensbourne Open Space and Padmall Wood (to be known as Ravensbourne Local Nature Reserve).

2.5 Geological Characteristics

The geology of the Borough is split into two distinctive areas. Upper and Middle Chalk occurs in the south and north east of the Borough.

In the north-west of the Borough, the chalk gradually becomes covered by a tertiary sequence of rock comprising layers of clays and sands. The Thanet sands form the base of this sequence. This is overlain by the Woolwich and Reading beds and the Blackheath beds. These are in turn overlain by London Clay in some parts of the Borough.

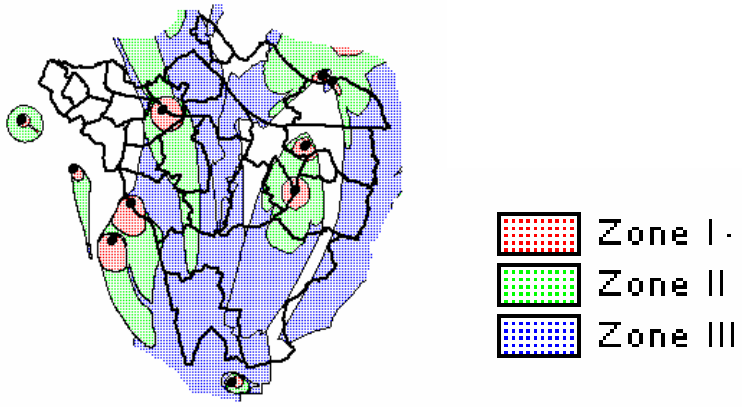
2.6 Hydrogeological Characteristics

The Chalk is the major aquifer of Southern England and is utilised extensively for public water supply and private purposes.

Groundwater is also found within the sand and pebble layers within the tertiary sequence outlined above, and also in the drift deposits that line the river valleys. The head of the River Ravensbourne emerges as a spring from the Blackheath beds.

Because the groundwater is used for drinking water purposes, it is important to protect it from contamination that can pass to it through the soil and rocks above. The Environment Agency has developed the concept of "Source Protection Zones" around water supply boreholes. These zones are defined around a borehole and are based on the time contaminants would take to travel to the borehole in the groundwater. Zone I represents 50 days travel time, Zone II 400 days, and Zone III is the total catchment area for the borehole. Source protection zones in and around the Borough are shown in Figure 7.

Figure 7 – Source Protection Zones in & around London Borough of Bromley



3 Bromley's Strategy Review/Progress

3.1 Overall Aims and Actions

Bromley's Aims – As per recommended guidance in terms of risk assessment, London Borough of Bromley will approach the problem of contaminated land in a prioritised way.

London Borough of Bromley's priorities in dealing with contaminated land are:

1. To prevent harm to human health
2. To prevent contamination of controlled waters
3. To prevent harm to designated ecological systems
4. To prevent damage to property (which includes buildings and designated historic sites, animals and crops)
5. To prevent new contamination of land
6. To encourage voluntary remediation and re-use of brownfield land

The aim of this strategy is to outline measures for identifying, classifying and remediating contaminated land, commencing with the prioritisation of sites for detailed consideration and continuing through that detailed consideration.

A Risk Assessment approach will be adopted throughout the process. The main objective of the Risk Assessment approach will be to identify risk to human health, protected ecosystems, controlled waters and the wider environment.

The Council aims to implement this regime in an open manner and consult with relevant stakeholders and consultees on matters of intrusive inspection, contamination or remediation.

Appropriate measures will be taken, where the Local Authority is found to be a Class A or B person following the identification of contaminated land, or where the site is an 'orphan site'.

The inspection or remediation of any potentially contaminated land should not result in harm to ecosystems and/or other nature conservation sites.

Information held by the Local Authority will be periodically reviewed and updated.

There is some flexibility in these priorities. For example should a situation arise where there is a serious risk of new contamination of land, this will be dealt with before say, minor risks of damage to property.

3.2 Review of Previous Targets/Aims

To Produce a Contaminated Land Strategy – **Completed**

To employ a consultant to input data on sources, receptors and pathways onto the Geographical Information System (GIS) in order to assist in the identification of contaminated land – **Historical data inputted. Work Ongoing.**

To organise an internal working group within the council **– This was set up previously and need to be reconvened in light of this strategy, changes in legislation and personnel.**

To Liaise with Statutory Bodies **– Links established - ongoing**

To Identify and assess risk to Receptors **– Preliminary Assessments Made (See 3.2.1 CON Sept)**

Completion of assessment of land for which authority may be an "appropriate person" – **Preliminary work has been carried out**

Identifying Risk to Human Receptors **– Ongoing, high risk sites analysed.**

Risk to controlled waters assessed **– Environment Agency have taken lead role and consultations take place as required.**

Risk to ecological systems **– Information installed on GIS. Any changes in designated sites require checking and updating.**

Risk to Property – **This is carried out on a reactive basis.**

3.2 Action already taken to deal with contamination

Since approximately 1997, London Borough of Bromley has had a policy that any planning applications for sensitive development (such as houses with gardens) on a potentially contaminated site, conditions have been attached to deal with this. These conditions require an adequate site investigation to characterise any soil contamination present and remediate where necessary.

It is possible that sites developed before this time may not have been subject to the same contamination control as would be required today.

Since the implementation of the Strategy in 2002, on record, close to 170 sites have had remedial works undertaken as part of the planning process. These sites would have been regulated by way of planning condition ensuring appropriate investigation and remedial works. The number of sites vary from large sites such as The former Aquilla site in Bickley, land surrounding Orpington Hospital and Langley Waterside (Former Glaxo Welcome Commercial Site) to small developments of previous commercial sites e.g. petrol garages.

The implementation of the contaminated land regime has already and will involve the collection of a large amount of information.

All files associated with the planning process are currently undergoing a review and electronic scanning process. This is to streamline future enquiries from solicitors, buyers/sellers and reduce valuable office space. All scanned files will however be archived.

The organisation of much historical mapping data is centred on the Council's Geographical Information System (GIS). London Borough of Bromley employed the British Geological Survey (BGS) to input data on sources, receptors and pathways onto the GIS in order to assist in the identification of contaminated land.

3.2.1 Computer Software

ConSEPT (**Con**taminated **S**ite **E**valuation and **P**rioritisation **T**ool) is an integrated GIS programme developed for the prioritisation of potentially contaminated land, according to Part IIA of the 1990 Environmental Protection Act.

The purpose of ConSEPT is to assist in the task of implementing Part IIA by providing an initial screening tool that uses readily available data to prioritise potentially contaminated sites on the basis of pollutant linkages. As well as helping Council's meet their regulatory requirements, ranking of contaminated

sites facilitates more efficient use of staffing and financial resources by targeting highest priority sites first, in a systematic and defensible way, as enshrined in the statutory guidance for the legislation.

This risk prioritisation tool has been used to rank sites according to perceived risk. This prioritisation scheme provides a semi-quantitative ranking of potentially contaminated land to assist to most effectively deploy resources in follow up investigations, required under Part IIA of the Environmental Protection Act (1990).
The model establishes the likely existence or absence of pollutant linkage. It does not establish the existence of any negative consequences of such possible pollutant linkage on the designated receptors.

As most Councils have a large number of potentially contaminated sites in their area, they therefore have a large number of potential sources, pathways and receptors that must be characterised in order to establish the likelihood of pollutant linkage. This requires the interrogation of a wide range of data sets that share a common spatial frame of reference. ConSEPT brings together the required, commonly available data sets and a query system in a GIS environment.

This provides a cost-effective approach to meeting the regulatory requirements for Prioritisation.

The pollutant linkage ranking provided by the application of ConSEPT, combined with the detailed information supplied in output reports, aim to provide assistance to Council officers in their task of prioritising potentially contaminated sites in their areas. Establishing the appropriate sequence and level of detail for further site investigation is left to the Council officers' knowledge and judgement.
ConSEPT assesses pollutant linkage in terms of alphabetic ranking classes (A to E), as described above in the preceding two sections. This type of scoring emphasises the fact that the evaluation is a relative, qualitative method as

Output in terms of seven pollutant linkage scores requires interpretation on the part of the expert user, but it has the advantage of providing the user with a more detailed output and a clear discrimination between different potential pollutant pathways.
ConSEPT also outputs a single combined pollutant linkage ranking class (A to E),

This is in order to facilitate an initial screening of sites on the basis of a single general indicator of pollutant linkage. The classification highlights sites for immediate further study.

Still further detail on components of pollutant linkage for the site may be obtained using ConSEPT's report generating facility.
The programme should be run on all the available land use epochs individually. This is necessary for two reasons. Firstly, it is necessary so that

potentially contaminative activities that occur in just a single epoch are not missed out in the prioritisation. Secondly, industries with different contaminant potentials may have occupied the same site in different epochs. In this case, it is necessary to take account of the industry with the highest contaminant potential in the final prioritisation

Using the ConSEPT software a prioritised list has been initially developed. Sites have been grouped on a ward by ward basis. The sites assigned 'A' ratings have been looked at in more detail through desk investigation and walkover. As a result, no designation of these sites as Contaminated Land has taken place as per the regulations and guidance.

There are nearly 700 sites where there is a possibility of land contamination in the Borough formulated using the above mentioned ConSept Software. These sites have been ranked B – E and further investigations will be undertaken to identify any contamination or discount any significant risk.

3.2.2 Landfill Sites

According to our records, there are approximately 40 closed sites of varying sizes in the Borough that have been filled with waste material. A list of known sites have been compiled alongside any associated information. This list still requires working through and further historical research undertaken on an initial desk study approach.

There are no active landfill sites used for domestic/municipal waste in the Borough although there are sites that have been used historically for deposit of material/substances.
A list has been compiled of all known sites where material has been deposited in co-ordination with the Environment Agency's records with information researched about each one. There are no active gassing landfill sites in the London Borough of Bromley that are monitored by LBB.

We receive enquiries when houses are purchased/sold within a radius of a former landfill sites. Any development/extension of property within a radius of 250m should be consulted on by us to the Planning Department.

Case Study - St Pauls Cray Hill Park, Star Lane, St Pauls Cray, BR5

St Pauls Cray Hill Park is located to the east of St Pauls Cray and to the South of Cray Valley Golf Club and is a closed Landfill site. To regenerate the area, the Park has been used to deposit inert waste as part of a regeneration scheme by land regeneration specialists in conjunction London Borough of Bromley in 2008/2009.
The site consists of 40 hectares and has been transformed by the creation of a new country park setting.
The site was a council rubbish tip up until 1970s and recently run down and under used by the majority of residents as joy riders and motor bikers were illegally using it regularly.
Bromley Borough Council was approached with a proposal to create a well maintained parkland landscape design of no cost to them but creating a managed site in terms of historical contamination plus making the area user friendly.

3.3 Completion of assessment of land for which authority may be an "appropriate person"

London Borough of Bromley owns, or has owned, a substantial proportion of land in the Borough. It is important that all such land is identified.

Council records are predominantly paper based and supported by GIS.

The aim of this strategy is to reconvene communication via the contaminated land working group which was previously set up.

The Council will aim to address land contamination issues, principally through the consideration of redevelopment proposals.

As previously stated, the overall aim of the strategy is to prioritise inspections based on a simple risk assessment. Nevertheless, London Borough of Bromley recognises the need to set a good example in its own land holdings. The aim of the previous strategy was the following:

- The authority will consider land contamination issues for any land it is considering acquiring.

- Sites in the Authorities ownership that are on or within 250 metres of a potential source of contamination will be identified and highlighted to Property Procurement.

A review of these procedures is required to investigate if this is being undertaken.

There is a requirement for co-ordination for the investigation of suspect sites in the same way as a responsible private sector landowner might consider its land portfolio and will oversee the responsible management, by the appropriate Head of Service, of those sites found to have contamination issues.

A layer of Council owned land information has been inserted onto GIS. Work has begun on identifying contaminated land with sites currently owned by the Council, followed by land that has been sold. However this will be revisited to ensure records are up to date. In conjunction with information on the GIS, we will identify land subject to contaminative land uses, has sensitive receptors on it, may be affected by contaminated land, or any combination of these.

The number of properties owned or previously owned by the Council means this action will take some while to complete. We will be working closely with Valuation and Estates to complete this work.

We then need to assess whether this land is contaminated. This assessment will be carried out in accordance with the priorities outlined previously. We will therefore initially concentrate on the most densely areas of the Borough, or where potentially contaminated council owned land is adjacent to densely populated areas. We will then work down the list, assessing areas that could be affecting controlled waters and so on.

3.4 Internal Management of the Regime

Officers from London Borough of Bromley's Public Protection Division have carried out the bulk of the work on identifying and dealing with contaminated land in the Borough. However, other Council Departments and external bodies will need to be involved in this work. It is important that effective communication links with these individuals and groups are established and ongoing.

Contaminated land is a corporate issue for London Borough of Bromley. Liaison between Council-wide departments that have an interest in contaminated land should be undertaken regularly.

To fulfil the Council's statutory duty with respect to contaminated land formal liaison procedures will be established with the following council departments:

- **Environmental Services, Housing and Property Services**
- **Planning Services**
- **Building Control**
- **Legal Services**
- **Information Technology**

3.5 Liaison with statutory bodies

London Borough of Bromley has already been working with the Environment Agency on contamination issues and has contacts in both the Regional Offices that cover the Borough.

Officers of the Public Protection division regularly meet with the Environment agency at cluster group meetings in both Kent and London. They are consulted with any issues or concern over groundwater. The Environment Agency visited Bromley in 2009 and gave a presentation to staff members including the Planning Department.

4 Procedures

4.1 Enforcement Policies

The Public Protection Division will be undertaking much of the enforcement work involved in dealing with contaminated land. This Division has its own enforcement policy.

This policy is aims to ensure that enforcement decisions are always consistent, balanced and fair, and that they relate to common standards which are in place to safeguard the protection of the public.

The London Borough of Bromley will enforce the provisions of the contaminated land regime in accordance with this enforcement policy.

4.2 Land Contamination and Planning

The London Borough of Bromley recognises the value of development as a means to achieving remediation of land contamination. The Borough is committed to the appropriate redevelopment of previously used land (brownfield development) in accordance with policy guidance.

While the contamination of land by its previous uses is only a localised problem in Bromley, it remains a significant issue in the light of government guidance promoting the redevelopment of previously developed urban (brownfield) land. Residential uses will not be ruled out on potentially contaminated land, but these sites will need to be subject to an appropriate site investigation and any contamination cleaned up to a standard that makes the site appropriate for the proposed end use. The Contaminated Land (England) Regulations 2006 and Circular 01/2006 have established a Contaminated Land Register, the register for the borough is held and maintained by the Council. There are currently no entries on the register.

Where it is reasonable to suspect that a site has had a past potentially contaminating use, a site investigation should be carried out prior to the submission of any planning application. The remediation measures proposed in the site investigation are likely to be included in any planning conditions or s106 agreement that may result from the granting of any permission. Any site investigation should be undertaken by a competent environmental organisation, which will be required to submit a signed closure report to confirm that any identified remedial measures have been carried out.

The Public Protection Department will continue to act as an internal consultee to the Development Control/Planning on land contamination issues. Arrangements will be made to ensure that the existence of information held by either department will be brought to the attention of the other.

The London Borough of Bromley wants to encourage the redevelopment of previously used land (brownfield land). However, because of the potential risk of contamination associated with such land there are a number of requirements that must be fulfilled by the developer to ensure that there is no danger to human health or the environment. Put simply, the land must be suitable for use.

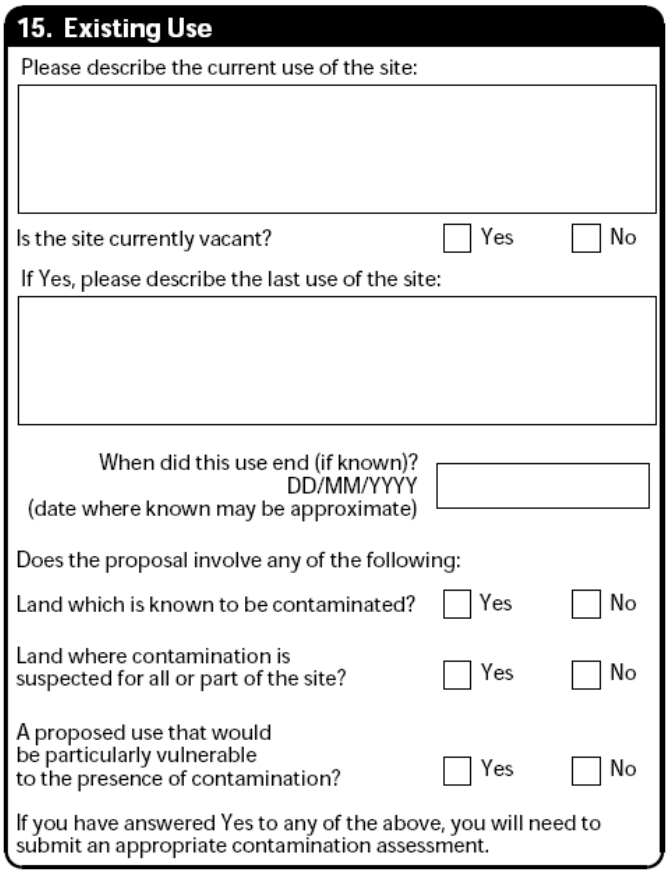
In order to assess whether a development is suitable for use, the Local Planning Authority must be satisfied that there is no unacceptable risk from contamination. Certain types of applications require a preliminary assessment of land contamination to be completed as part of the validation process, for example new housing.

4.2.1 Standard Planning Application (1APP)

The Planning Application form 1APP was introduced legally in October 2007. The aim of the new form was to remove the differences in application forms by ensuring the same information will be required for comparable applications by every Local Planning Authority in England. This standardisation will make the planning system clearer and more efficient for planning professionals and citizens alike.

Section 15 ('Existing Use') of the 1APP form asks whether the proposal involves any of the following:

- Land which is known to be contaminated?
- Land where contamination is suspected for all or part of the site?
- A proposed use that would be particularly vulnerable to the presence of contamination?



15. Existing Use

Please describe the current use of the site:

Is the site currently vacant? ☐ Yes ☐ No

If Yes, please describe the last use of the site:

When did this use end (if known)?
DD/MM/YYYY
(date where known may be approximate)

Does the proposal involve any of the following:

Land which is known to be contaminated? ☐ Yes ☐ No

Land where contamination is suspected for all or part of the site? ☐ Yes ☐ No

A proposed use that would be particularly vulnerable to the presence of contamination? ☐ Yes ☐ No

If you have answered Yes to any of the above, you will need to submit an appropriate contamination assessment.

Figure 8 – Question 15 of 1 APP relating to contaminated land

If any of the three questions are answered Yes an appropriate contamination assessment (Phase 1 Desk Top Study including Site Walkover) will need to be submitted with the planning application before permission is granted.

Where there is reason to suspect contamination, a Phase II intrusive investigation report and remediation statement are likely to be required prior to granting planning permission.

Unless investigations have shown otherwise, any site subject to or adjacent to previous industrial use would be classed as land where contamination is suspected for all or part of the site. Any site with a proposed sensitive end use, as listed above, would be classed as a proposed use that would be particularly vulnerable to the presence of contamination. Therefore, where proposals involve either or both of the above scenarios, an appropriate contamination assessment will need to be submitted for the site with the planning application.

Therefore, where a developer is proposing to develop on land that may potentially be contaminated, it is advisable to contact the relevant local authority's Contaminated Land Officer, via the Local Planning Authority, to discuss any land contamination issues prior to submitting a planning application. It is important to remember that appropriate and timely action at this stage should reduce the likelihood of urgent and expensive action later in the process. Appendix A shows a flow chart of the possible processes.

Guidance on the 1APP Land Contamination questions is being developed by the Kent Contaminated Land Forum to aid consistency in making decisions from council to council. This will assist in deciding when extra information is required from the applicant.

In line with Planning Policy Statement 23: Planning and Pollution Control (Annex 2: Development on Land Affected by Contamination), the developer is responsible for ensuring that development is safe and suitable for use for the purpose for which it is intended. The developer is therefore responsible for assessing whether land is suitable for a particular development or can be made so by remedial action.

Guidance has been drafted to assist any applicant where planning conditions have been applied to Planning Permission which is to comply with Planning Policy Statement 23 (PPS 23). The supplementary guidance soon to be published will assist potential developers to address the issue effectively.

5 Review

This is the first review since the original strategy was published in 2001/2002.

There still needs to be a regular review of both the Council's work in dealing with contaminated land and the Strategy itself. This will help to check if the Councils aims with respect to contaminated land are being met, and whether the aims themselves need to be altered or re-prioritised.

Reviewing assumptions & inspection priorities

Officers will need to periodically check that work to identify contaminated land is meeting the aims of the Strategy. Assumptions that have been made in the Strategy or the Council's aims and priorities may need altering in the light of this review.

Assumptions and priorities will be reviewed immediately if any information comes to light that makes a review necessary.

Notwithstanding this, we will periodically check that Bromley's contaminated land work is meeting the aims of the strategy

The strategy is being reviewed and updated in the light of new information, research, or experience. In any case, it is aimed that the strategy will be reviewed periodically in order to ensure that it is still effective in guiding Bromley's work in dealing with contaminated land.

We aim to review the Strategy at least every four years or if there is a drastic change in legislation/guidance.

Whilst the Council has a duty to inspect the Borough 'from time to time' to identify contaminated land, the frequency of inspection is not prescribed. In practice inspection may balance a systematic approach with the availability of resources.
The Council has a duty to review its inspection strategy on a regular basis and to meet its statutory responsibilities.

Two main aspects of review need to be built into this strategy:

- Triggers for reviewing inspection decisions; and
- . Review of the inspection strategy.

In addition to the routine review of inspection findings there will be situations which will trigger re-assessment of sites including:

- Change of use of surrounding land (introduction of new receptors);
- The potential for pollutant linkages to become significant or urgent as a result of unplanned events (e.g. flooding, subsidence, spillages etc), or a change in circumstances;
- Identification of a localised effect which could be associated with the land;
- Responding to new information.

The strategy as a whole will be reviewed by the Public Protection Department periodically and any proposed changes will be reported and incorporated as necessary.

Particular matters that will be kept under review include:

- The content of the strategy generally;
- Priorities for further investigation of potentially contaminated sites;
- The potential for the introduction of new receptors;
- The potential for new contamination;
- Progress on voluntary remediation;
- The enforcement process generally and the identification of appropriate persons particularly;
- Identification of special sites;
- Progress with the implementation.

5.1 Resource Availability

The Government has identified that to implement this highly complex and demanding piece of legislation will involve considerable expenditure to local authorities. The only source of funding for local authorities is through the Contaminated Land Capital Projects Programme (CLCPP).

The CLCPP funds two types of work:

- Intrusive site investigations, which aim to find out whether a site is contaminated and, if so, to inform how it should be remediated; and
- Site remediations, which aim to ensure that contamination at a site, will no longer pose a significant risk to people or the environment.

With effect from 07 July 2010, Defra have transferred the administration of the Local Authority Contaminated Land Capital Project programme to Environment Agency's (EA) Contaminated Land Capital Project (CLCP) team.

In the past, local authorities in England would apply to Defra for funding for inspection and remediation projects under Part 2A, and Defra would pass the bids to the EA's CLCP team to technically assess and prioritise the proposals. Based on the EAs' assessments and recommendations, Defra would then give the LA an appropriate sum for the work.

However, this change means the EA are now effectively 'cutting out the middle man' and offering a more efficient service, as CLCP will be responsible for both assessing bids and granting the money, with the financial aspect being managed by the national external funding team, based in Exeter. In this way, the EA will be able to encourage Local Authorities to use sustainable technologies and make sure they're providing the best environmental outcome possible for the money available.

The total yearly funding available for grants has recently been cut from £17million to £10million which may have an impact on grants to sites which are not high/urgent risk sites.

5.2 Actions and timescales - In order to achieve the aims outlined above, timetables are required. The huge task as started with some work having already begun.

It is always difficult to propose an absolute timescale for this type of work outlined and any dates given are provisional, and may be subject to change as the strategy in the light of experience and new information.

5.3 Key Tasks and Timescales

- The next draft revised strategy will be considered by the Authority, and where appropriate will be put out to consultation by July 2015.

- To publish Supplementary Planning Guidance or developer's guidance available on the website will be considered by January 2011.

- Progress in working though the list of potentially contaminated sites. The aim would be to screen out sites of no obvious concern to reduce the number with a view to rerun the CONSEPT model (BGS Prioritisation software).

- The maintenance of relevant and updated electronic information (GIS) layers will be reviewed on an annual basis.

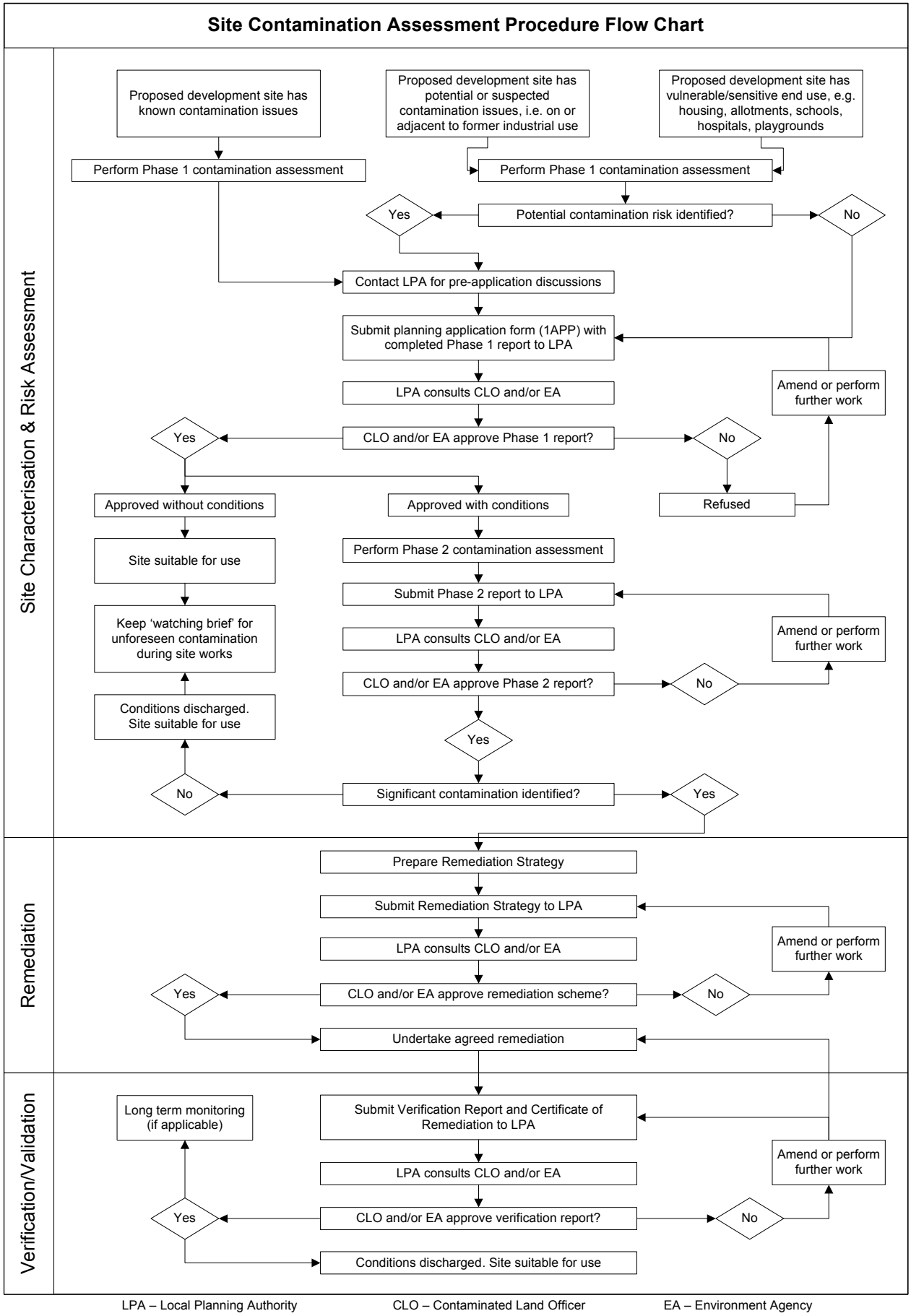
- An annual report of progress will be prepared and published.

Appendix 1 - Glossary

Apportionment	The division of the costs of remediation between one or more appropriate persons.
Appropriate persons	Any person who must bear responsibility for remediation of a site. This term is defined in section 78F
Class A person	A person who is an appropriate person because he caused or knowingly permitted a pollutant to be in, on or under the land.
Class B person	A person who in an appropriate person because they are the owner or occupier of contaminated land where no Class A person can be found
Contaminant	A substance in, on or under land which has the potential to cause harm or pollution of controlled water.
Contaminated land	Any land that is in such a condition by reason of substances in, on or under the land, that (a) significant harm is being caused, or there is a significant possibility of such harm being caused, or; (b) pollution of controlled waters is being, or is likely to be, caused
Controlled Waters	This is defined by the Water Resources Act 1991. It includes coastal waters, inland fresh water and ground water
Current use	A use which is being, or is likely to be made of the land, and which is consistent with any existing planning permission. This can included permitted temporary use and future uses which will not require amended, or new, planning permission
Enforcing authority	The authority that enforces the legislation for a contaminated site. For a special site this is the Environment Agency. For all other contaminated sites, it is the local authority.
GIS	A Geographical Information System. This is computer software that links features on a map to information about them.
Groundwater	The mass of water in the ground below the water table (saturated zone) occupying the total pore space in the rock.

Harm	This is harm to the health of a living organism, or interference with an ecological system of which it forms part. This includes harm to property
Intrusive Investigations	A site investigation which goes beyond a simple visual inspection, limited sampling or desk-top study
Pathway	The means by which a receptor is being, or could be, exposed to, or affected by a contaminant
Pollutant	A contaminant which forms part of a pollutant linkage.
Pollutant Linkage	The relationship between a contaminant, pathway and receptor
Pollution of controlled waters	The entry of any poisonous, noxious or polluting matter or any solid waste matter into controlled waters
Receptor	A living organism, a group of living organisms, an ecological system or a piece of property which is in Table A, Chapter A of the guidance and is being, or could be, harmed by a contaminant. Or, controlled waters which are being, or could be, polluted by a contaminant.
Remediation	This includes the assessment of condition of land; the undertaking of actions to prevent, minimise or mitigate the effects of harm; and follow up inspections.
Remediation scheme	A complete set of remediation actions to be carried out with respect to the land or waters
Remediation statement	A statement prepared and published by the responsible person detailing remediation actions and the timescale within which they have been, or are expected to be carried out.
Risk	The combination of (a) the probability, or frequency, of occurrence of a hazard; and (b) the magnitude (including the seriousness) of the consequences
Risk Assessment	This involves determining the significance of the risk for those affected
Risk communication	The effective communication of all aspects of a particular risk, and the assessment of this risk, to those who are concerned with it
Risk management	The process of implementing decisions about accepting, controlling, or altering risks

Significant harm	Harm which is determined to be significant in accordance with Chapter A of the statutory guidance.
Significant possibility of significant harm	A possibility of significant harm being caused and is deemed to be significant in accordance with Chapter A of the statutory guidance
Source protection zone	An area around a borehole defined by the Environment Agency according to the travel times of pollutants in the groundwater to the borehole
Special site	A contaminated site that meets the definition in sections 78C(7) or 78D(6) of Part IIA of the Environmental Protection Act. The Environment Agency are the enforcing authority for a special site
SSSI	Site of Special Scientific Interest
UDP	Unitary Development Plan


Site Contamination Assessment Procedure Flow Chart
Site Characterisation & Risk Assessment
Proposed development site has known contamination issues
Proposed development site has potential or suspected contamination issues, i.e. on or adjacent to former industrial use
Proposed development site has vulnerable/sensitive end use, e.g. housing, allotments, schools, hospitals, playgrounds
Perform Phase 1 contamination assessment
Perform Phase 1 contamination assessment
Potential contamination risk identified?
Yes
No
Contact LPA for pre-application discussions
Submit planning application form (1APP) with completed Phase 1 report to LPA
LPA consults CLO and/or EA
Amend or perform further work
CLO and/or EA approve Phase 1 report?
Yes
No
Approved without conditions
Approved with conditions
Refused
Site suitable for use
Perform Phase 2 contamination assessment
Keep 'watching brief' for unforeseen contamination during site works
Submit Phase 2 report to LPA
LPA consults CLO and/or EA
Amend or perform further work
CLO and/or EA approve Phase 2 report?
No
Conditions discharged. Site suitable for use
Yes
No
Significant contamination identified?
Yes
Remediation
Prepare Remediation Strategy
Submit Remediation Strategy to LPA
LPA consults CLO and/or EA
Amend or perform further work
Yes
CLO and/or EA approve remediation scheme?
No
Undertake agreed remediation
Verification/Validation
Long term monitoring (if applicable)
Submit Verification Report and Certificate of Remediation to LPA
LPA consults CLO and/or EA
Amend or perform further work
Yes
CLO and/or EA approve verification report?
No
Conditions discharged. Site suitable for use
LPA – Local Planning Authority
CLO – Contaminated Land Officer
EA – Environment Agency