

# Technical Guidance: Development on Land Affected by Contamination



## Norfolk Environmental Protection Group

Norfolk Contaminated Land Officers Group



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# 1 Introduction

This annex to Planning and Pollution in Norfolk (PPN) expands on the policy considerations that the Norfolk Environmental Protection Group (NEPG) expects the Norfolk Local Planning Authorities (LPAs), to have regard to. This technical guidance should be used when producing development plans, policies and making decisions on applications in relation to development on land potentially affected by contamination. Developers and their advisors should take account of this information when preparing planning applications. It gives necessary legislative and technical background and some examples of good practice to assist the LPAs in implementing the advice given in the PPN document.

A fundamental principle of sustainable development is that the condition of land, its use and its development should be protected from potential hazards. Without appropriate action, the presence of substances with potential to cause harm to human health, property and the wider environment may severely limit or altogether preclude development and the beneficial use of land. The real or perceived costs of action to address the risks arising could act as significant barriers to successful development but a considered and informed approach can minimise such barriers. Potential mitigation problems can be compounded if the presence of harmful substances is not identified until development is already under way.

## **2 Purpose and Scope of This Annex**

- 2.2.1 This Annex applies in Norfolk. It explains the legislative background to the consideration of development on land affected by contamination. It explains the relationship of the contaminated land regime under Part 2A of the Environmental Protection Act 1990 (EPA 1990) to the planning system. The broad approach, concepts and principles of that regime with respect to identifying risks from land contamination and dealing with them should be applied to plan-making and the determination of planning applications. The aim is to ensure that the planners, developers and their advisors address land contamination issues at the appropriate stage and consistently with the arrangements under Part 2A. It briefly refers to the technical issues involved and indicates where there are relevant sources of further information.
- 2.0.2 Land contamination is a material planning consideration. This Annex provides advice to the LPAs in Norfolk, developers, their advisors and other interested parties, on the issues relevant to development and use of land that may be affected by contamination and the extent of controls operated through planning and environmental legislation. This Annex gives advice to the key parties on their roles in the development process. It also sets out good practice for LPAs in assessing and dealing with land contamination issues and should be read in conjunction with the PPN document.

## **3 The Contaminated Land Regime**

### **3.1 Contaminated Land and Part 2A**

- 3.1.1 The Contaminated Land Regulations were introduced under Part 2A of the Environmental Protection Act 1990 (EPA1990) by the Environment Act 1995 to help deal with the substantial legacy of contaminated land. The Contaminated Land Regulations (Part 2A) came into force in England on 1 April 2000 and is regulated by the Contaminated Land Statutory Guidance April 2012. Part 2A included the first statutory definition of “contaminated land” and conferred new responsibilities and powers on local authorities and the Environment Agency to identify contaminated land and ensure that it is dealt with.
- 3.1.2 For the purposes of Part 2A, contaminated land is defined 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 a significant possibility of such harm being caused; or (b) significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused”.
- 3.1.3 Part 2A addresses “unacceptable risk”. The approach is based upon the principles of risk assessment, including the concept of a contaminant, a pathway and a receptor, which, if combined, form a contaminant linkage. These and other key terms are defined in the statutory guidance for Part 2A. A significant contaminant linkage forms the basis of a formal determination that land is contaminated land.

## **3.2 Radioactively Contaminated Land**

3.2.1 Radioactive substances are present in the environment as a result of natural processes and human activities. The Radioactive Substances Act 1993 (RSA) ensures the control of radiation exposure resulting from radioactive wastes entering the environment through the implementation of a prior radioactive waste discharge permission. The regime is administered and enforced by the Environment Agency. This regime helps prevent future radioactive contamination of land. Part 2A covers radioactivity and is explained in the Radioactive Contaminated Land Statutory Guidance DECC April 2012. The Environment Agency has also produced advice<sup>1</sup> and should always be consulted where land is known or suspected to be contaminated with radioactive substances.

## **3.3 Water Framework Directive**

3.3.1 The Water Environment (Water Framework Directive) (England & Wales) Regulations 2003 enact the Water Framework Directive in England and Wales. Local Authorities have a duty to "have regard" for the River Basin Management Plans. Therefore development plans and development control decisions should:

- identify when there might be impacts on water bodies;
- seek options to reduce impacts;
- assess risk of deterioration; and
- require all practical mitigation.

## **4 Relationship between Planning Control and the Contaminated Land Regime**

4.0.1 To avoid confusion with the statutory term "contaminated land" as defined in Part 2A and to reflect the different context and scope of planning control, this document uses the wider term – "land affected by contamination". This is intended to cover all cases where the actual or suspected presence of substances in, on or under the land may cause risks to people, property, human activities or the environment, regardless of whether or not the land meets the statutory definition in Part 2A.

4.0.2 The contaminated land regime in Part 2A was introduced specifically to address the historical legacy of land contamination. It applies where there is unacceptable risk, assessed on the basis of the current use. The planning system aims to control development and future land use. Therefore assessing risks in relation to a future use of the land (which requires a specific grant of planning permission) is primarily a task for the planning system.

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<sup>1</sup> *Guidance on the Characterisation and Remediation of Radioactively Contaminated Land* (May 2002)

- 4.0.3 The underlying approach to identifying and dealing with risk, and the overall policy objective of safeguarding human health and the environment from unacceptable risk, are similar. Unacceptable risk in planning terms includes the risks addressed by Part 2A. However, a wider range of contamination and receptors is relevant to planning because of its wider spatial perspective. The National Planning Policy Framework states that ‘as a minimum, the land should not be capable of being determined as contaminated land under Part 2A of the Environmental Protection Act 1990’.
- 4.0.4 The Part 2A regime was designed and intended to encourage voluntary remediation and to work with planning and building control. Part 2A should only be used where no appropriate alternative solution exists. The Contaminated Land Statutory Guidance April 2012 states that land contamination can be addressed under the planning system when land is developed or redeveloped. The LAs contaminated land strategy should outline a broad approach which may include using the planning system to ensure that land is made suitable for use when it is redeveloped and/or encouraging polluters and owners of land to deal with problems without the need for Part 2A to be used directly.
- 4.0.5 In some cases, information about the condition of the land and the risks may emerge in connection with a planning application or its implementation. A question may then arise as to whether and when Part 2A should be applied. Contaminated Land Statutory Guidance April 2012 states that the LA should assume that any future use or development would be carried out in accordance with any planning permission and that any remediation required by condition or a planning obligation, will be carried out in accordance with that permission or obligation.

## **5 Responsibilities of the Parties in the Development Process**

### **5.1 Role of the Owner/Developer**

- 5.1.1 Where development is proposed, 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 thus responsible for determining whether land is suitable for a particular development or can be made so by remedial action. In particular, the developer should carry out a suitably robust investigation in order to inform a risk assessment to determine:
- whether the land in question is already affected by contamination through source – pathway – receptor contaminant linkages and how those linkages are represented in a conceptual model;
  - whether the development proposed will create new contaminant linkages, e.g. new pathways by which existing contaminants might reach existing or proposed receptors and whether it will introduce new vulnerable receptors; and
  - what action is needed to break the identified linkages, avoid new ones, deal with any unacceptable risks and enable safe development and future occupancy of the site and neighbouring land.

- 5.1.2 A potential developer will need to satisfy the local authority that unacceptable risk from contamination can and will be successfully addressed through remediation without undue environmental impact during and following the development. In doing so, a developer should be aware that actions or omissions on their part could lead to liability being incurred under Part 2A, e.g. where development fails to address an existing unacceptable risk or creates such a risk by introducing a new receptor or pathway. Developers must be aware of their responsibility to deal with pollution issues they may cause and the liability they may be exposed to under environmental legislation e.g. the Environmental Damage Regulations (2009). Where an agreed remediation scheme includes future monitoring and maintenance schemes, arrangements will need to be made to ensure that any subsequent owner is fully aware of these requirements and assumes ongoing responsibilities that run with the land.

## **5.2 Role of the Local Authority**

- 5.2.1 In most cases, local authorities are the enforcing authorities for the contaminated land regime under Part 2A. They have a duty to identify contaminated land within their area and, except for certain categories, to decide what remediation is required and ensure that it takes place.
- 5.2.2 LPAs are responsible under the Planning Acts for the preparation of local development frameworks and for the control of development. In doing so, they have a duty to take account of all material considerations, including contamination. It is their role to plan for land uses that are appropriate in the light of all the relevant circumstances, including known or suspected contamination and to determine applications, including applying and enforcing any necessary conditions. Such conditions may require that land is remediated in the course of development to an appropriate standard, taking account of its intended use, and that, if necessary, it is properly maintained thereafter.
- 5.2.3 The building control departments of local authorities (along with the private sector approved inspectors) are responsible for the operation and enforcement of the Building Regulations to protect the health, safety and welfare of people in and around buildings. This includes the requirements to protect buildings and land associated with the buildings from the effects of contamination.

## **5.3 Role of the Environment Agency**

- 5.3.1 The Environment Agency is the enforcing authority under Part 2A for contaminated land, which has been designated as a "Special Site". It is also the enforcing authority for Part A(1) installations under the PPC Regulations, the Radioactive Substances Act 1993 and other legislation which help to prevent future contamination of land and controlled water. The Environment Agency is also responsible for Environmental Permitting that may be necessary for some remediation activities. The Environment Agency is responsible for the protection of controlled waters under the Water Resources Act 2003 and the Water Industry Act 2003. It is the relevant authority under the Groundwater (England and Wales) Regulations 2009, which implement the EC Groundwater Directive (80/68/EC), and, as competent authority, is responsible under the Water Environment (Water Framework Directive)

(England and Wales) Regulations 2003 that transpose the EC Water Framework Directive (2000/60/EC).

- 5.3.2 The Environment Agency is a statutory consultee under the General Development Procedure Order 1995 on certain planning applications, e.g. for development within 250m of notified landfill sites and potentially polluting development that may affect controlled waters.

#### **5.4 *Role of the Local Authority Planning Control***

- 5.4.1 In so far as it affects land use and development, the quality of land is a material planning consideration in preparing development plans for example Local Development Documents (LDD's) as well as in the determination of planning applications.
- 5.4.2 When considering development on land affected by contamination, the principal planning objective is to ensure that any unacceptable risks to human health, buildings and other property and the natural and historical environment from the contaminated condition of land are identified so that appropriate action can be considered and then taken to address those risks. Achievement of this objective should assist in providing the necessary confidence to owners and occupiers of land, after development, about its condition and hence its standing in relation to relevant environmental protection regimes including Part 2A of the EPA 1990.
- 5.4.3 On a precautionary basis, the possibility of contamination should be assumed when considering both development plans and individual planning applications in relation to all land subject to or adjacent to previous industrial use (see Table 1) and also where uses are being considered that are particularly sensitive to contamination (a list of examples is presented in Table 2).



**Table 1: Examples of Potentially Contaminating Uses of Land and Situations Where Land may be Affected by Contamination**

<p><b><i>A wide range of industries may historically have contaminated, or have the potential to contaminate the land they are sited upon (and neighbouring land) — The DOE Industry Profiles give further details.</i></b></p> <ul style="list-style-type: none"> <li>– Smelters, foundries, steel works, metal processing &amp; finishing works</li> <li>– Coal &amp; mineral mining &amp; processing, both deep mines and opencast</li> <li>– Heavy engineering &amp; engineering works, e.g. car manufacture, shipbuilding</li> <li>– Military/defence related activities</li> <li>– Electrical &amp; electronic equipment manufacture &amp; repair</li> <li>– Gasworks, coal carbonisation plants, power stations</li> <li>– Oil refineries, petroleum storage &amp; distribution sites</li> <li>– Manufacture &amp; use of asbestos, cement, lime &amp; gypsum</li> <li>– Manufacture of organic &amp; inorganic chemicals, including pesticides, acids/alkalis, pharmaceuticals, solvents, paints, detergents and cosmetics</li> <li>– Rubber industry, including tyre manufacture</li> <li>– Munitions &amp; explosives production, testing &amp; storage sites</li> <li>– Glass making &amp; ceramics manufacture</li> <li>– Textile industry, including tanning &amp; dyestuffs</li> <li>– Paper &amp; pulp manufacture, printing works &amp; photographic processing</li> <li>– Timber treatment</li> <li>– Food processing industry &amp; catering establishments</li> <li>– Railway depots, dockyards (including filled dock basins), garages, road haulage depots, airports</li> <li>– Landfill, storage &amp; incineration of waste</li> <li>– Sewage works, farms, stables &amp; kennels</li> <li>– Abattoirs, animal waste processing &amp; burial of diseased livestock</li> <li>– Scrap yards</li> <li>– Dry cleaning premises</li> <li>– All types of laboratories</li> </ul>
<p><b><i>Other uses &amp; types of land that might be contaminated include:</i></b></p> <ul style="list-style-type: none"> <li>– Radioactive substances used in industrial activities not mentioned above – e.g. gas mantle production, luminising works</li> <li>– Burial sites &amp; graveyards</li> <li>– Agriculture – excessive use or spills of pesticides, herbicides, fungicides, sewage sludge &amp; farm waste disposal</li> <li>– Naturally-occurring radioactivity, including radon</li> <li>– Naturally-occurring elevated concentrations of metals and other substances</li> <li>– Methane &amp; carbon dioxide production &amp; emissions in coal mining areas, wetlands, peat moors or former wetlands</li> </ul>

**Table 2: Examples of Potential Sensitive End Uses**

1) School
2) Residential Housing
3) Parks and Playgrounds
4) Allotments
5) Hospitals

## 6 Local Development Documents (LDD's)

- 6.0.1 LDD's provide a prime opportunity to steer appropriate development onto previously developed land within the context of the wider planning policies in a local authority's area. As well as protecting greenfield sites from development, this can help to bring about progressive improvement in the condition of land as a whole, provided that any contamination is identified and properly dealt with and the development is carried out in an appropriate manner. Therefore in preparing and revising LDDs, LPAs need to take into account any potential implications of land contamination. Some potential sources of contamination are listed in Table 1. The LDDs should include appropriate policies for the remediation of contamination where it is known or suspected to exist and for dealing with the implications of contamination for other policies and proposals. In particular, LPAs should recognise that the development process is often the most effective way of achieving action to remove unacceptable risks arising from the contaminated state of land. Where action area plans are prepared that include significant tracts of previously developed land, LPAs should consider the need for a phased approach to dealing with potential contamination issues.
- 6.0.2 Information of the types described in paragraph 7.2.8 should be used to inform the drawing up of LDD's. Contamination may add to the difficulty and cost of developing a site or even preclude certain uses.
- 6.0.3 Identification of potential problems at an early stage can enable a more positive approach to bringing forward development, thereby leading to a higher value land use, which in turn, could better cover the costs of remediation. Early attention to the contamination issues can help in locating development that is less sensitive to contamination on areas where the contaminated state of the land is likely to be more difficult to address. Proposals for particular types of development, in different parts of an authority area, need to take account of potential contamination alongside other material considerations. They need also to take into account issues of sustainability, disturbance to existing occupiers and environmental issues (dust, noise, odours etc.) which might arise from the contamination.
- 6.0.4 Potentially hazardous substances, such as radon, methane or elevated concentrations of metallic elements may also be present in the ground due to the underlying geology. Since these may pose a risk to human health or to the environment, their presence is a material planning consideration. Guidance on areas affected by radon and the control measures available for new development is contained in BR211 Radon: Guidance on Protective Measures for New Dwellings<sup>2</sup>. Part C of the Building Regulations 2000 gives further advice on the requirements to secure reasonable standards of health and safety for persons in and around buildings in relation to land contamination. LPAs should include appropriate information on both naturally-occurring and industrial contaminants in the land condition and quality section of their LDDs.

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<sup>2</sup> Building Research Establishment, 2007. *BR211 Radon: Guidance on Protective Measures for New Dwellings*.

## **7 Development Control Process**

7.0.1 Where development is proposed on land that is or may be affected by contamination, an assessment of risk should be carried out by the applicant for consideration by the LPA before the application is determined. Any unacceptable risks should be identified and proposals made to deal with them effectively as part of the development process. An assessment of potential contamination and historical uses of land should be one of the supporting documents that accompany planning applications where appropriate. LPAs should, in any event, satisfy themselves as soon as practicable that intending developers have effectively addressed the issue of potential contamination in bringing forward their proposals.

### **7.1 Before an Application is Submitted**

7.1.1 Where practicable, proposers of developments on potentially contaminated sites should arrange pre-application discussions with the LPA and other regulators, including, where appropriate, the Environmental Health and Building Control departments of the local authority, the LPAs archaeological and nature conservation advisers and the Environment Agency (where pollution of controlled water and the waste management implications of land contamination are likely to be issues). Such discussions can help to identify the likelihood and possible extent and nature of contamination and its implications for the proposed development. They can also assist in scoping any necessary environmental impact assessment and identify the information that will be required by the LPA to reach a decision on the application when it is submitted. LPAs should advise intending developers to undertake these steps where they appear necessary but have not yet been addressed.

### **7.2 When to Consider Contamination**

7.2.1 Less stringent pollution control and less careful site management in the past has led to a legacy of sites contaminated by former uses. Table 1, which is not intended to be comprehensive, gives some common examples of potentially contaminating uses of land. Further details are contained in the Department of the Environment Industry Profiles (<http://www.environment-agency.gov.uk/research/planning/33708.aspx>).

7.2.2 Not all sites that have been previously used by particular industries are affected by contamination and sites occupied by similar uses will not necessarily contain the same contaminants or similar concentrations of contaminants. Some may have been remediated previously, to varying standards. Contaminants may also be present on land where there are no specific records of contaminating uses, such as in made ground where unsuitable fill has been used.

7.2.3 LPAs and developers or their agents should recognise that contamination may pose problems on land other than the originating site. For example, contaminants may migrate or be transported by wind or water onto land that has no specific association with the contaminating industrial use.

- 7.2.4 While the most severe examples of contamination are often found in developed or former industrial areas, rural and urban fringe areas can also be affected e.g. by inappropriate applications to land of such materials as sludge etc. by the use of land for activities such as storing and reprocessing scrap vehicles or other wastes, by closed landfills and by the effects of flood events. In addition, some areas may be affected by natural occurrence of potentially hazardous substances, such as arsenic, or ground gases which are the product of the underlying geology and bear little relation to previous or current land use.
- 7.2.5 Only a site specific investigation can establish the actual level and types of contamination at a particular site. Such an investigation will also need to consider the possibility that new pathways may be introduced as a result of development activities, such as piling, drain laying and trenches for services. In addition new receptors may also be introduced by the proposed development.
- 7.2.6 The presence of contaminants, including hazardous substances, in, on or under land does not, by itself, necessarily present an unacceptable risk, nor therefore necessarily require action. Risk arises where there is a contaminant linkage – i.e. a pathway between a contaminant, which has the potential to cause harm and a sensitive receptor. The hazards may be chemical (toxic, carcinogenic), biological (pathogens), radioactive or physical (such as asphyxiation, explosion). Table 3 gives some examples of the risks from contamination to human health, property and the environment. Land contamination can also affect the general environmental quality, amenity and economic capacity of an area.

**Table 3: Examples of Pathways and Effects from Land Contamination**

<b>HUMAN HEALTH</b>
1) <i>Uptake of contaminants by food plants grown in contaminated soil</i> – heavy metals (e.g. cadmium, lead) and persistent organic pollutants including certain pesticides and veterinary products may result in an accumulation in food plants to concentrations where they exceed legal limits and/or may pose a hazard to human health. Uptake will depend on concentration in soil, its chemical form, soil pH, plant species and prominence in diet.
2) <i>Ingestion and inhalation</i> – substances may be ingested directly by young children playing on contaminated soil, by eating plants which have absorbed metals or are contaminated with soil or dust. Ingestion may also occur via contaminated water supplies. Metals, some organic materials and radioactive substances may be inhaled from dusts and soils.
3) <i>Skin contact</i> – soil containing tars, oils and corrosive substances may cause irritation to the skin through direct contact. Some substances (e.g. phenols) may be absorbed into the body through the skin or through cuts and abrasions.
4) <i>Irradiation</i> – As well as being inhaled and absorbed through the skin, radioactive materials emitting gamma rays can cause a radiation response at a distance from the material itself.
5) <i>Fire and explosion</i> – materials such as coal, coke particles, oil, tar, pitch, rubber, plastic and domestic waste are all combustible. If heated by contact with buried power cables or careless disposal of hot ashes they may ignite and burn underground. Both underground fires and biodegradation of organic materials may produce toxic or flammable gases. Methane and other gases may explode if allowed to accumulate in confined spaces.
<b>BUILDINGS</b>
1) <i>Fire and explosion</i> – underground fires may cause ground subsidence and cause structural damage to buildings. Accumulations of flammable gases in confined space leads to a risk of explosion. Underground fires may damage building services.
2) <i>Chemical attack on building materials and services</i> – sulphates may attack concrete structures. Acids, oils and tarry substances may accelerate corrosion of metals or attack plastics, rubber and other polymeric materials used in pipe work and service conduits or as jointing seals and protective coatings to concrete and metals.

3) *Physical* – blast-furnace and steel-making slag (and some natural materials) may expand if ground conditions are changed by development. Degradation of fills may cause settlement and voids in buried tanks and drums may collapse as corrosion occurs or under loading from construction traffic.

#### **NATURAL ENVIRONMENT**

1) *Phytotoxicity (prevention/inhibition of plant growth)* – some metals essential for plant growth at low levels are phytotoxic at higher concentrations. Methane and other gases may give rise to phytotoxic effects by depleting the oxygen content in the root zone.

2) *Contamination of water resources* – soil has a limited capacity to absorb, degrade or attenuate the effects of pollutants. When this is exceeded, polluting substances may enter into surface and groundwater.

3) *Ecotoxicological effects* – contaminants in soil may affect microbial, animal and plant populations. Ecosystems or individual species on the site, in surface waters or areas affected by migration from the site may be affected

7.2.7 When development is proposed involving or introducing a sensitive use, the possibility of contamination should always be considered, regardless of past land use (Table 2). LPAs should pay particular attention to the condition of the site and of neighbouring land where the proposed use would be vulnerable to contamination, where the current circumstances or past use suggest that contamination may be present or where it has other relevant information. Full account should be taken of whether the proposed use or development is likely to be adversely affected by contamination. For example, the addition of a new storey to an existing building is unlikely to be significantly affected by contamination whereas lateral expansion onto former industrial land potentially carries a higher risk and building extensions or undertaking landscaping that disturbs the ground may breach protecting layers.

7.2.8 In identifying where contamination needs to be considered, LPAs should examine their own and other local sources of information about the condition and history of the land as well as information from applicants. This includes their own LDDs and the survey information on which they were based together with information held and collected in connection with Part 2A of the EPA 1990, or other statutory functions. Other potentially useful sources of information within the local authority include records on planning, environmental health, land reclamation, regeneration, building control, highways and engineering, historic building, conservation, archaeological sites, monuments and biological record centres ([www.brc.ac.uk](http://www.brc.ac.uk)). LPAs should also examine any readily-available information on previous uses contained in the National Land Use Database, in commercial databases and land condition records or in records held by the British Geological Survey (e.g. location of made ground, borehole logs or radon potential maps).

### **7.3 Information Required from the Applicant**

7.3.1 Where contamination is known or suspected or the proposed use is considered to be sensitive, LPAs should require the applicant to provide with the application such information as is necessary to determine whether the proposed development can proceed. In doing so, they should adopt a balanced approach. It would be disproportionate and unnecessary to require every applicant to carry out a detailed and expensive site investigation. However, sufficient information is required to determine the existence or otherwise of contamination, its nature and the risks it may pose and whether these can be satisfactorily reduced to an acceptable level. This will require a risk assessment that identifies the sources, pathways and receptors

(contaminant linkages). A phased or tiered approach is recommended in the Defra/Environment Agency's Model Procedures for the Management of Contamination (CLR11) and the NHBC/CIEH/EA guidance for the Safe Development of Housing on Land Affected by Contamination (2008). The initial provision of this information is essential to determine whether further more detailed investigation is required.

- 7.3.2 The minimum requirement for an application will depend on the type and size of development and the site's history. For further information please contact the relevant officer and refer to 'Land Contamination Reports, Advice for Consultants and Developers' leaflet. For small sites where there is considered to be minimal potential for contamination a brief description of the site and its past history or the LA's questionnaire may be sufficient. However, for more complex sites further information will be required which could include a desk study or site investigation.
- 7.3.3 The initial site assessment should assist in determining the need for and scope of further investigation, any contaminants of concern that may require remediation and whether remediation can be secured by means of planning conditions. It may provide sufficient evidence that the planning decision can be made based on an appropriate conceptual model and the LPA are satisfied that there is a viable remedial solution. However, further investigations and risk assessment will be needed unless this initial assessment clearly and reliably demonstrates that the risk from contamination is acceptable. LPAs should seek evidence to demonstrate that such investigations have been carried out to an acceptable professional standard. Advice on the assessment and development of land affected by contamination is contained in guidance published by the British Standards, the National House Building Council (NHBC) and the Environment Agency<sup>3</sup>.
- 7.3.4 All investigations of land potentially affected by contamination should be carried out by or under the direction of a suitably qualified competent person, and in accordance with BS10175 (2011) Code of Practice for the Investigation of Potentially Contaminated Sites. The competent person would normally be expected to have relevant experience of investigating land affected by contamination and ideally be a member of an appropriate professional body (such as the Institute of Civil Engineers, Geological Society of London, Chartered Institute of Waste Management, Institute of Environmental Management and Assessment) or a Specialist in Land Condition (SiLC).

## **7.4 Environmental Impact Assessment**

- 7.4.1 Environmental Impact Assessment (EIA) applies to a development that is subject to the Town and Country Planning (Assessment of Environmental Effects) (England and Wales) Regulations 1999 as amended by the Town and Country Planning (Environmental Impact Assessment) (England and Wales) (Amendment) Regulations 2001. Detailed guidance to the Regulations and procedures is given in DETR Circular 02/99 Environmental Impact Assessment. This sets out the criteria for development that is subject to mandatory EIA and the factors to be considered in deciding whether it should apply to other development proposals. Where an EIA is required, the

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<sup>3</sup> NHBC/Environment Agency, 2008 – *Guidance for the Safe Development of Housing on Land Affected by Contamination*  
Defra/Environment Agency – *Model procedures for the Management of Contaminated Land*.

applicant must submit an Environmental Statement (ES) in support of the planning application.

## **7.5 Determining Applications**

- 7.5.1 In determining applications, the LPA will need to be satisfied that the development does not create or allow the continuation of unacceptable risk arising from the condition of the land in question or from adjoining land. In particular, it should satisfy itself that existing significant contaminant linkages will be broken by removing the source, blocking the pathway or removing receptors and that the development will not create new contaminant linkages by changing or creating exposure pathways e.g. creating new pathways to groundwater by site investigation drilling or piling.
- 7.5.2 For land use planning purposes, what constitutes an unacceptable risk is wider than for Part 2A purposes since planning is concerned with proposed development and future use and thus with both existing and new risks. In addition, the range of receptors is wider than under Part 2A and includes, for example, general fauna and flora, landscape and amenity. Forms or sources of contamination not covered by Part 2A also need to be considered as part of the planning process. In other respects, however, risks should be assessed and acted upon in accordance with Part 2A principles. When remediation of land affected by contamination is achieved by means of development, these differences between the two regimes should be recognised and allowed for by developers, their advisers and by LPAs.
- 7.5.3 The standard of remediation to be achieved through the grant of planning permission for new development (including permission for land remediation activities) is the removal of unacceptable risk and making the site suitable for its new use, including the removal of existing contaminant linkages. All receptors relevant to the site should be protected to an appropriate standard. As a minimum, after carrying out the development and commencement of its use, the land should not be capable of being determined as contaminated land under Part 2A of the EPA 1990.
- 7.5.4 Remediation or site investigation activities themselves, including field trials, may require planning permission or permits if not carried out as part of a development. For such applications and for any development or change in use requiring remediation, the LPA should consider the impact of remediation activities on neighbouring land uses and the environment, including any offsite works such as those needed to control methane migration beyond the site boundaries. While some aspects may also be covered under separate pollution control regimes, LPAs will need to consider issues such as dust, noise and traffic movements arising from the remediation activities and the possible need for measures to control or mitigate them. A balance should be struck between the overall social and economic benefits from the development, including the remediation proposals, and the temporary impacts of the remediation process. Applicants are recommended to consider carefully the waste management implications when deciding the best approach to remediation and the handling and treatment of contaminated soils and other material.

- 7.5.5 LPAs will need to be satisfied that the development can be carried out safely without unacceptable risks to workers, neighbours or other offsite receptors. It is important that risk to workers is managed using standard hierarchy of control measures under the Control of Substances Hazardous to Health (COSHH) Regulations 2002, the Construction (Design and Management) Regulations 2011 and other relevant legislation.

## **7.6 Outline Planning Applications**

- 7.6.1 Extreme caution should be taken in the granting of outline planning permission unless the LPA is satisfied that it has sufficient information from the applicant about the condition of the land and its remediation and the full range of environmental impacts arising from the proposals to be able to grant permission in full at a later stage. A grant of outline planning permission that cannot be sustained at the detailed approval stage because it becomes apparent that the necessary remediation is not viable or practicable or because the ES (where EIA is required) demonstrates unacceptable adverse impacts could leave the LPA vulnerable to a claim for compensation. The LPA should be satisfied, therefore, that the risks have been properly assessed and, if there is an unacceptable risk, the options appraised sufficiently to identify a viable remediation scheme that will reduce the risks to an acceptable level, just as it would with a full application. Outline permissions should not be granted until the LPA is satisfied that it understands the contaminated condition of the site and that the proposed development is appropriate as a means of remediating it. If the LPA is satisfied about this, further investigations and the detailed design of remediation might still be needed. Identifying these issues as reserved matters will enable detailed approval at an appropriate stage and give the developer greater certainty before incurring the costs involved. Where the LPA is minded to grant outline planning permission, the length of time needed for further investigations and detailed design should be considered in determining the timescale for submission of a detailed application on the reserved matters.

## **7.7 Consultation**

- 7.7.1 It is essential that LPAs should consult the contaminated land officer for any development proposed on land that might be affected by contamination. In many cases, work on inspection under Part 2A of the EPA 1990 will have identified potentially contaminated sites within an authority's area. Where land has been or is being determined as contaminated land under Part 2A, the relevant local authority's department will need to be satisfied that the remediation will meet requirements such that no further action is required.
- 7.7.2 For special sites designated under Part 2A, the Environment Agency is the relevant enforcing authority and should be consulted to ensure that remediation meets its requirements. LPAs should also consult the Environment Agency where the Environment Agency is carrying out a Part 2A inspection on behalf of the local authority or where there is a potentially significant risk to controlled waters that may need to be addressed as part of the development process. The Environment Agency should also be consulted if the land concerned was or is regulated by the Environment Agency under Parts 1 (IPPC) and 2 (Waste Management) of the EPA 1990 or



under the successor PPC regime (see Annex 1 of PPN – Air Quality and Land Use Planning) or the Radioactive Substances Act 1993.

- 7.7.3 Other statutory bodies also have relevant responsibilities, including Natural England and English Heritage in relation to particular receptors. They should be consulted by the LPA where appropriate. LPAs should also consult other relevant local authority departments, such as building control or conservation as necessary. Other bodies, such as water companies and local community and conservation or amenity groups may be able to advise on issues related to specific receptors.

## **7.8 Granting Planning Permission**

- 7.8.1 Where it is satisfied that the development proposed will be appropriate, having regard to the information currently available about the contamination (if any) of the site and the proposed remediation measures and standards, the LPA should grant planning permission subject to any conditions requiring such further investigations and remediation (including verification) as would be necessary, reasonable and practical.
- 7.8.2 The LPA should refuse permission if it is not satisfied on the basis of the information provided by the applicant and that available from other sources, including the responses of those consulted, that the development would be appropriate. This could include cases where:
- circumstances, including information available to the LPA, clearly suggest the possibility of contamination or of unacceptable risk and no information has been provided or obtained that excludes the reasonable possibility of such contamination or risk;
  - the LPA considers that unacceptable risk exists and cannot be dealt with adequately to deliver a development that is suitable for its intended use and removes unacceptable risks; or
  - the steps needed to deliver an appropriate development and deal with unacceptable risk are not already in place and cannot be secured by suitable planning conditions, e.g. because these are not within the powers of the developer since action is needed on other land outside the developer's control or influence: or
  - there is insufficient information to determine the application.

## **7.9 Planning Conditions**

- 7.9.1 In some cases, the information available when a planning application is being considered will be sufficient to resolve the main issues regarding contamination from a planning point of view but insufficient to resolve all the details. The LPA will first need to be satisfied that the proposal will deliver an appropriate development and that the risks are sufficiently well known that there is a viable remediation option. If it is so satisfied, it may be appropriate to grant permission subject to conditions relating to the condition of the land. Some examples of conditions that have been used by LPAs are contained in Appendix 2B. General guidance on the use of planning conditions is provided in DOE Circular 11/95.

- 7.9.2 LPAs should consider the use of multi-staged conditions that aim to:
- provide for further investigation and characterisation of the site to confirm the nature and extent of contamination and validate the conceptual model and allow more refined risk assessment and appraisal of remedial options;
  - to propose and receive approval for a remediation scheme that ensures the removal of unacceptable risks to make the site suitable for use; and
  - to submit and receive approval for a verification report that demonstrates the effectiveness of the remediation carried out, preferably before building begins and certainly before the site is occupied by future users. In using such conditions, LPAs should bear in mind the advice in paragraph 7.6.1 and be satisfied that an acceptable outcome can be achieved through the specified further work.
- 7.9.3 Where practical, the conditions should be linked to the phases of the development so that at each stage of the process, the LPA is aware of what has been done and what is proposed for the next stage. The differences between perceived and actual risk from contamination are such that a verification report is essential to demonstrate that, following remediation, the site is suitable for use. This should include details of all the actions taken at each stage of the process, from initial investigations and assessment through to carrying out and verification of the remediation. As a matter of good practice, such a verification report should be placed on the relevant case file and held in an accessible form and place for a period of at least 25 years.
- 7.9.4 In some cases, it may be necessary to require subsequent monitoring for the purposes of providing information on any changes that might occur in the condition of a contaminant, pathway or receptor identified as part of a contaminant linkage when permission was granted. This will enable the authority to consider the continuing integrity of any remediation scheme and any changes in circumstances affecting the contaminant linkages in question. Conditions may also be required to ensure appropriate action is taken in response to such changes. Conditions requiring monitoring and necessary contingency action need to be justified by the nature of the contaminant linkage and the risk it posed and nature of the remediation undertaken.

## **7.10 Planning Obligations**

- 7.10.1 Where it is not appropriate to impose conditions to deal with the issues, planning obligations can provide an effective mechanism to ensure that appropriate measures are taken to deal satisfactorily with contamination. Planning obligations can be particularly useful in ensuring that any necessary offsite treatment works, such as the installation of gas-migration barriers, water treatment or monitoring arrangements are put in place. In doing so, it is important to avoid fragmentation of the site which might prejudice necessary monitoring and maintenance provisions. Planning obligations may restrict the development or use of land or require payments to the LPA, e.g. for ongoing monitoring or maintenance or as a bond to cover the contingency of future action triggered by the monitoring. Guidance on the scope and use of planning obligations is provided in ODPM Circular 05/2005.

## **8 Further Information and Advice**

8.0.1 There are numerous sources of information on contaminated land. A bibliography of the principal legislation and some relevant publications is presented in Appendix 2A.

## **9 Conclusion**

9.0.1 LPAs and developers must have regard to the advice contained in this Annex alongside that in the accompanying Planning and Pollution in Norfolk document. The good practice set out should ensure that, in most instances, potential contamination is identified at an early stage in the process, appropriate policies are developed to enable the risks to be identified, assessed and overcome so that land affected by contamination is put to beneficial use and that planning applications are determined on the basis of adequate information. The potential for adverse effects on human health, the environment, including controlled waters, buildings and neighbouring land, and amenity should thus be reduced to acceptable levels.

9.0.2 The detailed policies and practices to be adopted by this LPA in responding to suspected or actual contamination are for it to decide on in the light of circumstances within its area.

9.0.3 The assessment of the presence of contamination and of the significance of the risks that may be posed requires careful professional judgement and competent expert advice. The developer is responsible for ensuring the safe development and secure occupancy of a site and that appropriate competent professional advice is available to:

- carry out any necessary investigations;
- assess risk; and
- design and execute any necessary remediation works, including verification of their effectiveness and appropriate monitoring and maintenance where these may be needed.

9.0.4 The LPA will need to consider the presence of contamination and any risks posed in the public interest. In doing so, it should consult appropriately. However, it is entitled to require the developer to provide at application stage, suitable information and expert advice on its implications. It is entitled to rely on that advice in considering the application and the circumstances of the land or to challenge it on the basis of similarly-qualified expert advice accessible to it in-house or externally. Those providing expert advice to developers should be aware of the future reliance that may be placed on it.

## Appendix 2A: Legislation and Relevant Publications

### Some Relevant Legislation

This Appendix lists some of the relevant legislation that is referred to in this Annex. It is not comprehensive but gives some indication of the complexity of the issues surrounding land affected by contamination.

Building Regulations 2010  
Construction (Design and Management) Regulations 2007  
Control of Substances Hazardous to Health Regulations 2002 (COSHH)  
Contaminated Land Statutory Guidance April 2012  
Environment Act 1995  
Environmental Protection Act 1990  
Groundwater Regulations 2009  
Health and Safety at Work etc. Act 1974  
Planning and Compulsory Purchase Act 2004  
Pollution Prevention and Control Act 1999  
Pollution Prevention and Control (England and Wales) Regulations 2000  
Radioactive Substances Act 1993  
Town and Country Planning Act 1990  
Planning and Compensation Act 1991  
Planning and Compulsory Purchase Act 2004  
Town and Country Planning (Assessment of Environmental Effects) (England and Wales) Regulations 1999  
Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2000  
Town and Country Planning (Environmental Impact Assessment) (England and Wales) (Amendment) Regulations 2001  
Town and Country Planning General Permitted Development Order 1995  
Town and Country Planning General Development Procedure Order 1995  
Water Act 2003  
Water Environment (Water Framework Directive) (England and Wales) Regulations 2003  
Water Industry Act 1991  
Water Resources Act 1991  
EC Groundwater Directive 80/68/EC  
EC Directive 96/61/EC on *Integrated Pollution Prevention and Control*  
EC Water Framework Directive (2000/60/EC)  
EU Environmental Liability Directive (2004/35/EC)

### Some Relevant Publications

This Appendix lists some relevant publications, many of which are referred to in this Annex. It is not comprehensive and there are numerous other examples of useful publications.

Defra/Environment Agency, 2004. CLR11 *Model Procedures for the Management of Land Contamination*  
*Environment Agency, Science Report 2 Human health toxicological assessment of contaminants in soil*  
*Environment Agency, Science Report 3 Updated technical background to the CLEA Model*

Environment Agency – *Soil Guidelines for Various Contaminants and associated technical guidance notes*  
*Data and Intake Values for Humans for Various Contaminants*  
 DETR Circular 02/99 *Environmental Impact Assessment*  
 DEFRA Circular 01/2006 *Contaminated Land*  
 DOE Circular 11/95 *The Use of Conditions in Planning Permissions*  
 ODPM Circular 05/2005  
 ODPM, 2004. *The Building Regulations 2000. Part C: Site Preparation and Resistance to Contaminants and Moisture – Approved Document*  
 Environment Agency/NHBC/CIEH, 2000. *Guidance for the Safe Development of Housing on Land Affected by Contamination*. Defra/Environment Agency R&D Publication 66  
 BRE 1999. BR211 *Radon: Guidance on Protective Measures for New Dwellings*  
 Department of the Environment. Industry profiles – The DOE Industry Profiles provide developers, local authorities and anyone else interested in contaminated land, with information on the processes, materials and wastes associated with individual industries. They also provide information on the contamination which might be associated with specific industries, factors that affect the likely presence of contamination, the effect of mobility of contaminants and guidance on potential contaminants. They are not definitive studies but they introduce some of the technical considerations that need to be borne in mind at the start of an investigation for possible contamination.  
 Environment Agency, 2002. *Guidance on the Characterisation and Remediation of Radioactively Contaminated Land*  
 BSI 2011. BS10175 *Code of Practice for the Investigation of Potentially Contaminated Sites*

## **National and International Regulations.**

The Air Quality Strategy (2000) and Addendum (2003) and the local air quality management system under Part IV of the Environment Act 1995;  
 The UK Climate Change Programme (November 2000), setting out details of the UK response to the challenge of climate change;  
 The Water Resources Act (1991) and The Water Resources Act 1991 (Amendment) (England and Wales) Regulations 2009  
 The Control of Major Accident Hazards Regulations 1999 (COMAH)  
 Part 2A of the Environmental Protection Act 1990 – which provides a regime for the identification and remediation of contaminated land;  
 The Environment Act 1995 – which established the Environment Agency;  
 The EC Directives on the Assessment of Environmental Effects (85/337/EEC as amended by 97/11/EC) implemented by the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (as amended by the Town and Country Planning (Environmental Impact Assessment) (England and Wales) (Amendment) Regulations 2000  
 The Environmental Damage Regulations (2009)  
 Local air quality management system under Part IV of the Environment Act 1995; the UK Climate Change Programme (November 2000), setting out details of the UK response to the challenge of climate change;  
 The Environmental Permitting (England and Wales) Regulations 2010 – brings together several previous environmental licensing/permit regimes, including pollution prevention and control, waste management licensing, radioactive substances, [surface] water discharges and discharges to groundwater (groundwater activities); as such it implements several EC/EU directives including the Integrated Pollution

Prevention and Control Directive (96/61/EC), Groundwater Daughter Directive (2006/116/EC) and Mining Wastes Directive (2006/21/EC)  
The Pollution Prevention and Control Act 1999 and the Pollution Prevention and Control Regulations 2000 – which introduced the new regime for pollution prevention and control implementing the Integrated Pollution Prevention and Control Directive (96/61/EC);  
The Air Quality Strategy (2000) and its Addendum (2003) and the local air quality management system under Part IV of the Environment Act 1995;  
the UK Climate Change Programme (November 2000), setting out details of the UK response to the challenge of climate change;  
The Water Resources Act (2009)  
The Control of Major Accident Hazards Regulations 1999 (COMAH) – specifying requirements and plans for handling emergency procedures for handling incidents and restoration and clean-up following a major accident;  
Part 2A of the Environmental Protection Act 1990 – which provides a regime for the identification and remediation of contaminated land;  
The Environment Act 1995 – which established set up the Environment Agency;  
The EC Directives on the Assessment of Environmental Effects (85/337/EEC as amended by 97/11/EC) implemented by the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (as amended by the Town and Country Planning (Environmental Impact Assessment) (England and Wales) (Amendment) Regulations 2000) – which requires the assessment of environmental effects of specified public and private projects before development consent is granted;  
The Environmental Damage Regulations (2009)EU Environmental Liability Directive (2004/35/EC) which aims to establish a common framework for the prevention and remediation of environmental damage at reasonable cost to society; and  
EU Emissions Trading Directive (2003/87/EC), which initially covers emissions of carbon dioxide from certain industrial activities.

### **Some Relevant Internet Sites**

Those interested in seeking further information on issues related to land contamination are strongly recommended to inspect the following internet sites to obtain details of policy development and publications that are becoming available.

[www.ciria.org](http://www.ciria.org)

[www.claire.co.uk/](http://www.claire.co.uk/)

[www.defra.gov.uk](http://www.defra.gov.uk)

[www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

[www.iema.org.uk](http://www.iema.org.uk)

[www.odpm.gov.uk](http://www.odpm.gov.uk)

[www.silc.org.uk](http://www.silc.org.uk)

[www.brc.ac.uk](http://www.brc.ac.uk)

## **Appendix 2B: Some Examples of Conditions Used by Local Planning Authorities**

This Appendix contains some examples of conditions that have been used by local authorities in Norfolk in different circumstances related to development of land affected by contamination. They are not intended as model conditions but they are meant to illustrate the means that some LPAs have adopted to control the potential impacts of contamination on development and land use. Indeed, many of them include a requirement for a desktop study, which is considered in this Annex to be a minimum requirement before an application is determined.

### **Full Conditions Short Format**

Prior to the commencement of this development details of the following must be submitted to and approved in writing by the Local Planning Authority before the commencement of each stage of the following process:

A. A desk study to be completed in line with current good practice guidance must be completed. The report must include a conceptual site model and risk assessment to determine whether there is a potentially significant risk of contamination that requires further assessment.

B. Based on the findings of the desk study a site investigation and detailed risk assessment must be completed to assess the nature and extent of any contamination on the site, whether or not it originated on the site. The report must include:

- 1) A survey of the extent, scale and nature of contamination
- 2) An assessment of the potential risks to:
  - Human health, property (existing or proposed) including buildings, crops, livestock, pets, woodland, service lines and pipes.
  - Adjoining land, groundwaters and surface waters, ecological systems, archaeological sites and ancient monuments;
  - The report must also include a revised and updated conceptual site model and detailed risk assessment. There must be an appraisal of the remedial options, and proposal of the preferred remedial option(s). This must be conducted in accordance with DEFRA and the Environment Agency's 'Model Procedures for the Management of Land Contamination, CLR 11' and other accepted good practice guidance.

C. Based on the findings of the site investigation a detailed remediation method statement must be submitted for approval. Remediation must bring the site to a condition suitable for the intended use by removing or mitigating unacceptable risks to the identified receptors. The method statement must include all works to be undertaken, proposed remediation objectives and remediation criteria, timetable of works and site management procedures. The scheme must ensure that the site cannot be determined as Contaminated Land as defined under Part 2A of the Environmental Protection Act 1990. The Local Planning Authority must be given a minimum of two weeks written notification of the commencement of the remediation scheme works.

D. Following the completion of the remedial measures identified in the approved remediation method statement a verification report (also called a validation report) that scientifically and technically demonstrates the effectiveness and success of the remediation scheme must be produced. Where remediation has not been successful further work will be required

E. In the event that previously unidentified contamination is found during the development, it must be reported in writing immediately to the Local Planning Authority. An investigation and risk assessment must be undertaken as per part B above, and where remediation is necessary a remediation method statement and post remedial validation testing must be produced and approved in accordance with parts C & D above.

### **Outline Applications**

Concurrently with the submission of the “reserved matters” required by Condition X above a desk study (A) must be submitted to the Local Planning Authority in line with current good practice guidance. The report must include a conceptual site model and risk assessment to determine whether there is a potentially significant risk of contamination that requires further assessment.

Based on the findings of the desk study a site investigation and detailed risk assessment (B) must be completed to assess the nature and extent of any contamination on the site, whether or not it originated on the site. The report must include:

- 1) A survey of the extent, scale and nature of contamination
- 2) An assessment of the potential risks to; human health, property (existing or proposed) including buildings, crops, livestock, pets, woodland, service lines and pipes, adjoining land, groundwaters and surface waters, ecological systems, archaeological sites and ancient monuments.

The report must also include a revised and updated conceptual site model and detailed risk assessment. There must be an appraisal of the remedial options, and proposal of the preferred remedial option(s). This must be conducted in accordance with DEFRA and the Environment Agency's 'Model Procedures for the Management of Land Contamination, CLR 11' and other accepted good practice guidance.

Based on the findings of the site investigation a detailed remediation method statement (C) must be submitted for approval in writing by the Local Planning Authority. Remediation must bring the site to a condition suitable for the intended use by removing or mitigating unacceptable risks to the identified receptors. The method statement must include all works to be undertaken, proposed remediation objectives and remediation criteria, timetable of works and site management procedures. The scheme must ensure that the site cannot be determined as Contaminated Land as defined under Part 2A of the Environmental Protection Act 1990. The Local Planning Authority must be given a minimum of two weeks written notification of the commencement of the remediation scheme works.

Following the completion of the remedial measures identified in the approved remediation method statement a verification report (D) (also called a validation report) that scientifically and technically demonstrates the effectiveness and success of the remediation scheme must be produced. Where remediation has not been successful further work will be required.



In the event that previously unidentified contamination (E) is found during the development, it must be reported in writing immediately to the Local Planning Authority. An investigation and risk assessment must be undertaken as set out in Condition X, and where remediation is necessary a remediation method statement and post remedial validation testing must be produced and approved in accordance with Condition X above

## **Full Conditions**

Unless otherwise agreed in writing, the following details shall be submitted to and approved in writing by the Local Planning Authority prior to the commencement of the development hereby approved:

### **A. Desk Study**

A desk study and risk assessment to determine the risk of any contamination on the site, whether or not it originates on the site. The desk study and risk assessment must be undertaken by competent persons and a written report of the findings must be produced. The report of the findings must include an assessment of the potential risks to human health, property (existing or proposed) including buildings, crops, livestock, pets, woodland and service lines and pipes, adjoining land, groundwaters and surface waters, ecological systems, archaeological sites and ancient monuments.

### **B. Site Investigation**

A site investigation and risk assessment to determine the nature and extent of any contamination on the site, whether or not it originates on the site. The investigation and risk assessment must be undertaken by competent persons and a written report of the findings must be produced. The report of the findings must include (i) the same details as in part A above (ii) a survey of the extent, scale and nature of contamination and (iii) an appraisal of remedial options, and proposal of the preferred option(s).

### **C. Remediation Scheme**

A detailed remediation scheme to bring the site to a condition suitable for the intended use by removing unacceptable risks to human health, buildings and other property and the natural and historical environment. The scheme must include all works to be undertaken, proposed remediation objectives and remediation criteria, timetable of works and site management procedures. The scheme must ensure that the site will not qualify as contaminated land under Part 2A of the Environmental Protection Act 1990 in relation to the intended use of the land after remediation.

### **D Implementation of Approved Remediation Scheme**

The approved remediation scheme must be carried out in accordance with its terms prior to the commencement of development, unless otherwise agreed in writing by the Local Planning Authority. The Local Planning Authority must be given two weeks written notification of commencement of the remediation scheme works.

Following completion of measures identified in the approved remediation scheme, a verification report (referred to in PPS23 as a validation report) that demonstrates the effectiveness of the remediation carried out must be submitted to and approved in writing by the Local Planning Authority.

The above must be undertaken in accordance with DEFRA and the Environment Agency's 'Model Procedures for the Management of Land Contamination, CLR 11'.

Reason for condition: To ensure that risks from land contamination to the future users of the land and neighbouring land are minimised, together with those to controlled waters, property and ecological systems, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors.

**Informative**

Land contamination risk assessment is a step-by-step process. During the course of the risk assessment process set out in the above condition, it may become clear that no further work is necessary to address land contamination risks. Where this is the case the condition may be discharged by the Council without all the steps specified being completed. In all cases written confirmation should be obtained from the Council confirming that the requirements of the condition have been met.