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Introduction

This guidance is primarily for property owners, developers, architects and surveyors who want to know what information they should submit to the Planning Department when they apply to re-develop, or significantly change the use of a piece of land, which could potentially be contaminated.

Contamination, in most cases, is likely to arise from a previous use of the site, or an adjacent site, that had an industrial activity on it at one time or another.

The requirements for cleaning up land under the planning process are not the same as cleaning up land under Part IIA of the Environment Protection Act 1990, and this guidance does not cover the latter - although the information that we would request is very similar. For details on Part IIA please contact the appropriate Contaminated Land Officer, whose details can be found on pages 5-7, and ask them for a copy of their Inspection Strategy.

This document is only guidance. We are aware that the contents of any site report will vary due to site-specific issues, e.g. the past use of the site, the nature and extent of the contamination and the proposed end use of the site. Developers are recommended to seek the advice of an Environmental Consultant and the Local Authority if it is suspected that contamination may exist.

The Councils' Approach

The potential for land to be contaminated is a material consideration for the purposes of Town and Country Planning, and it places the responsibility on owners and developers to establish the extent of any potentially harmful materials on their sites.

It is the Local Authority's duty (as regulators) to ensure that owners and developers carry out the appropriate investigations and formulate proposals for dealing with any contamination in a responsible and effective manner. We have to make sure that land is, or will be made, suitable for any proposed use.

You and your environmental consultant will need to assess the potential risks from contamination on the basis of the proposed use and local circumstances. This should normally be done before the formal planning permission is given for the development. However, in some Authorities, permission can be granted subject to a condition, which will require you to investigate whether there is any land contamination and, if necessary, devise a strategy to deal with it.

If potential risks are identified, the land will then need to be remediated, before development begins, to mitigate risks to human health and the environment.

Liaison with the Council

Where a developer is proposing to develop land that is suspected of being contaminated, it is advisable to contact the Contaminated Land Officer before submitting the planning application. It is useful to do this as the Council may have additional information that you are unaware of, and may also be able to answer any particular questions that you have.

During site investigation works and remedial works (if remediation is deemed necessary), Contaminated Land officers may wish to visit the site. It would therefore be useful to know when this work is timetabled to take place. This will also give further opportunity to discuss any problems or queries that may have arisen.

The diagram overleaf gives an overview of the steps that need to be taken when dealing with a site that is potentially contaminated. More detailed information can be found in Appendix I.

Procedure for dealing with land potentially affected by contamination.

Step 1 – the desktop study

Establish former uses of the site and adjacent buildings.

↓

Undertake site walk-over survey.

↓

Identify contaminants of concern.

↓

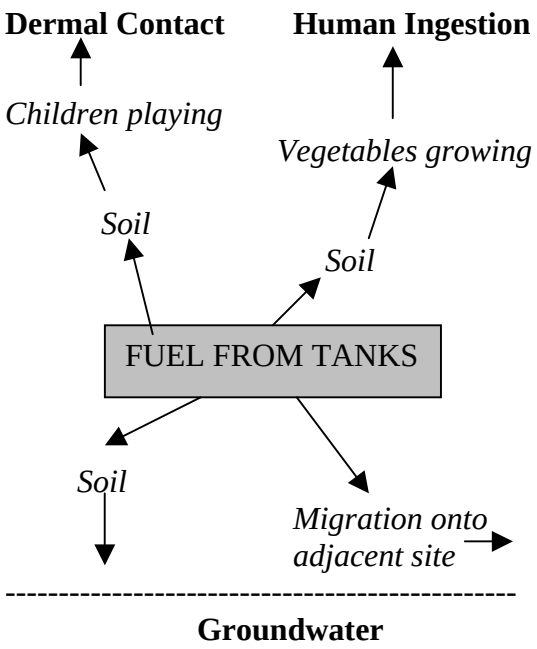
Develop site-specific conceptual model.

↓

Compile conclusions and recommendations.

What is a conceptual model?

This considers all potential contaminative SOURCES, **receptors** and how they might meet i.e. *pathways*. For example:



Step 2 – Detailed site investigation
(when necessary)

Design sampling strategy and take samples (based on the conceptual model)

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Undertake quantitative risk assessment – compare results of sampling with appropriate standards and identify unacceptable risks.

↓

If necessary, identify appropriate remediation options available.

Step 3 – Remediation Strategy
(when necessary)

Select preferred remedial options and submit for approval

↓

Design and implement remedial works.

Step 4 – Validation Report
(when necessary)

Following completion of works, compile validation report to demonstrate works have been carried out according to remediation strategy, and detail any changes that occurred.

Adapted from Fig 2.1, Guidance for the Safe Development of Housing on Land Affected by Contamination, Environment Agency & NHBC, R&D Publication 66, 2000.

FREQUENTLY ASKED QUESTIONS

1. Who should be carrying out all this work?

The person or organisation carrying out the work must have the experience, qualifications and skills to do so and must meet the following criteria:

- They should be a competent person - either an environmental scientist, chemist or hydrogeologist;
- They must belong to an accredited body or must be able to demonstrate that they operate within a quality assurance system;
- They must use an accredited and quality assured laboratory (UKAS) to analyse samples and prepare conclusive reports;
- They must be aware of current legislative requirements including health and safety and the relevant codes of practice.
- They must be able to carry out risk management assessments and produce clear reports on the findings;
- They must have, and maintain appropriate professional indemnity insurance.

2. What will happen if I do not submit a desktop study with my planning application?

If a desktop study is not submitted with the application, and the information is not included as part of the site investigation, then one of two things is likely to happen:

I. You will receive a letter from the Planning Department informing you that you must supply it before planning permission can be granted. It must include the information highlighted on page 8;

II. A planning condition will be attached to the planning consent requiring you to submit the details before development on site begins. The condition will not be discharged until the planning authority is satisfied that all information has been provided.

3. Why might the Planning Authority deem a report to be inadequate?

There are several reasons why a Planning Authority may reject a report, for example:

- It does not contain all the information required;
- Some of the information is not presented clearly and requires clarification;
- Important maps are missing;
- The report does not sufficiently address the concerns of the Planning Authority.

The Planning Authority will then write to you with details of why it has been rejected and ask you to re-submit an amended copy. If you are unclear about anything, you should make an appointment to meet with the relevant Council Officer.

4. Apart from the local Planning Authority, whom else should I be consulting?

It may be appropriate to consult a number of statutory bodies including the Environment Agency, Thames Water and English Nature. It is also likely that the planning authority will consult other departments within the Council, for example, Environmental Health.

The Environment Agency has a number of regulatory responsibilities. They must therefore be consulted if it is possible that:

- The pollution of surface or groundwater is involved;
- The water environment is at risk of pollution;
- An application is within a flood-plain area;

- Where the development is on a closed landfill or within 250 metres of a closed or active landfill.

N.B – the Planning Department of the Environment Agency can provide further details on what they should be consulted on.

If remedial works are required, it may be necessary to inform neighbouring residents – the Local Planning Authority will be able to advise you further on this.

5. What are the effects of contaminated land?

If the land is contaminated it may present a hazard to potential uses of the land and vegetation. Exposure to contaminants can be through inhalation of dust or gasses, contact with soil or through food grown on the land - as demonstrated in the diagram of the 'source-pathway-receptor' conceptual model on page 2.

Leachates (pollutants draining from the site in liquid form) can pollute groundwater and rivers or ponds. Some contaminants may be corrosive, and some can pose a risk of explosion or fire.

Contamination within the soil and unsaturated zone can potentially have an impact on groundwater quality, this can move off-site and affect nearby surface water features as well as abstractions.

6. What are the appropriate standards to use?

In December 2002, the Department for the Environment Food and Rural Affairs, officially withdrew the Interdepartmental Committee for the Redevelopment of Contaminated Land (ICRCL) guidance note 59/83 (2nd Edition), therefore these are no longer valid and must not be used. In addition, the Dutch Standards are not officially recognised as being authoritative standards in this country.

Please ensure that all soil sample results are assessed in accordance with the Contaminated Land Exposure Assessment Model (CLEA) and the Contaminated Land Research (CLR) Reports, where Soil Guideline Values (SGVs) have been derived. If using CLEA, all workings must be provided.

Where Soil Guideline Values (SGVs) are not available for the appropriate pollutants, suitable site specific criteria must be derived in accordance with CLR9, *Collation of Toxicological Data and Intake Values for Humans, a*nd submitted to us for our approval. Or alternatively, if it can be shown that CLEA is not the appropriate model, then other packages (with the Council's agreement) can be used, for example SNIFFER. Your Environmental Consultant will be able to advise you further on these requirements.

APPENDIX ONE

CHECKLIST FOR REPORTS SUBMITTED IN SUPPORT OF PLANNING APPLICATIONS

The following list provides a guide on what we may require when assessing your particular planning application. It has been divided into 4 sections:

Section One – The desk top study
Section Two – The site investigation (where appropriate)
Section Three – The remediation strategy (where appropriate)
Section Four – The validation report (where appropriate)

If any items are not supplied, please include a detailed explanation within your reports explaining why they have been omitted. Each section may be submitted separately, or sections 1, 2 or 3 could be put together in one document. These sections must be submitted and approved prior to development commencing. They should follow logically on from one another to give a complete picture if the historical context and contamination potential about what has already gone on on-site and what is still to happen. Section 4, the validation report, should be submitted after the remediation has taken place.

If you require any further guidance please contact your local Contaminated Land Officer.

This checklist is not exhaustive, and as said previously, the contents of any site report will vary due to site-specific issues. You should be aware that investigations carried out for geotechnical purposes (for example, for building structures) are not sufficient because they do not specifically address the risk to human health and the environment.

Section One – Desk top study
(*Please complete in accordance with BS10175:2001 Investigation of potentially contaminated sites – Code of Practice, or the Environment Agency (2001) Secondary Model Procedure for the Development of Appropriate Soil Sampling Strategies for Land Contamination.)*

It should include the:

- purpose and aims of the study;
- credentials of person/organisation undertaking the study;
- site location and current layout plans (appropriately scaled and annotated, including the National Grid Reference;
- appraisal of site history including appropriately scaled and annotated historical maps;
- appraisal of site walkover survey;
- review of aerial photographs where available;
- assessment of the environmental setting including the interpretation and implications of:
    - the geology, hydrogeology & hydrology of the area;
    - information from the Environment Agency on abstractions, pollution incidents, water quality classification and landfill sites within 250 metres (etc) and
    - whether there are any archaeological or ecological considerations;
- assessment of current/proposed site use and surrounding land uses;
- review of any previous site contamination studies (desk based or intrusive, or IPPC investigations where relevant) and remediation works;
- review of local authority planning records, building control records, drainage and service plans;

- preliminary (qualitative) assessment of risks, to include –
  - an initial 'conceptual site model' to show the nature and extent of the potential contamination and,
  - an appraisal of the potential contaminative sources, pathways and receptors (pollutant linkages);
- identification of potential contaminants and areas of concern;
- recommendations for intrusive contamination investigations (if necessary) to include the identification and justification of target areas for more detailed investigation.

Section Two - Detailed site investigation report (where appropriate),
(in accordance with BS10175:2001 Investigation of potentially contaminated sites – Code of Practice, or the Environment Agency (2001) Secondary Model Procedure for the Development of Appropriate Soil Sampling Strategies for Land Contamination and the CLR Guidance documents)

- Liaison with the Local Authority Contaminated Land Officer;
- Review of any previous site investigation contamination studies (desk-based or intrusive or IPPC investigations where relevant) and remediation works;
- Site investigation methodology to include:
  - an appropriately scaled and annotated plan showing exploration locations, on site structures, above/below ground storage tanks and existing services infrastructure etc;
  - justification of sampling regime and exploration locations, including the number of samples taken and their depths;
  - sampling and analytical strategies – must be relevant to the previous industrial activity identified in the desk top study and conceptual model;
  - groundwater/surface investigations according to the methodology written by the Environment Agency and
  - borehole/trial pit logs;
- Analysis of samples to be carried out by an accredited laboratory and must include:
  - all contaminants likely to be on site and
  - where relevant, the identification of different species and distinction between varying carbon chain lengths etc., for example Polyaromatic Hydrocarbons (PAHs), Total Petroleum Hydrocarbons (TPHs);
- Results and findings of investigation to include:
  - ground conditions (soil and groundwater regimes, including made ground and the potential mobility and leachability)
  - discussion of soil/groundwater/surface water contamination – visual, olfactory and analytical. Comparison of analytical results with appropriate standards is essential;
  - consideration of ground gas and
  - the presence of asbestos;
- More detailed conceptual site model;
- Site specific risk assessment based on the contaminant source-pathway-receptor model for both health and environmental receptors. Details of the site specific risk assessment model selected and why it was chosen should also be included, the results and any model printouts that have been generated, for example, with CLEA, data sheets should be included. Also include any validation reports to show if the model is performing accurately;
- Recommendations for remediation – these must be appropriate for the 'suitable for use' approach, based on current use and circumstances of the land and its proposed new use;
- Recommendations for further investigations, if necessary.

Section Three – Remediation Strategy (where appropriate)
(This must take into account the intended end use of the site.)

- Remediation options initially considered and justification for the chosen methods;
- Objectives of the remediation work, to include;
    - description of the ground conditions (soil/gas/surface water and groundwater etc);
    - type, form and scale of contamination to be remediated (including consideration of services infrastructure;
    - remediation methodology;
    - site plan/drawings (appropriately scaled and annotated);
    - phasing of works and approximate timescales;
    - consents and licenses (e.g. discharge consents, part B authorisations for mobile plant, asbestos waster removal licence etc)
    - details of environmental monitoring that will be undertaken;
    - site management measures to protect neighbours, environment and amenity during works, including where appropriate:
        - health and safety procedures;
        - dust, noise and odour controls and
        - control of surface run off;
- Details of how the works will be validated to ensure the remediation objectives will have been met, including:
    - the sampling strategy;
    - the use of on-site observations, visual/olfactory evidence;
    - chemical analysis and
    - the proposed clean-up standards.
- Details of future monitoring requirements (where necessary) once remediation has been completed;
- Details on the lifespan of the recommended remediation works.

NB. During the remediation works, if changes to the strategy have to be made, you must agree these with the Local Planning Authority, in writing, **before** they are implemented.

Section Four - Validation Report
(To be submitted for approval after the remediation works have been undertaken)

- Information as detailed in section 3;
- Details and justification of any changes from the original remediation strategy;
- Details of who carried out the work
- Substantiating data –
    - laboratory and in-situ test results;
    - monitoring of groundwater and gases during remediation and details of monitoring programme post completion of remedial works, where agreed.
    - summary data plots and tables relating to clean-up criteria;
    - plans showing treatment areas and details of any differences from the original remediation strategy;
    - waste management documentation.
- Confirmation that remediation objectives have been met, for example, a certificate of completion.

APPENDIX II

Further sources of information and recommended guidance

BS 10175:2001. British Standards Institution. (2001) Code of Practice for the Identification of Potentially Contaminated Land and its Investigation. London: BSI. ISBN 0 580 33090 7.

CIRIA (1995) Risk Assessment for Methane and Other Gases from the Ground, Report 152, CIRIA, London.

CIRIA (2001) Remedial Processes for Contaminated Land, CIRIA, London.

Department of the Environment Industry Profiles: 1-26

Department of the Environment (1994) Planning Policy Guidance Note 23, Planning and Pollution Control HMSO, London. – New doc?

Department of the Environment, Transport and the Regions, Environment Act 1995,

Department of the Environment, Transport and the Regions and Environment Agency (2000) Model Procedures for the Management of Contaminated Land. Contaminated Land Research Report No11, London: DETR (in press).

Department of the Environment, Transport and the Regions, Circular 02/2000 – Environmental Protection Act 1990: Part IIA – Contaminated Land – HMSO 2000.

Department for the Environment, Food and Rural Affairs (2002) CLR 7 Assessment of Risks to Human Health from Land Contamination: An Overview of the Development of Soil Guideline Values and Related Research, London, DEFRA.

Department for the Environment, Food and Rural Affairs (2002) CLR 8 Priority Contaminants for the Assessment of Land, London, DEFRA.

Department for the Environment, Food and Rural Affairs (2002) CLR 9 Contaminants in soils: Collation of toxicological data and Intake Values for Humans, London, DEFRA.

Department for the Environment, Food and Rural Affairs (2002) CLR 10: Contaminated Land Exposure Assessment Model (CLEA): Technical Basis and Algorithms London, DEFRA.

Environment Agency R&D Publication 20 – Methodology for the Derivation of Remedial Targets for soil and groundwater to protect water resources.

Environment Agency and NHBC. (2000) Guidance for the Safe Development of Housing on Land Affected by Contamination. R&D Publication 66. ISBN 0-11-310177-5.

Environment Agency (2000) Technical Aspects of Site Investigations - Volumes I & II Research and Development Technical Report P5-065/TR. Water Research Centre, London.

Environment Agency (2001) Secondary Model Procedure for the Development of Appropriate Soil Sampling Strategies for Land Contamination. R&D Technical Report P5-066/TR. Water Research Centre, Swindon.

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Sheffield City Council. Developing land suspected or known to be affected by the presence of contamination, an environmental protection service guidance note.

Joint publication by Environment Agency and NHBC. (2000) Guidance for the Safe Development of Housing on Land Affected by Contamination. R&D Publication 66. ISBN 0-11-310177-5.