

# ADVICE NOTE

## Guidance for Developers of Potentially Contaminated Land

### INTRODUCTION

The contaminated land regime implements the provisions of Part IIA of the Environmental Protection Act 1990, through the Contaminated Land (Scotland) Regulations 2000 and 2005 and provides a statutory definition of Contaminated Land. Land may be identified as Contaminated Land if the current use results in unacceptable levels of risk to human health or the wider environment. In relation to planning decisions, land contamination is regarded as a material consideration within individual applications.

There is potential in the redevelopment of any land which has a previous industrial or commercial use for land contamination to arise. The likelihood and extent of any contamination will vary depending on previous land uses and activities, and the nature of site-specific conditions.

Within the development control process the Planning Authority must satisfy itself that the potential for contamination is properly assessed, and that the development incorporates any necessary remediation. It is the role of the developer to demonstrate to the Planning Authority that the development proposal is suitable, and that no unacceptable risks to the end users, protected or water environments will arise through development. This is known as demonstrating that a site is 'suitable for use', and this approach is the fundamental concept within the contaminated land regime.

### PHASE I

The investigation and assessment of potential land contamination within any development requires a risk based site-specific approach. A suitably qualified environmental consultant should be contracted to carry out the investigation. The

first stage will comprise the completion of a Phase I desktop study which will draw together current, historic, and environmental information for the site and identify potential contaminant sources, pathways, and receptors which may be impacted. Receptors could comprise site users and residents, property, protected environments and the water environment.

This information forms the basis of a Conceptual Site Model, which will identify pollutant linkages at the site. The potential or likelihood of the contamination to harm users, property, protected and water environments will be dependent on site specific conditions and the proposed end use of the development. It is therefore necessary to know the proposed use of the site and site layout, including any changes in ground levels, to allow potential pollutant linkages to be identified. These potential pollutant linkages should form the basis for any intrusive investigations required. If no potential pollutant linkages are identified in the Phase I study, then a Phase II investigation will not be necessary.

## **PHASE II**

If the desk study finds potential pollutant linkages, these will need to be investigated prior to the development proceeding. This is known as a Phase II investigation. These investigations can involve excavating trial pits and boreholes, installing monitoring wells, taking soil and groundwater samples, monitoring for ground gas emissions etc.

The sampling strategy for a site investigation should be based on the Conceptual Site Model and the potential pollutant linkages identified within it. The locations, pattern, number of sampling points, and the depths from which samples should be collected and any monitoring requirements should be clearly justified within the sampling strategy.

The Phase II intrusive investigation will allow significant pollutant linkages to be identified. The results are then interpreted in a site-specific risk assessment, which will further aid the development of an appropriate remedial strategy, if determined as necessary.



## **RISK ASSESSMENT**

Risk assessment is a tiered process, allowing the use of generic values, where they exist, to first assess the levels of contamination. Where generic values do not exist or where they are exceeded, site specific risk assessment should be undertaken. A tiered approach should minimise the need for costly remediation, while ensuring the safe development of the site.

## **REMEDICATION AND VALIDATION**


Should the risk assessment demonstrate potential for any pollutant linkages, remediation is required to break those linkages either by removal of the source, pathway, or receptor. This can include changing the design layout of the development, putting in protection measures such as gas membranes, or removing the source of contamination. If removal of the source of contamination is considered the best option, whether by excavation, bioremediation or other form of remedial action, evidence will have to be provided to demonstrate that the site is suitable for its proposed use after remediation.

Decisions on the selection of a remedial strategy must be made with an understanding of the site-specific pollutant linkages, and a clear perception of the risk management context. Cost effectiveness, technical feasibility and sustainable development will be taken into consideration.

Validation sampling may be required to provide a clearer delineation of a particular area of contamination or address the applicability of proposed remedial options. Validation may also demonstrate the success of a particular remediation solution and must be presented in a verification or remediation document.

## **EMPLOYING A CONSULTANT**

Specialised skills are involved in developing and designing a phased site investigation, carrying out intrusive site investigations, assessing the risk of contamination present on the site and managing any remedial processes. The commissioning of consultants with specialist understanding of the contaminated land regime and demonstrated experience in the preparation of reports for this purpose is therefore necessary.



Prior to commissioning a consultant, evidence should be sought to demonstrate the company's ability to provide this service within the current regime. They should be able to indicate what their approach would be to designing an investigation, which standards, codes of practice and publications would be referenced in their approach, and what the companies' experience is with methodologies for assessing risk in relation to land contamination.

It is advised that proposals and sampling strategies for site investigation and any remediation works required are submitted to the Council for comment prior to works commencing, to ensure that proposals are adequate to meet the requirements of the Planning Authority.

## **REFERENCE MATERIAL**

Environmental Protection Act 1990: Part IIA Contaminated Land Statutory Guidance: Edition 2 (SE/2006/44), Scottish Executive, May 2006.

[www.gov.scot/Publications/2006/06/05131212/0](http://www.gov.scot/Publications/2006/06/05131212/0)

Investigation of Potentially Contaminated Sites: Code of practice, British Standards Institute, BS 10175:2011+A2:2017. [www.bsi-global.com](http://www.bsi-global.com)

Planning Advice Note PAN33 Development of Contaminated Land, Scottish Executive, 2000 <https://www.gov.scot/publications/pan-33-development-of-contaminated-land/>

The Contaminated Land (Scotland) Regulations 2000, (SSI 2000/17) <https://www.legislation.gov.uk/ssi/2000/178/contents/made>

Contaminated Land (Scotland) Regulations, 2005 (SSI 2005/658) <https://www.legislation.gov.uk/ssi/2005/658/contents/made>

Link to DOE Industry Profile series: [www.claire.co.uk/information-centre/water-and-land-library-wall/41-water-and-land-library-wall/198-doe-industry-profiles](http://www.claire.co.uk/information-centre/water-and-land-library-wall/41-water-and-land-library-wall/198-doe-industry-profiles)

Link to SEPA: [www.sepa.org.uk](http://www.sepa.org.uk)

