DEVELOPMENT ON POTENTIALLY CONTAMINATED LAND AND/OR FOR A SENSITIVE END USE

Technical Guide for Planning Applicants and Developers

Hertfordshire, Bedfordshire & Neighbouring Authorities Contaminated Land Forum

First Published June 2008

2nd Edition: July 2012
3rd Edition: Sep 2018
4th Edition: June 2023

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1. Scope of Guide

The Hertfordshire, Bedfordshire & Neighbouring Authorities Contaminated Land Forum (HB&NA CLF) consists of representatives from the Hertfordshire and Bedfordshire local authorities, Milton Keynes Council, Buckinghamshire Council and the Environment Agency. In 2008 the Forum identified that there was a need to produce a clear and informative guide for planning applicants and developers on how to deal with land contamination issues on sites being developed through the planning regime. This need became more pronounced with the revocation of Planning Policy Statement 23 (PPS 23) in April 2012 and it is hoped that this guide will ensure that a consistent approach is taken across the region.

The purpose of this guide is to provide developers, planning agents and other applicants with details of the information required by local authorities for sites that may be affected by land contamination or for when sensitive end uses are introduced to a site. Please note that this guidance is not an exhaustive list of requirements and therefore developers are encouraged to speak with the relevant Contaminated Land Officer within their local authority (see contact details in Appendix 6).

Important

This guide is written to serve as an informative and helpful source of advice. Readers must note that legislation, guidance and practical methods are subject to change. All reasonable precautions have been taken to ensure that the information contained within this document is accurate at the time of publication. However, the HB&NA CLF cannot assume legal responsibility for any loss or damage caused to person, land or property for persons relying on this information.

2. Introduction

Land contamination is principally a legacy of historical industrial activities and past waste disposal practices. Examples of such industries include gas works, chemical works, landfill sites, sewage works, petrol stations and scrap yards (Appendix 1). In some instances, substances and waste materials from these activities may have caused pollution to the ground. This contamination has the potential to cause harm to human health, ground and surface waters, ecological systems and the built environment. Land contamination can also include areas of land with elevated levels of naturally occurring substances or where substances are present as a result of accidents, spillages, aerial deposition or migration.

Relevant Legislation and guidance:
In April 2000 the Government introduced new legislation (Part 2A of the Environmental Protection Act 1990) requiring all local authorities to inspect their areas for potentially contaminated land and, if necessary, to ensure that any contamination is ‘cleaned up’ (remediated). Part 2A introduced the legal definition of 'contaminated land':

"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."

Under Part 2A, all councils had a duty to produce a ‘Contaminated Land Strategy’ by July 2001. The main aim of these strategies is to identify all areas of land that are potentially contaminated within each local authority’s boundaries. New statutory guidance published in April 2012 requires that these strategies are updated in a reasonable timescale to take in to account revisions to the regime introduced by the new statutory guidance. Copies of the individual local authorities’ strategies are

available on request or can be viewed on the relevant local authority's website (see contact details in Appendix 4).

Despite the introduction of the Part 2A legislation, the planning process is still the main driver for dealing with land contamination issues. This will undoubtedly continue to be the case as government policy encourages the redevelopment of previously developed land ('brownfield' sites) to housing. As a result, land contamination issues will inevitably be a factor in many new developments.

The Planning Regime:
The National Planning Policy Framework (NPPF) was introduced in 2012 and most recently updated in July 2021 to help achieve sustainable development and identify the protection and enhancement of our natural environment as an aspect of one of the three dimensions to sustainable development. As such land contamination, or the possibility of it, must be taken into account in the preparation of local and neighbourhood plans and is a material planning consideration in planning decisions.

It remains the responsibility of the landowner/developer to identify land affected by contamination and, if necessary, to ensure that remediation is undertaken to secure a safe development. This will normally be achieved by the local planning authority (LPA) attaching conditions to planning permissions requiring developers to perform a contamination assessment for their site. These conditions will typically be recommended by the local authority Environmental Health department in their role as statutory consultees to the planning process.

The NPPF states that:

Strategic policies should set out a clear strategy for accommodating objectively assessed needs, in a way that makes as much use as possible of previously-developed or 'brownfield' land

120: c) Planning policies and decisions should: give substantial weight to the value of using suitable brownfield land within settlements for homes and other identified needs, and support appropriate opportunities to remediate despoiled, degraded, derelict, contaminated or unstable land".

174: e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans;

and f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

183: a) a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation);

b) after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; and

c) adequate site investigation information, prepared by a competent person, is available to inform these assessments.*

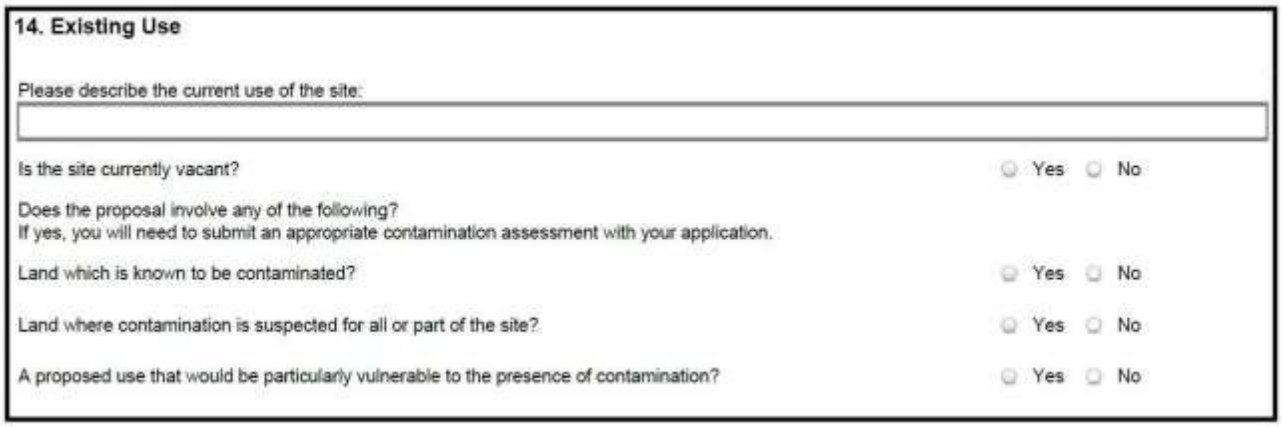
** = Competent person (to prepare site investigation information): A person with a recognised relevant qualification, sufficient experience in dealing with the type(s) of pollution or land instability, & membership of a relevant professional organisation*

184 "where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner."

185: "Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development."

In April 2008, the government department for Communities and Local Government (CLG) introduced the Standard Planning Application Form (1APP) to replace all existing planning application forms within England. The Existing Use section of the 1APP form asks whether the proposal involves any of the following:

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



14. Existing Use

Please describe the current use of the site:

Is the site currently vacant? ○ Yes ○ No

Does the proposal involve any of the following?
If yes, you will need to submit an appropriate contamination assessment with your application.

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

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

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

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

Land uses that are considered vulnerable to contamination include:

- All residential development
- Allotments
- Schools
- Nurseries
- Playgrounds and playing fields
- Hospitals

It is important to note that applications may be rejected if they are submitted without a preliminary contamination assessment or if they fail to address all of the relevant issues in this guide.

Therefore, where a developer is proposing to develop on land that may potentially be contaminated, it is advisable to contact the relevant local authority's Contaminated Land Officer, via the LPA, to discuss any land contamination issues prior to submitting a planning application. It is important to remember that appropriate and timely action at this stage should reduce the likelihood of urgent and expensive action later in the process. In circumstances where controlled waters, which include surface waters and groundwater it is also possible that the Environment Agency (EA) will need to be consulted (Appendix 2).

The following sections of this guide detail the process that should be followed by applicants and the information that should be submitted to the local authority as part of a planning application for development on land subject to or adjacent to a potentially contaminative use and/or also where uses are being considered that are particularly sensitive to contamination. Appendix 3 presents a flow chart summarising the actions and information necessary at each stage of the planning process.

The process of assessing and where necessary dealing with land contamination issues at a development site requires a three (3) stage approach:

- Site Characterisation and Risk Assessment
- Remediation Options Appraisal
- Remediation and Verification

In addition to this guidance reference should be made to the EA's guidance, Land Contamination Risk Management (LCRM), before carrying out any phase of the site contamination assessment process. LCRM can be found here https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm.

3. Stage 1: Site Characterisation and Risk Assessment

Site characterisation and risk assessment should be undertaken by experienced and competent persons a definition of which can be found as Appendix 4.

This process involves:

- identifying the reasons for doing the risk assessment,
- identifying potential contamination linkages
- assessing and evaluating the risk to establish whether there is an unacceptable risk.

This is achieved using a 3 tiered approach.

Tier 1 is a preliminary risk assessment and is predominantly a desk-based exercise, which should consist of a desk study, site walkover and conceptual model. The desk study comprises a search of available environmental information and historical maps, which can be used to identify the likelihood of contamination. A simple walkover survey of the site should be conducted to identify pollution linkages not obvious from the desk study. Limited intrusive investigation may also be appropriate at this stage. Therefore applicants need to familiarise themselves with the site and surrounding area, its former use and its potential to cause contamination. The preliminary risk assessment should include:

- Detailed site plan showing the site location, extent and boundary;
- Site walkover information including description of condition of structures, soils and vegetation;
- Geographical setting of site including geology, hydrology and hydrogeology;

- Review of current and historical maps for site and surrounding area;
- Previous, present and proposed uses of the site and adjacent land;
- Previous and current industrial processes carried out on site including environmental permits;
- Details of pollution incidents or spillages;
- Information on waste management and disposal practices including landfill sites;
- Details of water abstractions, discharge consents, drainage and services;
- Information on any mining, extraction or infilling activities;
- A review of any previous desk studies or site investigations;
- Initial sampling of soils, water and gas where appropriate; and
- An awareness of all potential on and off site receptors.

Various companies offer a database generated desk study type report (e.g. Envirocheck, Groundsure and Homecheck). It is acceptable for these kinds of reports to be included as part of a preliminary risk assessment. However, such reports submitted in isolation will be inadequate to provide all of the information required.

Local authority Environmental Health and Planning departments are also very useful sources of environmental information for desk study purposes. Therefore it is advisable to contact the relevant departments to see if they hold any records relating to potential contamination issues with a particular site. Please note that there may be a charge for the provision of such environmental information.

From the findings of this work, a preliminary conceptual site model (CSM) will be developed. This will normally be in the form of a table or schematic diagram illustrating any potentially significant sources of contamination; pathways through which contaminants can travel; and receptors that eventually could be harmed.

The preliminary risk assessment and conclusions derived from the CSM will recommend whether intrusive site investigation and quantitative risk assessment is required. The preliminary risk assessment should be submitted as a written report to the LPA prior to commencement of any further investigation, as the local authority or Environment Agency may require further information or clarification of issues.

Tier 2 is a Site Investigation and Generic Quantitative Risk Assessment, which will require intrusive ground investigation to enable the collection of samples to be analysed for the presence of contamination.

For a generic quantitative risk assessment the following will be required:

- define the objectives for this tier of risk assessment
- establish a standard set of generic assumptions to assess the risks and select generic assessment criteria
- undertake an intrusive site investigation
- confirm which linkages you need to assess
- assess the risks and update the conceptual site model
- decide if generic assessment criteria are appropriate to rely upon, or are site specific assessment criteria are required
- decide what further action is needed
- produce a report

Define the Objectives:
As a minimum this process should seek to confirm potential contaminant-pathway-receptor contaminant linkages at the site to allow refinement of the preliminary conceptual model. The data obtained will be used to inform a decision as to whether the site is potentially harmful and if remedial works are required to mitigate any risks from contamination present.

Intrusive Site Investigation:
The intrusive investigation needs to be performed by a suitably qualified and experienced competent consultant or specialist (Appendix 4). Investigation should be carried out in accordance with LCRM and British Standard 'BS 10175:2011+A2: 2017 Investigation of potentially contaminated sites – Code of practice' (see References).

All sampling strategies should be designed to provide data that are representative of the site conditions as a whole. Sampling should be undertaken in accordance with recognised sample collection methodology and guidance. Reference to the historical site information obtained from the desk study is essential in order to target possible sources of contamination and to ensure that an appropriate suite of analysis is performed. Underground structures such as fuel tanks, pipe-work and foundations will also need to be considered. Consideration of the need for off-site sampling may also be necessary where migration of contamination of site is identified as a likely issue.

A suitably accredited laboratory should be used to undertake analysis of samples. Where available, chemical analysis of samples must be by methods accredited to the Environment Agency's MCERTS (Monitoring Certification Scheme) standard. https://www.gov.uk/government/collections/monitoring-emissions-to-air-land-and-water-mcerts#soil-monitoring-performance-standards.

Risk Assessment using Generic Assessment Criteria:
Following completion of the investigation, analytical results need to be compared against suitable assessment criteria. Soil sample contaminant concentrations should be compared to Soil Guideline Values (SGVs) and C4SL Generic Screening Levels that have been developed to be protective of human health. Where these are unavailable for particular contaminants, the LQM/CIEH Suitable for use levels (S4UL), 2015 may be used (see References). Other generic assessment criteria may be acceptable but their use must be fully justified.

The Environment Agency's *'Remedial Targets Methodology – Hydrogeological Risk Assessment for Land Contamination'* guidance should be used for assessing contamination risks to ground and surface waters (see References). The first step of the assessment is to compare water and leachate samples to the appropriate environmental water quality standards. If more detailed assessment is required, it is recommended that the Environment Agency is consulted.

BSI, CIRIA, CL:AIRE and NHBC/RSK have all published guidance documents for ground gas risk assessment (see References). Where ground gas issues have been identified on a site, ground gas investigations and risk assessment need to be carried out in accordance with these documents.

Produce a Report with Recommendations for Next Steps:
Following completion of the investigation, a report detailing the investigation methodologies used, results, conclusions and recommendations needs to be submitted to the local authority for approval. The report should include:

- Rationale for sampling locations including reference to desk study findings;
- Sampling techniques used;
- Plans of sampling locations;
- Borehole and trial pit logs;
- Groundwater and ground gas monitoring where applicable;
- Copies of laboratory analysis certificates;
- Discussion of ground, groundwater and gas conditions and any contamination encountered;
- Qualitative and quantitative risk assessments including comparison of analytical results with appropriate assessment criteria;
- Refinement of the conceptual model and preliminary risk assessment;
- Discussion of any uncertainties in relation to the conclusions; and

- Recommendations for any combination of the following, further investigation, or detailed quantitative risk assessment, or remediation. Or that there is no requirement to do any further work.

Scaled plans and cross-sections showing the distribution of contaminants, geology, water levels relative to ordnance datum, etc. will help the local authority and Environment Agency review the developer's (consultant's) understanding of the site and will help in the production of the refined conceptual model.

Tier 3 is a Detailed Quantitative Risk Assessment and may be supported by a supplementary site investigation. This will be necessary if one or more potential contaminant linkages have been identified by the previous work that need a detailed quantitative risk assessment based on site specific conditions. The approach to this Tier of work follows the same as that for Tier 2 but requires much greater focus on site specific circumstances and the production and use of site specific assessment criteria.

- define the objectives for this tier of risk assessment
- do a detailed or supplementary investigation
- confirm which linkages you need to assess
- identify or develop tools such as risk modelling software and criteria such as site-specific assessment criteria
- assess the risks and update the conceptual site model
- decide what further action is needed
- produce a report

Site Specific Assessment Criteria can be derived using the Environment Agency's CLEA UK Software and other risk assessment tools might also be acceptable, but their use must be fully justified and conform to current UK policy.

The output of the Stage 1 risk assessment should enable the applicant and the regulators to clearly define the risk of harm from contamination to existing and proposed end users of the site, as well as to any other environmental receptors. Should unacceptable risks from contamination be identified, remedial works will be necessary to alleviate these risks and Stage 2 of the process of addressing land contamination issues.

4. Stage 2: Remediation Options Appraisal

Before a remediation scheme for a site impacted by land contamination can be finalised an options appraisal of feasible remediation options should be completed.

There is matrix available to help select which remediation options are most feasible when carrying out a land contamination risk management options appraisal (see References).
https://www.gov.uk/government/publications/land-contamination-remediation-option-applicability-matrix

In addition the SURF-UK framework (see references) is a useful tool to find sustainable remediation options. Following this framework when developing a master plan for an area or large development may result in a more sustainable remediation scheme when compared to a detailed site specific scheme.

5. Stage 3: Remediation and Verification

A remediation strategy is a document detailing what action is to be carried out so that contamination no longer presents a risk to human health, property, or the environment and ecological systems (including controlled waters). The report should include details on how the remedial works will be validated to ensure that the remedial objectives have been met. The strategy must be submitted to and approved by the local authority prior to the commencement of remedial works at the site.

A remediation strategy needs to include details of:

- the monitoring objectives and criteria you will set for the site
- the remedial actions that will be implemented
- how you will implement those remedial actions
- how you will verify remediation is working by including a verification plan
- any monitoring and maintenance requirements
- any regulatory controls that need to be in place, such as permits and deployments
- who is responsible for all of the above

More details of what is required in a remediation strategy can be found in the LCRM Guidance in Stage 3 remediation and verification.

Some remedial works may require applications for environmental permits, licenses or consents, especially those involving waste management activities. All such agreements will need to be in place before site works commence. The Environment Agency should be consulted where works involve mobile plant or have waste management issues.

The CL:AIRE Definition of Waste Code of Practice (DoWCoP) (see references) may provide a suitable route to the reuse of materials on site (or as part of a hub and cluster site) without the need for formal waste exemptions or environment permits. For material to be used within the Code of Practice: the material must be suitable for use, have certainty of use and a defined use. A Materials Management Plan will be required to be approved by a Qualified Person (QP) and the QP's declaration submitted to the National Permitting Centre at the Environment Agency.

Where remediation requires importation of soil on to the site for use as a cover system in garden or soft landscaped areas, this material must be 'clean' and suitable for use. It will be necessary to provide a verification report to demonstrate that the required depth of cover has been achieved and an appropriate validation documentation will need to be submitted to the local authority to confirm that the contamination levels of the imported material are acceptable. Please see Appendix 5 for further guidance regarding the implementation and verification of cover systems.

In certain circumstances, material reclaimed from the site for reuse in garden or soft landscaped areas may also require validation before placement in these areas.

Any unexpected contamination or pathways discovered during site works need to be immediately reported to the local authority. Any necessary additional investigation, risk assessment or remedial works will need to be approved by the local authority.

Following completion of remediation works, the developer will be required to submit a verification report to the local authority for approval. This should normally be post development but pre-occupation. The verification report should provide confirmation that all measures outlined in the approved remediation strategy have been successfully completed, including where appropriate, validation testing. The report should include:

- A summary of the works carried out and the risks that have been managed;
- Validation sampling of any imported soils, including details of the source of material and appropriate analysis;
- All laboratory and in-situ test results and, if applicable, monitoring results for groundwater and ground gas;
- Photographic and other media records;
- Certification and validation of any gas protection measures installed in individual buildings that meet the current best practice standards e.g. with BS8485 – Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings and C735 Good Practice on the Testing and Verification of Protection Systems for Buildings Against Hazardous Ground Gases;
- Waste management and disposal documentation ('Duty of Care'); and
- Confirmation that the remediation objectives have been met.

In certain circumstances it may be necessary for the developer to conduct post-completion monitoring to verify that the remediation has been successful. This should be undertaken to the satisfaction of the local authority and the results of the monitoring should be submitted for review.

On large schemes where development may be phased, progressive discharge of the planning conditions may be possible provided a satisfactory verification report is received for each phase.

6. Overall considerations

There are some issues that developers need to consider for all phases of the investigation and remediation.

All submitted reports should be clear, ordered and rational and avoid the excessive use of scientific terminology and jargon. A summary written in non-technical language should also be provided. Copies of reports should be made available in electronic formats including all relevant Appendices and electronic versions of models e.g. CLEA, CONSIM, RTM etc.

The developer is responsible for ensuring that site workers and members of the public are protected from the potential effects of contamination during the entire process. Enforcement for health and safety matters on construction sites is the responsibility of the Health and Safety Executive (HSE).

Care must be taken during site works to ensure that additional pollutant linkages are not created. For example, boreholes and piling can create direct pathways for contaminants to migrate into groundwater, open up routes for ground gas migration, and may expose site workers to contaminated arisings.

Just because a piece of land looks 'green', it does not mean that there is no contamination at the site. It is always advisable that checks are made on the condition of the land at the start of any proposed development scheme. It should also be noted that when a property is built, a receptor is added to the site. This means that ensuring the land is free from contamination is of great importance.

If the investigations prove that there are no contamination issues to the local authority's satisfaction, then no further action will be necessary. Once this has been confirmed in writing by the local authority, then development will be able to proceed.

Land contamination is a material planning issue. In cases of non-compliance, the local authority can take legal action.

If land is discovered to be affected by contamination following development of a site, local authorities have powers under Part 2A to take action to investigate the land and secure any necessary remediation. Obviously if the land is occupied this may mean severe disruption to the site occupiers.

Legal action may be taken to ensure that land is sufficiently remediated and costs may also be recovered from the developer and/or landowner, regardless of whether they have performed the works.

7. Key Points

- It is the applicant and developer's responsibility to ensure the safe development and secure occupancy of the site.

- It is important to identify actual and potential contamination pollutant linkages at an early stage in order to avoid unexpected costs and delays during and after development.

- Suitably qualified competent professionals should be employed to address contaminated land issues.

- A preliminary contamination risk assessment report should be submitted with any planning application involving land that is suspected or known to be contaminated and/or if the proposed end use is considered sensitive to contamination (e.g. housing, schools, playgrounds, allotments or hospitals).

- All reports and proposed actions will require written approval from the local authority.

- Maintaining a close and effective dialogue with the local authority at all stages of the process is essential to prevent circumstances that lead to delay, expense and/or legal action.

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APPENDIX 1

EXAMPLES OF POTENTIALLY CONTAMINATIVE LAND USES

- Smelters, foundries, steel works, metal processing & finishing works
- Coal & mineral mining & processing, both deep mine and opencast
- Heavy engineering & engineering works, e.g. car manufacture, shipbuilding
- Military/defence related activities
- Electrical & electronic equipment manufacture & repair
- Gasworks, coal carbonisation plants, power stations
- Oil refineries, petroleum storage & distribution sites
- Manufacture & use of asbestos, cement, lime & gypsum
- Manufacture of organic & inorganic chemicals, including pesticides, acids/alkalis, pharmaceuticals, solvents, paints, detergents and cosmetics
- Rubber industry, including tyre manufacture
- Munitions & explosives production, testing & storage sites
- Glass making & ceramics manufacture
- Textile industry, including tanning & dyestuffs
- Paper & pulp manufacture, printing works & photographic processing
- Timber treatment
- Food processing industry & catering establishments
- Railway depots, dockyards (including filled basins), garages, road haulage depots, airports
- Landfill, storage & incineration of waste
- Sewage works, farms, stables & kennels
- Abattoirs, animal waste processing & burial of diseased livestock
- Scrap yards
- Dry cleaning premises
- All types of laboratory
- Radioactive substances used in industrial activities, e.g. gas mantle production, luminising works
- Burial sites & graveyards
- Agriculture – excessive use or spillage of pesticides, herbicides, fungicides, sewage sludge & farm waste disposal
- Naturally occurring radioactivity, including radon
- Naturally occurring elevated concentrations of metals and other substances
- Methane & carbon dioxide production & emissions in coal mining areas, wetlands, peat moors or former wetland

APPENDIX 2

Environment Agency and Controlled Waters

The Environment Agency is the national regulator of controlled waters, which include rivers, groundwater, ponds, streams, canals, estuaries and coastal waters. The Environment Agency will have region specific criteria for when they will expect to be involved in the investigation and remediation of sites being developed via the planning regime:

In such circumstances, the Environment Agency may recommend that conditions be attached to planning permissions requiring developers to perform a controlled waters contamination assessment for their site. These conditions may be imposed in addition to those recommended by the Local Authority. The Environment Agency has produced their own 'Guiding Principles' document which details what information should be included in controlled water assessment reports (see References).

Reference should therefore be made to this guidance where development sites may pose potential contamination risks to controlled waters. The Environment Agency guidance and the information contained in this document follow the same risk-based framework. Consequently, in both cases, the reporting requirements for each stage of the development process are very similar.

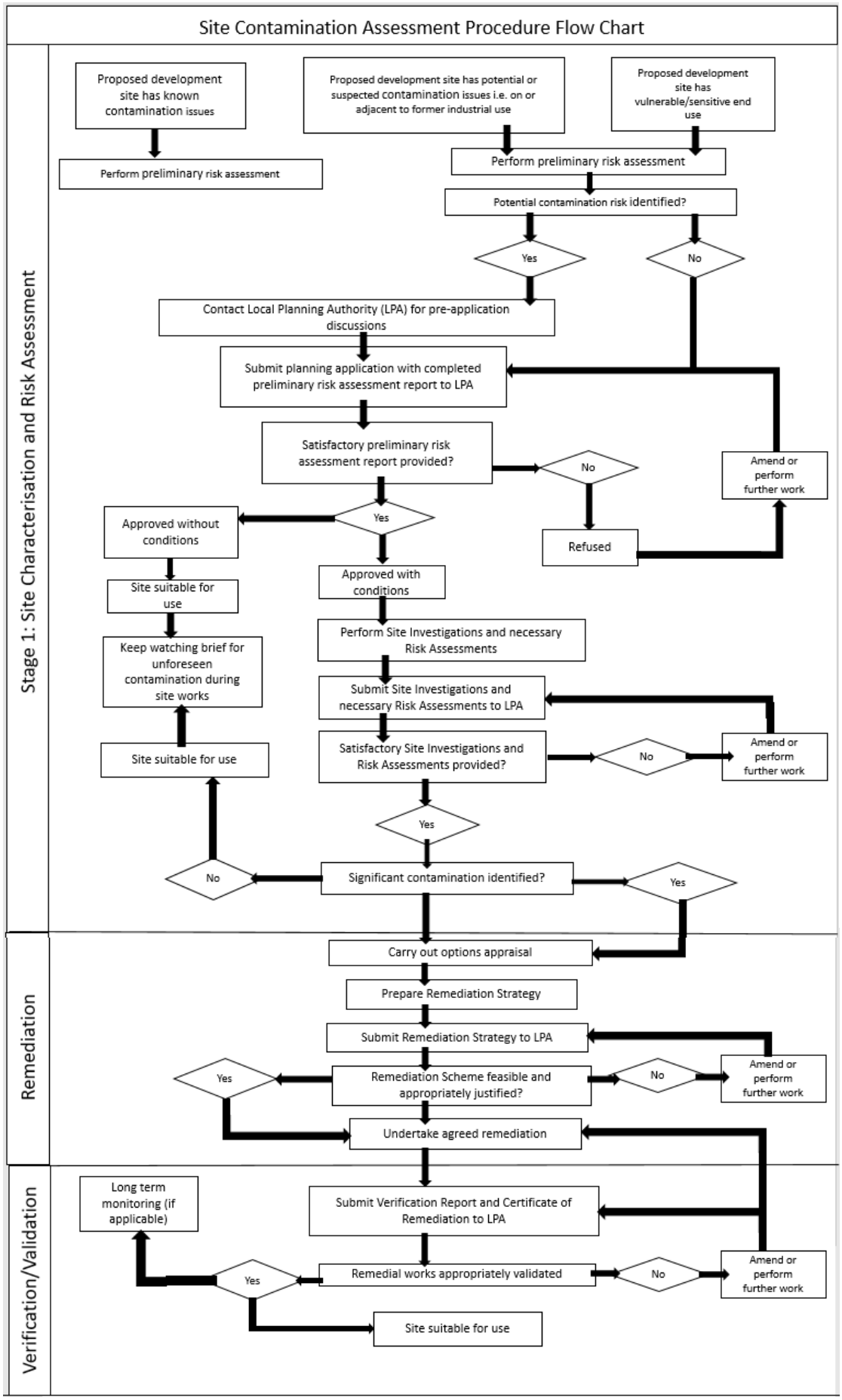
It is important to note that for sites where contamination poses potential risks to controlled waters, planning conditions will not be discharged until both the Contaminated Land Officer and the Environment Agency have approved all appropriate contamination assessment reports.

Water Framework Directive

The Water Environment (Water Framework Directive) (England & Wales) Regulations 2017 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

APPENDIX 3


Site Contamination Assessment Procedure Flow Chart
Stage 1: Site Characterisation and Risk Assessment
Proposed development site has known contamination issues
Proposed development site has potential or suspected contamination issues i.e. on or adjacent to former industrial use
Proposed development site has vulnerable/sensitive end use
Perform preliminary risk assessment
Perform preliminary risk assessment
Potential contamination risk identified?
Yes
No
Contact Local Planning Authority (LPA) for pre-application discussions
Submit planning application with completed preliminary risk assessment report to LPA
Satisfactory preliminary risk assessment report provided?
No
Amend or perform further work
Yes
Approved without conditions
Refused
Approved with conditions
Site suitable for use
Perform Site Investigations and necessary Risk Assessments
Keep watching brief for unforeseen contamination during site works
Submit Site Investigations and necessary Risk Assessments to LPA
Site suitable for use
Satisfactory Site Investigations and Risk Assessments provided?
No
Amend or perform further work
Yes
No
Significant contamination identified?
Yes
Remediation
Carry out options appraisal
Prepare Remediation Strategy
Submit Remediation Strategy to LPA
Yes
Remediation Scheme feasible and appropriately justified?
No
Amend or perform further work
Undertake agreed remediation
Verification/Validation
Long term monitoring (if applicable)
Submit Verification Report and Certificate of Remediation to LPA
Yes
Remedial works appropriately validated
No
Amend or perform further work
Site suitable for use

Experienced and Competent Persons

Experienced and competent persons should perform all elements of the site characterisation process. For land contamination and planning the competent person must meet the Nation Planning Policy Framework definition of a competent person:

> *A person with a recognised relevant qualification, sufficient experience in dealing with the type(s) of pollution or land instability, and membership of a relevant professional organisation.*

This can be demonstrated with qualifications and experience in a specific technical or scientific discipline or application, or by multidisciplinary qualifications. These include for example:

- A Suitably Qualified Person (SQP) registered under the NQMS
- The Society of Brownfield Risk Assessment (SoBRA) accreditation scheme
- A Specialist in Land Contamination (SiLC)
- Membership of a professional organisation relevant to land contamination
- A specialist in the gas protection verification accreditation scheme (GPVS)
- A proven track record of dealing with land contamination

A proven track record means a regulator or consultant who regularly deals with land contamination. For example, someone with knowledge and experience of the Part 2A regime or someone who regularly deals with the technical aspects of land contamination.

The HB&NA CLF are unable to recommend specific consultants or contractors. Lists can be found in telephone and trade directories and on professional institution websites.

Cover Systems

This guidance is intended for contaminated land sites which are regulated through the planning regime. However, the advice contained in this note may be equally valid whenever imported soils are used on development sites. As part of a planning consent a remediation strategy/scheme will have been produced and agreed with the Council. This may involve the creation of a cover system which is to act as a barrier to underlying residual contamination and thereby reduce exposure of future site users.

In order to fully discharge a planning condition relating to land contamination in such cases it will be necessary to provide a verification report to demonstrate that the required depth of cover has been achieved and that contamination levels of the soils used in the formation of the cover system are acceptable. The verification report must be prepared under the direction of a suitably qualified person.

The recommended depth of imported topsoil/subsoil should be specified in the remediation strategy for the site and agreed with by the local authority prior to development commencing. The required depth will be dependant upon the type and concentration of contaminant(s) that remain in-situ, and the proposed future use of the site. More information on the requirements for cover systems can be found in BRE 465 (2004).

Generally a depth of 600mm will be required in private residential gardens unless otherwise agreed with the Council. Less cover may be acceptable in general landscaped areas. Verification that the required depth of cover has been achieved is required and this can take the form of a topographic survey or a visual inspection at numerous points across the site supported by photographic evidence. Details of the supplier and confirmation of the source(s) and total quantity of imported soil material must be stated in the verification report.

The soil should be free from asbestos, metals, plastic, wood, glass, tarmac, paper and odours associated with contaminated soils and otherwise comply with the requirements of BS 3882:2015 – Specification for topsoil and requirements for use. Sampling and analysis will be required to demonstrate the chemical suitability of imported soils. Please note that analytical certificates submitted by the supplier of the soil material will not be acceptable; i.e. independent sampling and analysis must be carried out.

The samples shall be analysed at an independent accredited laboratory for an analytical suite which should include as a minimum: Metals, PAH (speciated), TPH fractions (speciated), soil organic matter content, and pH.

A sampling frequency of 1 sample per 40 m3 is required where the soils are from a natural source. A minimum of 3 samples are required. For larger amounts of soil from a single source the sampling frequency can be reduced by agreement with the local authority; each case will be assessed on a site specific basis. For recycled or manufactured topsoil, or where the source of the soil is unknown, a sampling frequency of 1 sample per 20 m3 is required. Again a minimum of 3 samples are required.

The analytical results should be compared to relevant published generic assessment criteria, i.e. Soil Guideline Values (SGVs), Suitable for Use Levels (S4ULs), Category 4 Screening Levels (C4SLs) etc., or to in-house or site-specific assessment criteria, which have been previously agreed in the remediation strategy.

APPENDIX 6

CONTACT INFORMATION

Hertfordshire Local Authorities

Broxbourne Borough Council
☎ 01992 785555
💻 www.broxbourne.gov.uk

Dacorum Borough Council
☎ 01442 228455
💻 www.dacorum.gov.uk

East Hertfordshire District Council
☎ 01279 655261
💻 www.eastherts.gov.uk

Hertsmere Borough Council
☎ 020 8207 2277
💻 www.hertsmere.gov.uk

North Hertfordshire District Council
☎ 01462 474000
💻 www.north-herts.gov.uk

St Albans City and District Council
☎ 01727 819461
💻 www.stalbans.gov.uk

Stevenage Borough Council
☎ 01438 242908
💻 www.stevenage.gov.uk

Three Rivers District Council
☎ 01923 776611
💻 www.threerivers.gov.uk

Watford Borough Council
☎ 01923 226400
💻 www.watford.gov.uk

Welwyn Hatfield District Council
☎ 01707 357404
💻 www.welhat.gov.uk

Bedfordshire Local Authorities

Bedford Borough Council
☎ 01234 227257
💻 www.bedford.gov.uk

Luton Borough Council
☎ 01582 510330
💻 www.luton.gov.uk

Central Beds District Council
☎ 08452 304040
💻 www.centralbedfordshire.gov.uk

Other Organisations

Milton Keynes Council
☎ 01908 252398
💻 www.milton-keynes.gov.uk

Buckinghamshire Council
☎ 0300 131 6000
💻 www.buckinghamshire.gov.uk

Environment Agency
☎ 08708 506506
💻 www.environment-agency.gov.uk