CONTAMINATED LAND STRATEGY 2024

as required under the provisions of the

ENVIRONMENT ACT 1995
ENVIRONMENTAL PROTECTION ACT 1990

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CONTENTS

PREFACE

This document is the 2024 Dacorum Borough Council (the Council) Contaminated Land Strategy. It replaces the earlier version of the Strategy dated November 2007 and has been produced to accommodate the Central Government initiated changes to the 2012 Statutory Guidance. The Statutory Guidance has been in place in one form or another since 2000 to support the legal framework for dealing with contaminated land under Part 2A of the Environmental Protection Act 1990.

The new Statutory Guidance was published in April 2012 with the stated aims being to:

- give greater clarity to regulators as to how to determine when land is and is not actually contaminated land,
- be shorter, simpler and more focused towards achieving optimum results in terms of dealing with sites most in need of remediation,
- reflect the experience accumulated over eleven years of operating the regime allowing regulators to take a more targeted approach which remains precautionary but avoids an over cautious blanket approach.

The changes made to the Strategy have been necessary in order to fulfil the Council's statutory obligations and to protect against the risk of any future Part 2A activities being challenged on the grounds that the Council Strategy is out of date.

The key changes that are incorporated into this Strategy to reflect the new Statutory Guidance are summarised below:

- The separation of the Statutory Guidance for radioactively contaminated land from the Statutory Guidance for non-radioactively contaminated land.
- Change to the definition and assessment of the significance of pollution of controlled waters from land contamination (Section 5).
- Introduction of requirement for Risk Summaries (Section 7.2)
- Introduction of the ability to reconsider, revoke or vary Statutory Determinations of Contaminated Land (Section 10)
- The revocation of Regional Spatial Strategies and Planning Policy Statements/Guidelines following the introduction of the National Planning Policy Framework (NPPF), the most recent version of which was published in 2021 (Section 13).

1 INTRODUCTION

1.1 Background to the Legislation

The industrial revolution and its subsequent impact on the demographic and spatial distribution of people in the United Kingdom resulted in an unprecedented change in land use patterns. In the latter half of the 20th century the character of the UK economy shifted significantly, albeit gradually, away from industrial production to a more service based economy. Inevitably, these changes and others, for example the type and volume of waste that is sent to landfill, have left behind a legacy of land that has been contaminated with harmful substances which may pose a risk to the environment (human, animal, natural and built). This gave rise to a need for a regulatory framework by which land affected by contamination, which was adversely impacting the environment could be remediated for the benefit of the environment and if vacant brought back into beneficial use.

The current and projected need for homes has placed renewed pressure on local authorities to reuse land in urban areas and this provided an additional impetus for the rehabilitation of historically contaminated land.

1.2 Regulatory & Policy Context

The contaminated land statutory framework is the principal driver for requiring an up-to-date Contaminated Land Strategy. The legislation in question is Part 2A of the Environmental Protection Act 1990 (Part 2A EPA 1990), which was introduced by Section 57 of the Environment Act 1995. This is supported by the Contaminated Land (England) Regulations 2006 (amended 2012) and statutory guidance. At the time of writing the most recent version is the Contaminated Land Statutory Guidance 2012.

The legislation and guidance states that local authorities should cause their areas to be inspected from time to time with a view to identifying contaminated land. There should be a strategic approach to this and it should be detailed in a written contaminated land strategy, which should be kept under periodic review.

The Contaminated Land Strategy has been prepared in the context of the Council's vision and corporate priorities with the intention of providing a clean, safe and enjoyable environment, ensuring economic growth and prosperity and helping to enable the provision of good quality homes.

1.3 Roles and Responsibilities

The primary regulator in respect of the contaminated land regime is the local authority. For Dacorum Borough Council the strategy will be under the control of the Head of Regulatory Services. The role in broad terms is:

- to cause the area to be inspected to identify potentially contaminated sites;
- to determine whether any particular site is contaminated (by definition);
- to determine whether any such land should be designated a 'special site' ; and
- to act as enforcing authority for contaminated land not designated as a 'special site'.

The Environment Agency also has three main roles:

- to assist local authorities in identifying contaminated land (particularly where water pollution is involved);

- to provide site specific guidance to local authorities on contaminated land where requested;
- to act as enforcing authority for contaminated land designated a 'special site'

Where the presence of contaminated land has been confirmed the enforcing authority must:

- establish who should bear responsibility for remediation;
- decide after consultation what must be done in the form of remediation and ensure it is effectively carried out;
- determine liability for the costs of the remedial works; and
- maintain a public register of regulatory action in relation to contaminated land.

In order to satisfy the far reaching objectives of the contaminated land regime it will be necessary to assess land throughout the whole of the Borough and to collate significant volumes of information. This will ultimately enable this Authority to make the sometimes difficult and inevitably complex decisions relating to its condition, the risks it presents and who may be liable for it under law.

It must be noted that local authorities have the sole responsibility for designating sites as contaminated land and this responsibility cannot be delegated to another body. However, support and advice can be obtained from contaminated land professionals external to the Council. Additionally the responsibility of local authorities should not be considered in isolation from their other duties that have the potential to achieve the same goal as the Contaminated Land Strategy or from the impact on their available resources.

1.4 Strategic Planning

The Council formally adopted the Core Strategy for Dacorum (2006-2031) on 25th September 2013. Within the Core Strategy the need for more housing in the Borough is highlighted. The proposed housing requirements for Dacorum in the period up to 2031 was set to be at least 10,750 new homes. However, at the time of writing there is an emerging Local Plan for Dacorum covering the 2020 – 2038 period, which will make provision for a higher number of new homes.

As the emphasis of both the current Core Strategy and the emerging Local Plan is on sustainable development it is intended that there will be a limit in the use of "greenfield" sites. This will allow for development opportunities utilising previously developed (brownfield) land. Some of this land may be contaminated as a result of former land uses and the new development will see this contamination dealt with under the planning control regime utilising existing policies in the adopted plans and comparable emerging policies in the emerging 2020 – 2038 Plan. Therefore, it is expected that most contaminated land remediation will continue to be dealt with through the use of 'contaminated land' planning conditions.

Of particular significance is that the National Planning Policy Framework 2021 (NPPF 2021) states that if a site is treated within the planning regime it should not be capable of being determined as contaminated land under Part 2A. As a consultee to the local planning authority, the Environmental Health Team considers all applications for the potential for land contamination and must keep in mind the relationship between the two regimes.

1.5 Financial and Manpower Implications

The Government has accepted that successful operation of the Contaminated Land Regime demands considerable resources. This reflects the fact that detailed inspection and assessment of potentially contaminated land can be complex, time consuming and open to legal challenge, as can the apportionment of liability for remediation.

1.6 Information, Complaints and Questions from the Public

All information supplied to the Council will be dealt with confidentially and will be considered by the appointed officer with the purpose of updating the prioritisation list where it is deemed appropriate. Information supplied that is non-specific and generalised will not be considered sufficient for initial consideration and this will be at the discretion of the appointed officer.

Complaints may be received about particular sites needing further investigation that may give rise to concern, especially where a potential sale has failed as a result of the suggestion that the land may be contaminated. Those so affected may seek an early investigation to clarify their position, thereby seeking to circumvent the prioritisation process. Such requests for priority inspection will be considered on the basis of the site specific circumstances and will be dealt with as considerately as possible, but ordinarily will not be taken forward. However, in exceptional circumstances, where a sufficiently strong enough case can be made and where resources are made available by Dacorum Borough Council or Central Government an investigation may be possible.

2 THE CONTAMINTED LAND REGIME

2.1 Aims and Objectives

The Act itself states in Section 78B (1) that:

Every local authority shall cause its area to be inspected from time to time for the purpose of:

- identifying contaminated land; and
- enabling the authority to decide whether any such land is land which is required to be a special site (**Appendix 1**).

Section 78B (2) states that the authorities must act in accordance with guidance issued by the Secretary of State, currently the Contaminated Land Statutory Guidance April 2012.

The overarching objectives of the Government’s policy on contaminated land and the Part 2A regime are to:

- Identify and remove unacceptable risks to human health and the environment arising from historically contaminated land;
- Seek to ensure that historically contaminated land is made suitable for its current use.

- Ensure that the burdens faced by individuals, companies and society as a whole are proportionate, manageable and compatible with the principles of sustainable development.

2.2 Definition of Contaminated Land

Contaminated land is defined for the purposes of Part 2A 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, or there is a significant possibility of such pollution being caused.”

What may or may not constitute the various categories of harm is described in the statutory guidance.

Controlled waters include inland freshwater, groundwater and coastal waters.

2.3 Outline of the Statutory Procedure

Local authorities are required to cause their areas to be inspected with a view to identifying contaminated land. The approach taken should be strategic and be rational, ordered and efficient and take account of local circumstances. It should be set out in a written Strategy.

As part of their Strategy the local authority should seek to give priority to areas of land that it considers pose the greatest risk to human health or the environment. It should be those higher priority potentially contaminated sites that should, ordinarily, be subjected to detailed inspection first.

Where the local authority identifies land where it considers there is a reasonable possibility that a significant contamination linkage (Section 5.0) exists it should inspect that land in sufficient detail to decide if it is statutorily contaminated. The timing of the inspection should be subject to the authority’s approach to prioritisation of detailed inspection. The owner of the land and other stakeholders in the land being investigated should be consulted before inspection, unless there is a particular reason why this is not possible. This consultation process represents the first opportunity for securing the possibility of voluntary site inspection and if necessary voluntary remediation (without the need for enforcement action) should either an intrusive site investigation or remediation be required.

Where the findings of any detailed inspection identify a source(s) of contamination and a sensitive receptor(s) together with a pathway(s) linking them, they must undertake a formal risk assessment. This should be in accordance with established scientific principles to establish the likelihood of harm, or pollution and the scale and seriousness of such harm or pollution if it did occur. Detailed advice on the approach to the risk assessment process is contained in the 2012 Statutory Guidance.

In the event that the necessary inspection has not been undertaken voluntarily and the Council is satisfied that the land meets the definition of statutorily contaminated land it

must inform the land owner and other appropriate person(s). If a voluntary approach is still not forthcoming it shall declare that a significant pollutant linkage(s) exists and that the land is contaminated land by definition. In every case where the land does not fall within the category of “special site” the Council must commence regulatory action, which involves a series of complex steps and considerations that are detailed within Sections 5 - 8 of the 2012 Statutory Guidance.

The considerations relate to:

- the area of land, the nature of the contamination and its likely impact (Section 5)
- remediation (Section 6)
- liability (Section 7)
- cost recovery and hardship (Section 8)

3 AIMS AND OBJECTIVES OF THE STRATEGY

3.1 Aims

The overarching aim of the strategy is to meet the Council’s statutory obligation to produce a formal strategy pursuant to Part 2A of the Environmental Protection Act 1990 in accordance with statutory guidance issued in April 2012.

The strategy prioritises sites where there is a theoretical risk of land contamination and one or more vulnerable receptors at risk of harm or pollution. The Strategy appropriately takes into account the history of, and the prospect for, the sites being addressed via the planning system.

The legislation and accompanying guidance for the risk-based approach to dealing with contaminated land requires a rational, ordered and efficient approach. Specifically, the Council aims to ensure:

- A risk-based approach, that is both systematic and objective in order to prioritise those areas which are in need of further investigation and possible remedial action.
- Where possible, un-necessary burdens on the tax-payer, businesses and individuals are minimised e.g. site owners are encouraged to voluntarily investigate and remediate sites.
- Where voluntary remediation is not forthcoming, determination of the most appropriate action to ensure compliance with, and enforcement, of the appropriate legislation.
- Procedures are in place to produce and publish a Public Register of the enforcement history of land statutorily designated as “contaminated land”.

3.2 Objectives

- To provide an efficient mechanism by which information derived from existing records, members of the public, industry, etc. can be collected, collated, assessed and updated to inform a prioritisation list of potentially contaminated land.
- To review previous action taken to deal with contaminated land to ensure that the previous action was stringent enough to deal with the contamination in order to meet with current guidelines.
- To ensure that sites identified as “contaminated land” are effectively dealt with through consultation and monitoring.

- To enable the dissemination of information related to land contamination, when requested, which is not in contravention of relevant legislation.

4 DESCRIPTION OF THE DACORUM AREA

4.1 Brief History

Situated in West Hertfordshire, the Borough of Dacorum was created in 1974 following a review of local government in England & Wales. It is composed of the main towns of Hemel Hempstead, Berkhamsted and Tring, plus a number of large and small villages. Prior to 1974 the area was broken up into five smaller council areas, originally known as the Borough of Hemel Hempstead, the Urban Districts of Berkhamsted and Tring and the Rural Districts of Hemel Hempstead and Berkhamsted.

The towns and villages that make up the Borough of Dacorum have a rich cultural heritage. Situated along the Gade Valley, in the chalk hills of the Chilterns, historical evidence indicates that the Borough was used as a main thoroughfare for trade as far back as Roman times. Indeed, it was once known as the Granary of London due to its rich fertile soils and flour making capabilities.

Around 1760-1770, some of the old mills near Hemel Hempstead were converted from grinding corn to papermaking, an industry that has lasted until the present day.

Also, in the eighteenth century the Grand Junction was constructed, now known as the Grand Union Canal, which linked London with the industrial West Midlands. Inevitably, as trade grew along the canal, entrepreneurs such as John Dickinson and William Cooper thrived. John Dickinson, the first to move into the area in 1809, bought mills at Apsley and Nash Mills for the production of papermaking. Later came William Cooper, the inventor of the world famous Coopers Sheep Dip (the main active ingredients of which were sulphur and arsenic), who erected his first mill in 1852 at Ravens Lane, Berkhamsted.

Up until the late 1940's, agriculture and the above industries were the mainstay of the Borough. However, this changed when, following the Second World War, new housing was required for the homeless of London. Hemel Hempstead was earmarked for development as a new town and large areas of greenbelt land, as well as previously developed land, gave way to housing developments. With the new influx of people came new industries to the area, many of which remain today.

More recently, with an ever increasing technological world, many of the older industries have ceased operating or relocated and the sites they once occupied are either vacant, or have been, or are in the process of being, redeveloped for housing.

4.2 Population Size

The 2021 census recorded the borough's population to be 155,100.

4.3 Land owned by the Council

The Council has tried to be sympathetic in its development of the Borough and has tried to maintain as much as possible of the open spaces and parkland for the enjoyment of residents and visitors. Inevitably historical development has resulted in areas that have

become contaminated through operations undertaken over the years, for example waste recycling and small-scale landfill. Therefore, it is accepted that the Council may own areas of land that may be contaminated. These will be considered under the strategy in the same way as all other land.

4.4 Broad Geological and Hydrogeological Characteristics

The make-up of the land covered by the borough is primarily chalk hills. These are overlain with glacial gravels, alluvial deposits and boulder clay in the valleys and clay-with-flint covering some areas of higher ground. The chalk is classified as a principal aquifer and underlies most of the area covered by the borough. As well as being an important source of potable water supplies, (there are 40 known private water supplies in addition to the public drinking water supplies managed by Affinity Water) the chalk aquifer provides base-flow to the area's chalk streams.

4.5 Broad Hydrological Characteristics

The two principal river catchments in the Borough of Dacorum are the "Colne" and the "Thame and South Chilterns", both of which drain to the Thames, one towards the south-east and the other towards the west. The main rivers forming these catchments in the borough are the Ver, Gade and Bulbourne whose catchments cover the majority of the centre and east of the borough and form part of the Colne catchment. These are all classified as chalk streams, which are internationally rare with the majority being present in Southern England.

To the west of the borough the main river is the Thame, which has a number of tributaries that rise within the north west of the borough.

4.6 Protected Locations

The County Archaeological Group is consulted on all planning applications affecting areas of archaeological significance and archaeological potential. It is envisaged that the same consideration will be given to sites that are identified as contaminated land. A substantial part of the Borough is within an Area of Outstanding Natural Beauty, including land occupied by the National Trust at Ashridge. In accordance with the Borough Local Plan 1991-2011, every effort will be made to prevent the loss of any historic park or garden or harm to its historic structure, character, principal components or settings.

5 IDENTIFICATION OF POTENTIALLY CONTAMINATED SITES

5.1 Introduction

In undertaking its duty to inspect the Borough under Part 2A, the Council will take into consideration the particular characteristics of the area, including:

- Potential sources of contamination.
- Relevant geology, hydrogeology and hydrology.
- Potential specified receptors (all human receptors, sensitive water receptors, sensitive property receptors and relevant ecological receptors).

Before a piece of land can be considered as possibly being “contaminated land”, a “pollutant linkage” must be identified. The process of identifying pollutant linkages and of assessing the significance of each linkage is based on “contaminant-pathway-receptor” methodology.

A **contaminant** is a substance which is in, on or under the land and which has the potential to cause harm to a relevant receptor, or cause pollution of controlled waters.

A **receptor** is either (a) a living organism, a group of living organisms, an ecological system or piece of property and is being or could be harmed by a contaminant, or (b) controlled waters that are being or could be polluted by a contaminant.

A **pathway** is one or more route(s) or means by or through which a receptor (a) is being exposed to or affected by a contaminant or (b) could be so exposed or affected.

Unless all three elements of a pollutant linkage are identified, land cannot be considered contaminated. All search strategies will therefore be prioritised on areas where both contaminants and receptors are known or likely to exist.

For example, if an area had a land use that was likely to have been affected by contaminants it would not be considered of the highest priority if there were no specified receptors within the area of interest. This would also apply if receptors were present but pathways by which they could be exposed to the contaminants were absent. However, if one or more pathway or receptor were present then the same land use would be considered a higher priority.

5.2 Potential Sources of Contamination

Any site with the potential to cause pollution will be identified at this preliminary stage. A non-exhaustive list of land uses considered to be potentially contaminative can be found in **Appendix 3**. Both historical and current land uses will be considered.

Past Industrial, Commercial, Waste Disposal & Mineral Extraction Activities
The vast majority of potentially contaminated sites will be identified through the examination of historical data in the form of digitised historical ordnance survey maps, plans and photographs for evidence of past industrial use. Consultation with the Town and Parish Councils and with members of the public for local knowledge of past industry will also be an information source.

It must be recognised that many of those former industrial sites will have been redeveloped over the years. In some cases they will have been redeveloped with residential dwellings, schools or other land uses that are inherently more vulnerable to the presence of contamination than the original land use. In such cases the methods and extent of remediation may be unknown; in others it may be known but the adequacy of the remediation will need to be examined. This will be a factor in the risk prioritisation process.

Current Industrial, Commercial, Waste Disposal & Mineral Extraction Activities
The present industrial areas of the Borough are also potential sources of historical contamination and these will be inspected in accordance with the statutory guidance to establish whether there is a potential for contamination, and if there is, whether it is controlled by another regulatory regime.

5.3 Potential Specified Receptors

Land can only be considered contaminated if the contamination adversely impacts specified receptors:

Human
The present population of the Borough is approximately one-hundred and fifty-four thousand. The potential for persons either living on or frequenting a potentially contaminated site will be considered within the prioritisation process, with higher priority assigned to sites occupied and frequented by children.

Property - Buildings
All buildings are potential receptors and will be considered in every case where contamination and buildings exist. Ancient Monuments as listed by English Heritage will also be specifically identified as part of the strategy. A full list of scheduled Ancient Monuments is provided in the current Dacorum Borough Local Plan.

Property - Crops including Timber
Being a largely rural area, crop growing regions will not be specifically identified but taken into consideration as necessary. Where contamination is known or suspected, associations with poor yield and crop failure will be investigated. There are several parts of the Borough growing timber. Crop failure as a result of contamination is, however, most unlikely except perhaps where trees have been planted on contaminated land as part of a remediation programme.

Property - Produce Grown Domestically and on Allotments
There are many acres of allotments within the Borough and these will be factored into the risk prioritisation process as will the presence of domestic gardens.

Property - Livestock, Game and other Owned Animals
Again, being a largely rural area, the presence of livestock or other animals in an area will not be specifically identified but taken into consideration as necessary.

Ecological Receptors
All identified ecological receptors will be considered as part of the strategy. There are several specified sites including Sites of Special Scientific Interest (SSSI), Local Nature Reserves (LNR) and other areas of ecological importance.

Water - Controlled Waters
All surface water receptors, such as rivers, streams, tributaries, reservoirs and lakes, will be considered as part of the inspection strategy. All groundwater receptors including Principal, Secondary and non-aquifers will be identified and factored into the risk prioritisation process.

Water - Public Water Supplies
All public water supply abstraction points will be considered as well as their respective Source Protection Zones. All other authorised abstraction points will also be considered including those used for agricultural or recreational use.

Water - Private Water Supplies

There are 40 known private water supplies in the Borough and their existence will be factored into the risk prioritisation process. The protection of these is particularly important due to the heavy reliance on them by local communities. The Council already monitors these supplies as part of its duties under the Private Water Supplies (England) Regulations 2016 and 2018 (Amendment) Regulations.

5.4 Potential Pathways of Exposure to Contamination

Pathways by which receptors can be exposed to contamination are many and will vary considerably depending on the contaminant and the different types of receptors. It is neither practical nor appropriate to summarise all potential pathways in this document, but for context two examples are included below.

For volatile contaminants, or gases a pathway to human exposure could be through cracks in, or service penetrations through, concrete floor slabs. Whereas for contaminants in a liquid or solid phase this pathway to human exposure would not be significant, but direct contact with the soil, or dusts from the soil, containing the contaminants may well be.

For contaminants in the ground that can be mobilised by precipitation, or that exist in a liquid form, a porous/permeable geology will represent a viable pathway through which those contaminants could move laterally or vertically to impact on a surface water or groundwater receptor. Whereas, if those same contaminants were present in, or were contained by, an impermeable or low porosity/permeability geology then that pathway would be much less significant or not viable at all.

6 THE RISK PRIORITISATION PROCESS

The identification of statutorily contaminated land will be carried out in an ordered, rational and efficient manner based firmly on the principles of risk assessment and it will be implemented using a staged approach that will make the best use of scarce resources.

Stage 1: Initial Risk Prioritisation:

Stage 1 of the approach to identify statutorily contaminated land is to undertake a desk-top survey of the Borough with the purpose of identifying:

1. Land which may have been associated with a contaminative activity, now or historically (e.g. sources of contamination)

2. Identification of the circumstances of each site of suspected contaminated land (e.g. what receptors and what pathways are associated with that area)

3. Conduct a risk assessment based on the information collected in (1) and (2) so that the sites can be ranked, in a prioritisation list, in order of likelihood of causing harm to receptors

The resulting prioritisation list will be used to inform the priority to be given to any further investigation of the potentially contaminated sites under Stage 2 of the process to identify statutorily contaminated land.

Examples of the sources of information that have been used to produce a prioritisation list of sites and to maintain it are detailed in **Appendix 4**. Also, included in **Appendix 4** is the detail of the risk prioritisation methodology that has been used to produce the prioritisation list of potentially contaminated sites.

Assessments within this stage are made on a limited amount of often incomplete data and information and as such as more knowledge about sites is obtained, assessments will be revised and the order of prioritisation within the list may change.

Stage 2: Methodical Detailed Inspection of Prioritised Sites:

Stage 2 of the process is to undertake an appropriate, scientific and technical assessment of the circumstances of the land using all available evidence. This is likely to involve contact with owners of sites to request information about and access to the site. There is also likely to be a requirement for intrusive ground investigations and the collection and analysis of environmental samples.

The aim is to obtain sufficient information to enable this authority to make a determination that the land in question is statutorily contaminated land.

It must be recognised that this Stage is highly resource and time intensive for the authority. Therefore, considered in the context of financial constraints on local authorities and the current absence of central government funding or priority given to the implementation of the Part 2A Regime, it has to be recognised that Stage 2 of the process is not being actively pursued at the time of publication.

Nonetheless the existence of the Risk Prioritisation List and the provision within this Strategy to enable this authority to carry out detailed inspections remain valuable tools in ensuring that the residents and environmental resources of the Borough are protected from harm arising from contaminated land.

The circumstances under which Stage 2 may need to be implemented are:

- Where there is evidence presented to this authority of an active pollutant linkage(s) that is causing harm to a designated receptor or pollution to controlled waters.
- Where there is the possibility of the presence of an active pollutant linkage(s) that is having an unacceptable adverse impact on the well-being of one or more residents of this Borough and where there is a political imperative to establish the significance of the pollution linkage(s) in question.
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Stage 3: Deciding Whether Land is Statutorily Contaminated:

Once the complete characterisation of the contamination has been finalised this authority will make a decision regarding the determination of whether or not the land appears to meet the definition of being contaminated land under Section 78A(2) of Part 2A of the EPA 1990. This will include identifying the basis on which the determination has been made and the pollutant linkage(s) that has given rise to the determination (Section 4).

With respect to an area of land being a potential ‘special site’ then this authority will liaise with the Environment Agency in determining whether the site appears to be ‘contaminated’.

It is important to note that pursuant to Part 2A of the EPA 1990 risks should be considered only in relation to the current use of that land. Any receptors which are not likely to be

present given the current use of the land, or a proposed land use that has been granted permission via the planning regime, should be disregarded.

Risks related to future use or development will be considered in accordance with any planning permissions through the use of contaminated land planning Conditions.

7 DETERMINING CONTAMINATED LAND

7.1 Responsibilities and Requirements

The local authority has the sole responsibility for determining whether any land appears to be contaminated land. It cannot delegate this responsibility (except in accordance with section 101 of the Local Government Act 1972). However, in making such decisions the authority may rely on information or advice provided by another body such as the Environment Agency, or a suitably qualified experienced practitioner appointed for that purpose.

There are four possible grounds for the determination of land as contaminated land (with regard to non-radioactive contamination):

(a) Significant harm to human health.

(b) Significant possibility of significant harm to human health.

(c) Significant harm or significant possibility of such harm (non-human receptors).

(d) Significant pollution of controlled waters or significant possibility of such pollution.

The legal definition of contaminated land is slightly different if harm is due to radioactivity as it is defined in Regulation 5 of The Radioactive Contaminated Land (England) Regulations 2006. Land contaminated by radioactivity is the responsibility of the Environment Agency.

Before making any determination, the local authority should have identified one or more significant contaminant linkage(s), and carried out a robust, appropriate, scientific and technical assessment of all the relevant and available evidence. The Contaminated Land Statutory Guidance (April 2012) provides the guidance necessary to enable the above as well as defining four categories of harm to human health to aid the determination process following completion of the risk assessment.

In the case of any land which, following determination as contaminated land, would be likely to meet one or more of the descriptions of a “Special Site” set out in the Contaminated Land Regulations 2012 (as amended), the Council should consult the Environment Agency before deciding whether or not to determine the land. The authority should take the Agency’s views into full consideration and it should strive to ensure it has the Agency’s agreement to its decision (although the decision is for the authority to make subject to the provisions of Part 2A).

Situations may arise where, with the information available, it is not possible to determine whether a pollutant linkage is significant in accordance with the statutory guidance. In such cases the Council will determine that, on the balance of probabilities, the land does not fall within the statutory definition of contaminated land. However, the situation will be kept under review and reopened at any time new information becomes available.

Inspection may identify contamination that would form a significant pollutant linkage, should new receptors be introduced to the site. In such circumstances this information will be recorded. Should such a site be identified for future development, the information obtained during the investigation will be made available to the planning authority and the owners/developers.

7.2 The Written Record of Determination and Formal Notification

Where a site is to be determined as “contaminated land”, the Council shall:

- produce a Risk Summary that explains their understanding of the risk and other relevant factors in a manner that is understandable to a layperson. This is a prerequisite of a formal determination.
- afford all opportunities for the land owner and/or responsible person(s) to undertake their own suitable remediation. This reflects the fact that the legislation and statutory guidance is designed to encourage voluntary remediation (without the need for enforcement action) and in doing so minimise unnecessary burdens on the taxpayer, businesses and individuals.

However, if the Council is of the opinion that the timescale or the remediation method proposed will not alleviate the risk, then the Council will determine the land as “contaminated land” by statutory definition, and the Council will prepare a written record to include:

- a description of the pollutant linkage(s) confirmed,
- a summary of the evidence which confirms the existence of the pollutant linkage(s) including the risk assessments used to conclude their significance (the Risk Summary),
- a summary of the way the requirements of the statutory guidance were satisfied.

The Council will formally notify all relevant parties in writing that the land has been determined “contaminated land”, including:

- the owner(s)
- the occupier(s)
- those liable for remediation (‘appropriate persons’ in the guidance) and
- the Environment Agency.

At the notification stage it may not be possible to identify all the relevant parties. The Council will, however, act on the best information available to it at that time and keep the situation under review should more information comes to light.

If land has been determined as “contaminated land” and also falls within one or more of the “special site” descriptions prescribed in the regulations made under Part 2A (**Appendix 1**), it is required to be designated a “special site”. The Environment Agency then becomes the enforcing authority for that land.

The formal notification procedure commences the process of consultation on what remediation might be most appropriate. To aid this process the Council will therefore provide as much information to the relevant parties as possible, including where available:

- a copy of the written record of determination;
- copies of site investigation reports (or details of their availability);

- an explanation of why the appropriate persons have been chosen as such; and
- details of all other parties notified.

Appropriate persons will be provided with written explanations of the tests for exclusion and apportionment.

8 DETERMINING LIABILITY

When a significant pollutant linkage(s) has been identified, the procedure relating to the apportionment of liability must commence. This has five distinct stages as follows:

- Identifying potential appropriate persons and liability groups.
- Specifying remediation actions.
- Attributing responsibility to liability groups.
- Assessing exclusion from liability within any liability group.
- Apportioning liability between members of a liability group.

8.2 Identification of Appropriate Person(s) and Liability Groups

These procedures are complex, commencing with the establishment of liability groups. All appropriate persons for any one pollutant linkage are a 'liability group'. These may be either class 'A' or class 'B' persons.

APPROPRIATE PERSONS - Class 'A'
These are, generally speaking, the polluters, but also include persons who "knowingly permit pollution". This would include developers who leave contamination on a site that subsequently results in the land being determined as contaminated land.

APPROPRIATE PERSONS - Class 'B'
Where no class 'A' persons can be found, liability reverts to the owner or the occupier of the land. These are known as class 'B' persons.

The Council will make all reasonable enquiries to identify class 'A' persons before liability reverts to owners or occupiers.

8.3 Specifying Remediation

The Council will specify what remediation measures are to be carried out in any Remediation Notice, with the reasonableness of the measures being an important factor. As such they will be both appropriate and cost effective, employing 'best practicable techniques' with the aim of the remediation being to ensure that the land is no longer contaminated.

8.4 Attributing Responsibility

Appropriate persons or liability groups must be considered for each significant pollutant linkage. Therefore, where a site has had a series of contaminative uses over time, each significant pollutant linkage will be identified separately and responsibility considered for each.

8.5 Assessing Exclusion

The Council will consider whether any members of a liability group should be excluded, in accordance with the rules for exclusion set out in Part 2A of the EPA 1990. There are numerous tests specified to identify Class 'A' groups who should be excluded from liability. These will be applied in sequence and separately for each pollutant linkage. The exclusion of Class 'B' persons is much less complex. A single test merely excludes those who do not have an interest in the capital value of the land. Tenants therefore are excluded.

8.6 Apportionment of Liability

The Council decides how to apportion liability between members of each liability group who remain after any exclusions have been made.

- The financial circumstances of those concerned have no relevance.
- The Council must consult persons affected to obtain information (on a reasonable basis having regard to the cost). If someone is seeking to establish an exclusion or influence an apportionment to their benefit then the burden of providing the Council supporting information lies with them.
- Where there are agreements between appropriate persons the local authority has to give effect to these agreements, subject to paragraph 7.30 of the Contaminated Land Statutory Guidance 2012.

The statutory guidance also sets out considerations to which the enforcing authority should have regards when making any cost recovery decision. Therefore the Council will consider whether any of those liable for the remediation of "contaminated land" may not be able to afford the necessary work before serving any remediation notices.

8.7 Orphan Linkages

It is possible that either no Appropriate Person(s) can be found for a pollution linkage on a contaminated land site, or that all members of a liability group benefit from one or more exemptions. In such circumstances that pollution linkage shall be treated by the Council as an Orphan Linkage and the enforcing authority will have the power to carry out the remediation action(s) itself, at its own cost.

9 ENFORCEMENT

9.1 Remediation Notices

Where the Council has identified contaminated land and established the appropriate person(s) the Council shall serve on each appropriate person a 'remediation notice' specifying what that person is to do by way of remediation and the periods within which that person is required to do each of the things so specified.

Remediation notices will be served only as a last resort (notwithstanding urgent cases), and then only after the lengthy consultation processes and required considerations have been completed. Notices will be authorised after two tests are satisfied:

- that the remediation actions will not be carried out otherwise; and
- that the Council has no power to carry out the work itself

If these are met the Council will serve a remediation notice on each appropriate person. Notice cannot be served less than three months after formal notification that the land is contaminated, unless urgent action is deemed necessary (where there is an imminent risk of serious harm).

9.2 Remediation Statements

Before the Council can serve a Remediation Notice it will first determine whether it has the power to carry out any of the remediation actions itself. There are five specified circumstances where this may be the case:

- where urgent action is required (see below)
- where no appropriate person can be found
- where one or more appropriate persons are excluded (e.g. on hardship grounds)
- where the local authority has made an agreement with the appropriate person(s) that it should carry out the remediation; and
- in default of a remediation notice.

In these circumstances the Council (where it is the enforcing authority) shall prepare a Remediation Statement specifying the works that will be undertaken and when they will take place.

Urgent action is required where the Council is satisfied that there is imminent danger of serious harm, or serious pollution of controlled waters, being caused as a result of contaminated land. In such circumstances the procedures identified in the statutory guidance will be followed which may involve forced entry into the premises. Section 108 of the Environment Act 1995 gives the Council power to authorise, in writing, “suitable persons” to investigate potentially contaminated land. These powers are extensive and will be considered in detail with the Council’s Solicitor prior to any resisted entry being attempted.

The terms “imminent” and “serious” are not defined, so local authorities are advised to use the normal meaning of the words.

In appropriate cases the Council will seek to recover costs of remediation works it has completed.

9.3 Remediation Declarations

In circumstances where the only things by way of remediation which may be done are things that the Council considers are unreasonable having regard to the cost which is likely to be involved and the seriousness of harm, or of the pollution of controlled waters, it shall prepare a Remediation Declaration. This shall record the reason why the Council would have specified that remediation and the grounds on which it is satisfied that it is precluded from specifying that remediation.

10 RECONSIDERATION OF DETERMINATIONS

The Contaminated Land Statutory Guidance 2012 has introduced the option for the Council to reconsider, revoke or vary any of its determinations that land is contaminated

land if it becomes aware of further information which it considers significantly alters the basis for its original decision. If the Council does so it should record its reasons alongside the initial record of determination in a way that ensures that the changed status of the land is made clear.

11 CONTAMINATED LAND REGISTERS AND ACCESS TO INFORMATION

11.1 Contaminated Land Registers

Part 2A requires the Council to keep a public register. The public register is intended to act as a full and permanent record, open for public inspection, of all regulatory action taken by the enforcing authority in respect of the remediation of contaminated land. Schedule 3 of the Contaminated Land (England) Regulations 2006 provides details of the information required to be entered on the register. The Council's contaminated land register will be maintained by the Environmental and Community Protection Team. Members of the public will be able to view the register free of charge during normal office hours. Written, telephone and electronic requests for copies of documents should be made to the Council's Environmental and Community Protection Team. An administration charge will be levied.

11.2 The Environmental Information Regulations 2004

Implementation of the strategy will, however, also result in significant volumes of data that will be held on computer databases and geographical information systems, as well as in paper form. There is no statutory obligation to disclose this information therefore the Council must comply with the requirements of the Environmental Information Regulations when dealing with requests for disclosure.

These Regulations require local authorities to make any environmental information they hold available upon request, subject to certain exemptions. These are complex but it would be likely that the Council will have to respond to requests for information on land it has identified as part of, for example, the inspection of the Borough, as outlined in Part 2 of this strategy.

It should be noted that the Council's prioritisation list for further investigation is being classified as "a record which is in the course of completion". This is because it is always liable to update and as such this will not be disclosed under the Regulations. It should, however, be understood that information held about specific sites within the prioritisation list will be made available via an Environmental Information Regulation request. A charge will usually be made for the supply of information in accordance with the Regulations. Where the Council must refuse a request for any of the reasons stated in the Regulations, it will provide details of the reasons in writing at no cost to the applicant.

It should also be noted that the Council will always act in accordance with the Data Protection Act 2018.

12 REVIEW ARRANGEMENTS

12.1 Inspecting the Borough

Whilst the Council has a duty to inspect the Borough "from time to time" to identify contaminated land, the frequency of inspection is not prescribed. In practice inspection it will be a continuum, balancing a systematic approach with the availability of resources. Of particular significance in meeting this duty will be the involvement of the Environmental and Community Protection Team as a:

- consultee of the Planning Department
- regulatory authority pursuant to the Environmental Permitting (England and Wales) Regulations 2016.
- point of contact for members of the public with environmental concerns

12.2 Reviewing the Strategy

The Council has a duty to keep its written strategy under periodic review to ensure that remains up to date. It is up to the Council to decide when its strategy should be reviewed. Although, a review at least every 5 years is considered good practice, or earlier if needed to reflect changes in Statutory Guidance.

Any proposed changes to the written strategy will be reported to the Members before they are finalised and any updated strategy published.

13 PROGRESS TO DATE AND FUTURE ACTIONS

The Government has identified that to implement this highly complex and demanding piece of legislation will involve local authorities in considerable expenditure. Yet there is currently no Defra Contaminated Land Capital Projects Programme available to assist local authorities in fulfilling their responsibilities under Part 2A, such as funding the costs of site investigations, detailed risk assessments and in certain cases remediation. There is also no internal Council budget to undertake detailed site investigations, risk assessments or where it becomes necessary remediation.

For these reasons progress with the implementation of the Part 2A of the EPA 1990 has not progressed beyond the publication of this written strategy and the generation of a prioritisation list of potentially contaminated sites within the Borough.

Despite the above it is important to recognise that over the past 10-15 years progress has been made in the voluntary remediation of land adversely impacted by contamination as a direct consequence of the:

- Planning Regime – National Planning Policy Framework 2021 (and early versions), which identifies a clear relationship between the remediation of contaminated land for redevelopment and the Contaminated Land Regime.

- The Contaminated Land Regime - Part 2A of the EPA 1990 and associated Regulations and Guidance, which have provided clarity for local authorities and owners of land that

is potentially contaminated regarding liability, risk assessment and remediation expectations.

PROPOSED TIMETABLE FOR THE IMPLEMENTATION OF PART 2A

Duty	Year
Production and publication of statutory contaminated land strategy	2001, 2007 & **2024**
Periodic Review of the statutory contaminated land strategy	**2029** (unless earlier change to Statutory Guidance)
Identification of potentially contaminated sites and prioritisation for further investigation	**2001 – 2007 completed** (but kept under review and updated as and when new information becomes available)
Detailed inspection and assessment of potentially contaminated sites	**On hold pending funding *** (Unless site specific evidence is presented that warrants an internally funded inspection by the Council)

** it also needs to be recognised that numerous sites on the prioritisation list will be voluntarily investigated and remediated via the planning regime*

APPENDIX 1 - SPECIAL SITES

Once the Council has formally identified land as “contaminated land”, it must also consider whether it falls into the category of a “special site”. For any “special site”, the Environment Agency is the enforcing authority for the purposes of the Part 2A regime. What constitutes a “special site” is specified in the Contaminated Land (England) Regulations (CLeR) 2006. For a legal definition the Regulations must always be consulted, but in simple terms they include:

- **Land causing pollution of Controlled Waters** (Schedule 1 Regulation 3(c) of the CL(e)R 2006)
- **Land contaminated with waste acid tar**
- **Land used for oil refining**
- **Land used for the manufacture or processing of explosives**
- **Land subject to Integrated Pollution Control (see Environmental Protection Act 1990 Part I - Prescribed Processes and Substances Regulations 1991 schedule 1 part A)**
- **Land owned or occupied by a defence organisation for naval, military or air force purposes.**
- **Atomic Weapons Establishment land.**
- **Land used for the production or disposal of chemical and biological weapons.**
- **Certain land at Greenwich Hospital.**
- **Land contaminated by radioactivity.**

Where adjacent or adjoining land to a special site has been affected by the contamination so that it meets the definition of “contaminated land”, this land also forms part of the special site. The legal definition of contaminated land is slightly different if harm is due to radioactivity, as defined in Regulation 5 of The Radioactive Contaminated Land (England) Regulations 2006:

‘any land which appears to the local authority in whose land is situated to be in such a condition, by reason of substances in, on or under the land, that

a) Harm is being caused; or
b) There is a significant possibility of harm being caused’

With regard to radioactivity, ‘harm’ means lasting exposure to any human being resulting from the aftereffects of a radiological emergency, past practice or past work activity.

APPENDIX 2 - LIST OF CONSULTEES

Dacorum Borough Council (Internal)

- Finance and Operations
- Housing
- Planning, Development and Regeneration
- Legal and Corporate Services

External Consultees

- Hertfordshire County Council – Planning and Public Health Departments
- Hertfordshire Building Control
- Environmental Protection Teams within Neighbouring Local Authorities
- Department for Environment, Food and Rural Affairs (Defra)
- Environment Agency
- Natural England
- UK Health Security Agency

APPENDIX 3 - LIST OF POTENTIALLY CONTAMINATIVE LAND USES

This list has been drawn up to provide a broad indication of the type of sites that are known to use, or to have used in the past, materials that could pollute the soil. **It must be understood that the list is not exhaustive and that inclusion on this list does not necessarily infer the existence of a pollutant linkage.**

Abattoirs
Adhesives manufacture
Agriculture
Aircraft manufacture
Airports
Animal burial
Animal by-product processing
Anodisers
Anti-corrosion treatment
Asbestos products
Asphalt works
Automotive engineering
Battery manufacture
Bearings manufacture
Blacksmiths
Boiler makers
Bookbinding
Brass and copper tube manufacture
Brass founders
Brewing
Car manufacture
Carbon products manufacture
Cement works
Chemical manufacture and storage
Chrome plating
Ceramics manufacture
Coal carbonisation
Coal merchant
Concrete batching
Coppersmiths
Descaling contractors (chemical)
Detergent manufacture
Distilleries
Dockyards
Drum cleaning
Dry cleaners
Dye works
Dyers and finishers
Electricity generation
Electrical engineers
Electro platers
Engineering works
Explosives manufacture (including fireworks)
Farms
Fertiliser manufacture
Fellmongers
Fibre glass works
Food processing
Foundries
Fuel manufacture
Fuel storage
Garages and depots
Gas mantle manufacture
Gas works
Glass works
Glue manufacture
Gum and resin manufacture
Hatters
Hide and skin processors
Ink manufacture
Iron founder
Iron works
Knackers yards
Lacquer manufacture
Laundries
Leather manufacture
Metal coating
Metal manufacture
Metal sprayers and finishers
Mining
Mirror manufacture
Motor vehicle manufacture
Oil fuel distributors and suppliers
Oil merchants
Oil refineries
Oil storage
Paint and varnish manufacture
Paper works
Pesticides manufacture
Petrol stations
Photographic film works
Photographic processing
Paper manufacture
Plastics works
Plating works
Power stations

Print works
Printed circuit board manufacture
Radioactive materials processing
Railway land
Railway locomotive manufacture
Refiners of nickel and antimony
Resin manufacture
Rubber manufacture
Scrap metal dealers
Sealing compound manufacture
Sewage works
Sewage sludge disposal areas
Sheet metal merchants and works
Ship breakers
Ship builders
Skein silk dyers
Small arms manufacture
Smokeless fuel manufacture
Soap manufacture
Solvent manufacture
Solvent recovery
Steel manufacture
Stove enamellers
Synthetic fibre manufacture
Tank cleaning
Tanneries
Tar and pitch distillers
Textile manufacture
Thermometer makers
Timber treatment
Timber preservatives manufacture
Tin plate works
Transport depots
Tyre manufacture and re-treading
Vehicle manufacture
Vulcanite manufacture
Vulcanisers
Waste disposal
Waste recycling
Waste treatment
Zinc works

APPENDIX 4 – RISK PRIORITISATION METHODOLOGY FOR SITES OF POTENTIALLY CONTAMINATED LAND

PG01 Risk Prioritisation Methodology for sites of potentially contaminated land

Purpose: **A preliminary procedure for identifying broad areas and sites of geographical coincidence or close proximity between sources, pathways and receptors of contamination, and prioritising these identified sites for more detailed assessment using a risk scoring system.**

Description: The local authority must identify the existence of all three elements of a pollutant linkage to determine whether any land appears to be contaminated land, as defined in Section 78A(2) of EPA 1990. To fulfil this requirement, detailed risk assessment will be necessary, but to first identify the most serious and pressing problems, a preliminary screening tool is required to identify and prioritise sites where a coincidence exists between a source of contamination, a pathway and a receptor.

Procedure PG01 has been developed as a preliminary (Phase 1) procedure for prioritising sites where potential pollutant linkages exist, for further phases of investigation work identified in Dacorum Borough Council's Contaminated Land Strategy. The ranked order will place sites according to their potential, but not actual, risk, since the assignment of scores is theoretical only. Site rankings are not absolute, although pilot tests have attempted to ensure that the worst types of sites are prioritised upwards and vice versa. Following a phased approach aims to meet the requirement for a rational, ordered and efficient approach to inspection, as stated in Section 2.3 of Defra's Contaminated Land Statutory Guidance April 2012.

Steps 1 to 5 of PG01 are followed to prioritise potential sites based on existing information. Step 6 suggests reference methods to identify new sites, and by repeating Steps 2 to 5, each new site is processed to assign and rank its risk score. The output will be a continually updated list of sites in ranked order of priority for further, more detailed, assessment (Phase 2) in line with the aims of Dacorum Borough Council's Contaminated Land Strategy.

Step	Inputs	Action	Output
1	Files, maps, plans, datasets, and/or GIS	Organise information sources and decide on the order of assessing files (alphabetical, wards, etc)	Rational plan of work which will determine method of data storage
2	Files, maps, plans, datasets, and/or GIS	Process site files through each of the Risk Scoring Tables, evaluate information and assign scores.	Sequence of numerical scores for each site on a scoresheet
3	Sequence of scores for each site	Create suitable database, spreadsheet or table, & record scores.	Auditable record of scores (decisions)
4	Sequence of scores for each site	Calculate total score for each site using IT or manually; record totals.	Total score for each site
5	Total scores for all sites	Use IT facilities or manual method to rank the total scores	List of sites in ranked order of priority for further assessment
6	Historical maps, archives, Industry Profiles, CLR3	Identify potential sites from archives, then repeat Steps 2 to 5.	Continually updated list of sites in ranked order of priority

PG01 Risk Prioritisation Methodology for sites of potentially contaminated land

Scope of methodology

On undertaking the preliminary prioritisation, the aim is to start with the files retained by the team or unit that has responsibility for contaminated land, recognising that other files may exist elsewhere within the authority. Such new site information will need to be gathered in a systematic way and processed and scored in conjunction with Step 6, which entails the identification of new sites by the process of scrutiny of historical maps, archives and records. Step 6 would need to be undertaken as a second phase, within the timeframe indicated by Dacorum Borough Council's Contaminated Land Strategy (September 2001) and using published references such as CLR 3: *Documentary research on industrial sites* (RPS Ltd., 1994, for DoE).

Method

1. Start with internal files and records relating to contaminated land. Decide on how to tackle going through each file and record, using the simplest system. Options include alphabetical street name or site name paper files, or ward by ward files, and so on, depending on office filing structure.

2. Decide how to record the risk scores on a spreadsheet, or database.

3. Have available the reference maps, plans and datasets, as listed before each table.

4. Consider sources of contamination first by attaching scores to the inherent hazards on a site. Instances of absent or incomplete data are accommodated by a mid-range default value within each table, which is intended to ensure that such sites will not defer to the bottom, nor to the top of the ranking list, although the use of defaults is minimised by use of reference data. Work through **Table 1.01**, the highest scores are applied to those factors about a site that would give rise to the highest hazards. Then consider, in **Table 2.01**, evidence of any circumstances that may mitigate risks.

5. The remaining risk scoring tables (3.01, 3.02, 4.01, 5.01, 6.01, 6.02, 6.03, 7.01 and 8.01) have been devised for receptors and pathways. These tables have been designed for simplicity and ease of use, aiming to briefly characterise the conditions at the site and on adjacent land. Site visits could confirm or support most desk assessments, but would slow down the processing of sites, and are more appropriate to a later phase of investigation when considering specific sites in more detail.

6. Once all scores for the site are obtained, they are summed up following the protocol below and using the scoresheet. Weightings have been applied so as to ensure that harm to human health is always a higher priority than risks to other types of receptor, and uses cascaded scores with increased distance of receptors from site. During later phases identified receptors influenced by more than one source site will need to be noted spatially (map or GIS) and prioritised further.

7. The summing protocol is as follows: *(Example: S2.01 = score from Table 2.01)*

GRAND TOTAL = (S1.01 x S2.01) x (S3.01 + S3.02 + S4.01 + S5.01 + S6.01 + S6.02 + S6.03 + S7.01 + S8.01)

8. Step 5 requires that the risk scores for each site be ranked into order, highest first. A suitable calculating system will be required, via spreadsheet or database.

Risk Scoring Tables

SOURCES

1: LAND USE ASSESSMENT

The assessor will need to take into account the worst case land use evident on the land under assessment, as determined from present day and historical maps, aerial photographs and other substantiated information sources. Other files and databases may exist elsewhere within the authority, but in order to quickly produce a prioritised list of sites, and not get delayed in waiting for responses, such additional information will need to be considered as and when it becomes available.

Note that present day boundaries may not conform to past contaminative land use boundaries, and so the assessor will need to decide which boundary they will use in classifying land. Using present day boundaries fits well with comparisons against Local Plans and current premises databases used for other inspection and service request work undertaken by Council departments.

However, historical industrial premises or landfills may now be built over and occupied by several different premises with different landowners and possibly with different sensitivities of receptor. Further, contaminative uses may have overlapped on a site over time, and similarly, development of large plots of land may have been undertaken in a piecemeal manner.

The variety of possible scenarios will complicate the picture of resultant ground conditions on site for which there will be no straightforward single approach, so the assessor will need to err on the side of caution, and to be as clear as possible in recording their decisions. NB: Only the highest risk land use score shall be used, such that if there have been multiple potentially contaminative land-uses only the site will be scored on the highest one only, not cumulatively.

Risk-based classification of predominant land use (See Table 1.01)

Examples of where to find the information:

- Present day maps, historical maps and other documentary sources, following CLR No. 3 (RPS Consultants, 1994).
- Aerial photographs: present day and historical.
- Supporting information in the DoE Industry Profiles (DoE, 1996).

Also be aware of:

- Discontinued and subsidiary uses.
- Pollution Control officers' notes, records of anecdotal evidence or information from the public, newspaper articles and so on.
- Major pollution incidents, fly tipping and other illegal activities such as cable burning.

Table 1.01 – PREDOMINANT LAND USE CLASSIFICATION	**Land-mark usage codes**	**Perceived risk category**	**RISK SCORE**
1 Asbestos manufacture, abrasives and related products.	ML	**HIGH**	**50**
2 Chemical works (organic & inorganic) Manufacture of cosmetics, bleaches, manure, fertilisers & pesticides, detergents, oil, organic based pharmaceuticals, other chemical products incl. glues, gelatins, recording tapes, photographic film. Dyes, pigments. Paint, varnishes, printing inks, mastics, sealants and creosote.	CH DY PA		
3 Radioactive materials processing and disposal.	N/A		
4 Gas works, coke works, coal carbonisation and similar sites. Production of gas from coal, lignite, oil or other carbonaceous material other than waste.	GA		
5 Refuse and waste disposal sites, including hazardous wastes, incinerators, sanitary depots, drum and tank cleaning, solvent recovery.	RF		
6 Oil refining and bulk storage of oil and petrol. Gasometers which are not gas works.	LL		
• **LANDFILL SITE – KNOWN TO BE ACTIVELY PRODUCING GAS**	LA		
7 Abbatoirs and animal slaughtering; Animal products processing into animal by-products e.g. soap, candles & bone works. Tannery, leather goods and skinnery.	AB AN TY	**HIGH**	**40**
8 Engineering (heavy and general). Manufacturing of distribution, telecoms, medical, navigation, metering and lighting. Manufacture & repair incl. Ships, aerospace, rail engines and rolling stock. Heavy products manufacture - rolling and drawing of iron, steel & ferroalloys – includes tube works. Manufacturing of electrical and electronic domestic appliances. Manufacture of cars, lorries, buses, motorcycles, bicycles. Manufacturing of engines, buildings & general industrial machinery, including nuts & bolts, gas fittings, wire rope/cable and ordnance accessories.	HE HT HM HS LT MA		
9 Metal smelting and refining. Includes furnaces and forges, electroplating, galvanising and anodising. Ferro and aluminium alloys-manganese works, slag works.	FY PL		
10 Civilian manufacture & storage of weapons, ammunition, explosives & rockets including ordnance. All military establishments including firing ranges (if not specified as civilian.	MG MD		
11 Recycling of metal waste incl. Scrapyards and car breakers.	SP		
12 Natural and synthetic rubber products including tyres and rubber products. Tar bitumen, linoleum, vinyl and asphalt works.	RB		
13 Paper, card etc. products (packaging). Pulp, paper and cardboard manufacture.	PD PR		
• **UNDERGROUND STORAGE TANKS ON SITE**	UST		
• **LANDFILL SITE – STRONGLY SUSPECTED TO BE PRODUCING GAS, based on available information on age and content of fill.** • Manufacture of clay bricks & tiles, including associated activities e.g. brickfields, also solitary kilns (other than lime kilns). • Extraction of alluvial sediments (sand, stone, clay, peat, marl and gravel) • Quarrying of all stone (including limestone, gypsum, chalk and slate) and ores, includes all opencast mining and slant workings – also slate/slab works, flint works, flint works, stone yards.	LB BK PT QU		

Table 1.01 – PREDOMINANT LAND USE CLASSIFICATION	**Land-mark usage codes**	**Perceived risk category**	**RISK SCORE**
14 Airports and similar (Air & space transport).	AP	**MEDIUM**	**30**
15 Concrete, ceramics, cement and plaster works. Concrete, cement, lime & plaster products, also including solitary lime kilns. Tableware & other ceramics.	 CE CR		
16 Dry-cleaning & laundries (larger scale, not usually "High Street")	LY		
17 Flat glass products manufacture	GL		
18 Photographic processing			
19 Coal storage/depot. Coal mining (and the manufacturing of coke and charcoal) – areas include associated surface activities in area, & coal mine shafts. Areas of mining and single or groups of shafts other than coal, or not specified – including levels, adits, etc also areas associated with mineral railways.	CC CY MN		
20 Electricity generation and distribution, including large transfer stations. Power stations (excluding nuclear power stations). Batteries, accumulators, primary cells, electrical motors, generators & transformers.	PW BT		
21 Printing of newspaper. Printing works other than news print and bookbinding (usually excludes "High Street" printers)	NW PN		
22 Railway land, including yards and tracks. (Railway tracks – up to 4 tracks wide or 30m)	RW RL		
23 Sale of automotive fuel. Road vehicle fuelling, transport depots, road haulage and commercial vehicle fuelling, local authority yards and depots. Repair and sale of cars & bikes, parts and motorway services. Transport depots – road haulage, corporation yards.	FU GG DP		
24 Sewage treatment works. Sewerage, septic tanks, effluent – including all filter beds.	SW		
25 Textiles manufacturing -Natural and man made textile manufacture and products including hemp rope and linoleum.	TX		
26 Timber treatment works and manufacturing. Sawmills, planning & impregnation (i.e. treatment of timber), wood products, telegraph works, timber yard e.g. veneer.	WD		
27 Computers, office machinery, business/industrial electrical goods. Insulated wire & cable for electrical/tel purposes.	LE WR		
• **LANDFILL SITE – GAS PRODUCTION IS POSSIBLE, based on historical map evidence of infilled quarry, water body or other void.**	LC		
• **DEFAULT** setting where information is absent about a site or landfill.			
28 Plastic products manufacture, moulding and extrusion; building materials; fibre glass, fibre glass resins and products. Manufacturing of Tar, Bitumen & Asphalt.	PS	**MEDIUM / LOW**	**20**
29 Dockyards and wharves. Boat building, wharf and quays, cargo/transport handling facilities – marine or inland.	DK		
30 Brewing and malting. Spirit distilling & compounding. Major food processing, including large dairies. Exceptionally large scale corn/flour milling.	BW DL FD		
31 Constructional steelwork, metal structures & products & building materials.	MP		
32 Cemetery, modern burial ground and grave yard.	GV		
33 All hospitals including sanatoriums but not lunatic asylums.	HL		
• **LANDFILL SITE – GAS PRODUCTION UNLIKELY, based on available information on age and content of fill**	LD		
None of the above uses noted – enter a suitable score based on other research or knowledge about the land uses on site. **DEFAULT = 30, MEDIUM RISK or = 1, LOW RISK**		**Enter** **Default/ LOW**	**Enter** **30 1**

References: Syms, 1998; DoE Industry Profiles 1996; historical land use classification used by Landmark Limited in their land use database (comprising digitised land uses from 1:10,360 and 1:10,000 scale maps).

Score: 1.01 =

2: RISK EVIDENCE

Risk evidence (See Table 2.01)

Where to find the information:

- Site investigation reports, land condition records, completion reports, Waste Management Licence surrender documents, planning files (development control) and other supporting information on file, where it is readily available.

Table 2.01 – Risk evidence	**Risk score**
CONTROLLED RISKS – Satisfactory remediation undertaken on site	0.1
Site file exists, but contains satisfactory evidence that site is not a source	0.2
Remediation undertaken on site – 1990 or later	0.4
Remediation undertaken on site – pre-1990	0.6
NO EVIDENCE OF CONTROL OF RISKS – No information available either way (Default setting)	1.0

Score: 2.01 =

PATHWAYS

3: GEOLOGY

Solid geology (See Table 3.01)

Where to find the information:
- Geological Survey 1:50,000 scale map (or better). Ordnance Survey.
- Digitised geological information.

Table 3.01 – Solid Geology	**Risk score**
LOW RISK – e.g. Low permeability solid rock	1
MEDIUM / LOW RISK	2
MEDIUM RISK	3
MEDIUM / HIGH RISK	4
HIGH RISK – e.g. Permeable, fractured or fissured rock.	5
No data – default = 5	5

Drift geology and made ground (See Table 3.02)

Where to find the information:
- Geological Survey 1:63,360 scale (or better). Ordnance Survey.
- Digitised geological maps.

Table 3.02 – Drift Geology	**Risk score**
LOW RISK – e.g. Predominantly deep clay across site (low permeability)	1
MEDIUM / LOW RISK	2
MEDIUM RISK	3
MEDIUM / HIGH RISK	4
HIGH RISK – e.g. no drift present, or Made ground, or Natural sand, peat, gravels (high permeability)	5
No data – default = 5	5

Sum Score: 3.01 + 3.02 =

4: MINES, DRAINS AND SERVICES

Mining, drainage and services on or near to site (See Table 4.01)

Where to find the information:
- Site investigation reports, planning files (development control), and other supporting information.
- Present day and historical maps.
- Aerial photographs: present day and historical.

Table 4.01 – Mining, drainage and services	**Risk score**
No drainage, services (including culverted or diverted rivers), wells or suspected mining/quarrying activities across site.	1
The presence of drainage, services (including culverted or diverted rivers), wells or suspected mining/quarrying activities across site is **unlikely** given the historical use of the site.	2
No data available	3
The presence of drainage, services (including culverted or diverted rivers), wells or suspected mining/quarrying activities across site is **likely** given the historical use of the site.	4
The presence of drainage, services (including culverted or diverted rivers), wells or mining/quarrying activities across site is **known**.	5

Score: 4.01 =

5: ACCESSIBILITY TO SITE SURFACE

Accessibility to site surface (See Table 5.01)

There are two main considerations here. Firstly, the likelihood of access to, and direct human contact with, any contaminants on the site surface or within the upper soil strata that may be handled during sport, recreation, gardening and so on. Secondly, and of a lower order of priority than health risks, a soft surface may be more susceptible to rainwater infiltration and leachate formation (water pollution risk).

Where to find the information:

- Aerial photographs

Table 5.01 – Accessibility to site surface	**Risk score**
Concrete hardstands, car parking or derelict buildings on site.	1
Concrete hardstands, car parking and buildings that are occupied. Or: Gravel, bare soil or other soft surface areas, where public access is restricted by secure perimeter fencing (ideally signposted).	2
Gravel, bare soil or other soft surface areas: The land may be in partial or full use, but site occupiers are probably *seldom present* in those areas. Public access is generally restricted by some form of fencing, possibly signposted.	3
Gravel, bare soil or other soft surface areas: Access onto private land is inadequately restricted (incomplete or broken fencing). Public open space, unrestricted access.	6
Gravel, bare soil or other soft surface areas: Part or all of the land is fully in use and site occupiers are probably *often or normally present* in those areas.	10

Score: 5.01 =

RECEPTORS

6: LAND OCCUPATION TYPES

PEOPLE

Present day occupation of site and adjacent land (See Table 6.01)

Where to find the information:

- Present day maps.
- Aerial photographs.
- Environmental Health, Planning, Leisure and Housing Department records.

Table 6.01 – People: Present day occupation of site and adjacent land	Risk score
50-250m Outdoor industrial or commercial yards	5
0-50m Outdoor industrial or commercial yards ***50-250m*** Industrial or factory buildings, well-vented or open sided	10
On site Outdoor industrial or commercial yards ***0-50m*** Industrial or factory buildings, well-vented or open sided	20
On site Industrial or factory buildings, well-vented or open sided	40
50-250m Office, leisure, commercial/retail buildings (LFG risks) Public open space for recreational use (c/l risks) Agricultural land and buildings (c/l and LFG risks)	50
50-250m Schools, nurseries, hospitals, institutional buildings (LFG risks)	55
50-250m Managed housing with gardens (c/l and LFG risks) Managed housing no gardens (LFG risks) Private domestic dwellings with gardens (c/l and LFG risks) Private domestic dwellings no gardens (LFG risks) Allotments (c/l risks)	60
0-50m Office, leisure, commercial/retail buildings (LFG risks) Public open space for recreational use (c/l risks) Agricultural land and buildings (c/l and LFG risks)	70
On site Office, leisure, commercial/retail buildings (LFG risks) Public open space for recreational use (c/l risks) Agricultural land and buildings (c/l and LFG risks)	(Critical point) 80
0-50m Schools, nurseries, hospitals, institutional buildings (LFG risks)	80
0-50m Managed housing with gardens (c/l and LFG risks) Managed housing no gardens (LFG risks) Private domestic dwellings with gardens (c/l and LFG risks) Private domestic dwellings no gardens (LFG risks) Allotments (c/l risks)	90

Table 6.01 – People: Present day occupation of site and adjacent land	**Risk score**
On site Schools, nurseries, hospitals, institutional buildings (LFG risks)	170
On site Managed housing with gardens (c/l and LFG risks) Managed housing no gardens (LFG risks) Private domestic dwellings with gardens (c/l and LFG risks) Private domestic dwellings no gardens (LFG risks) Allotments (c/l risks)	190
None of the above uses noted – enter a suitable score based on other information about the occupation of the site. **For LOW RISK (e.g. derelict sites), enter 10.**	Enter

NATURAL ENVIRONMENT

Protected Natural Ecosystems (See Table 6.02)

Where to find the information:

- Present day maps.
- Aerial photographs.
- Planning Department, Natural England.

Table 6.02 – Protected Natural Ecosystems	**Risk score**
No designations	1
50-250m Sites of Biological Importance (SBI) designated by the Local Authority	2
50-250m Statutorily Designated Sites (e.g. SSSI)	3
0-50m Sites of Biological Importance (SBI) designated by the Local Authority	10
On-site Sites of Biological Importance (SBI) designated by the Local Authority	15
0-50m Statutorily Designated Sites (e.g. SSSI)	20
On-site Statutorily Designated Sites (e.g. SSSI)	25
Uncertainty – seek specialised advice (Natural England)	Enter

PROPERTY & HERITAGE SITES

Present day occupation on site (See Table 6.03)

Where to find the information:

- Present day maps, also UDP.
- Aerial photographs.
- Planning Department, English Heritage, Defra, Food Standards Agency (FSA).

Table 6.03 – Property and the Built Environment	Risk score
No designation	1
Sites within conservation areas Other sites and monuments recorded by the local authority Wild animals that are the subject of shooting or fishing rights	4
Ancient monuments, archaeological sites, listed buildings (all categories) Owned or domesticated animals	6
Produce grown domestically, or on allotments, for consumption Crops, including timber	8
Uncertainty – seek specialised advice (English Heritage, Defra, FSA)	Enter

Sum Score: 6.01 + 6.02 + 6.03 =

7: SURFACE WATER

Surface water courses and abstractions on site and adjacent land (See Table 7.01)

The following table has been devised to quickly obtain scores for surface water courses (rivers) using readily available datasets, which in practice, tends to be the General Quality Assessment classes A (Good) to F (Bad).

Where to find the information:

- Present day maps and aerial photographs.
- Digitised Ordnance Survey surface water dataset.
- Environment Agency water abstractions list - digitised dataset.
- River quality classes (GQA classes: A - Good to F - Bad) via Environment Agency (EA) website.
- River Ecosystem (RE) River Quality Objectives (RQO) - short term and long term - via Ea.

Table 7.01 – Surface water courses on site and adjacent land	Risk score
No surface waters. No surface water abstractions for any purpose within 1,000 metres of the site.	1
50-250m River with Classification D, E or F. (Long term RQO = RE 3 or RE 4) Pond, lake, reservoir	5
50-250m River with Classification A, B or C. (Long term RQO = RE 2 or better) Any surface water abstraction between 500 & 1000m downstream from the site	6
0-50m River with Classification D, E or F. (Long term RQO = RE 3 or RE 4) Pond, lake, reservoir	13
0-50m River with Classification A, B or C. (Long term RQO = RE 2 or better) Any surface water abstraction for drinking water less than 500 m downstream from the site.	16
On-site River with Classification D, E or F. (Long term RQO = RE 3 or RE 4) Pond, lake, reservoir	22
On-site River with Classification A, B or C. (Long term RQO = RE 2 or better) Any surface water abstraction from the site or immediately adjacent to the site.	25
Uncertainty – seek specialised advice from Environment Agency	Enter

Score: 7.01 =

8: GROUNDWATER

Ground water vulnerability and Source Protection Zones (See Table 8.01)

Where to find the information:

- Groundwater Vulnerability Map 1:100,000 scale.
- Groundwater Source Protection Zones (SPZ) via Environment Agency website

Table 8.01 – Ground water vulnerability and source protection zones	**Risk score**
Non-aquifer (Unproductive Strata)	1
Secondary B aquifer – low risk	5
Secondary A aquifer – medium risk Zone III (Source Catchment)	8
Zone II (Outer Source Protection) Principal aquifer – high risk	15
Zone I (Inner Source Protection) Principal aquifer – high risk	25
Uncertainty – seek specialised advice from Environment Agency	Enter

Score: 8.01 =

SCORE SHEET

Scores for the site are assigned by working through the risk scoring tables. They can be recorded on the scoresheet below, and scores are summed following the given protocol. The resultant total scores can then be sorted into ranking order, highest first, to produce a prioritised list of sites.

	RISK SCORING TABLES		SCORE
SOURCES	**1**	**Land Use Assessment and Classification**	
	1.01	Risk-based classification of predominant land use	@S1.01
	2	**Risk Evidence**	
	2.01	Risk evidence	@S2.01
PATHWAYS	**3**	**Geology**	
	3.01	Solid geology	@S3.01
	3.02	Drift geology	@S3.02
	4	**Mines, Drains and Services**	
	4.01	Mining, drainage and services on or near site	@S4.01
	5	**Accessibility to Site Surface**	
	5.01	Direct human contact and access	@S5.01
RECEPTORS	**6**	**Land Occupation Types**	
	6.01	People: present day occupation of site and adjacent land	@S6.01
	6.02	Natural environment: protected natural ecosystems	@S6.02
	6.03	Property and Heritage sites: property and the built environment	@S6.03
	7	**Surface Water**	
	7.01	Surface water courses and abstractions on site and adjacent land	@S7.01
	8	**Groundwater**	
	8.01	Groundwater vulnerability and Source Protection Zones	@S8.01
	GRAND TOTAL =	(S1.01 x S2.01) x (S3.01 + S3.02 + S4.01 + S5.01 + S6.01 + S6.02 + S6.03 + S7.01 + S8.01)	**GRAND TOTAL**