

*At the Heart of the National Forest*



**North West Leicestershire District Council  
Contaminated Land Strategy Framework Document**

**Environmental Protection Act 1990**

**Section 78B**

## **EXECUTIVE SUMMARY**

Under Part IIA of the Environmental Protection Act 1990, North West Leicestershire District Council has been given duties and responsibilities regarding to contaminated land in its area. The provisions of the legislation came into force on the 1st April 2000.

The Council's duties under the legislation are:

- To inspect the district for land that may be contaminated
- To inspect individual sites which may be contaminated and to ensure the appropriate action is taken to remediate the land.

One of the responsibilities of North West Leicestershire District Council is to publish a strategy document, detailing how the Council will fulfil its duties under the above legislation.

### **Aims and Objectives of the Strategy**

The main purpose of the strategy is to explain how North West Leicestershire District Council will inspect the district for potentially contaminated land. It is anticipated that during this process a large amount of information will be collected. Some of this information will be confidential but a large proportion will be available for public viewing. This strategy also explains how the information will be managed and how it can be accessed.

The aims of the strategy are:

- To provide a strategic approach to the inspection and identification of land which may be contaminated;
- To establish written inspection procedures for the protection of human health, water resources, and sites of sufficient ecological and cultural significance;
- To provide a mechanism for the handling and dissemination of information on contaminated land;
- To establish communication links with organisations and individuals with an interest in contaminated land;

- To ensure that the requirements of Part IIA are well integrated and consistent with the planning process;

The inspection process should not interfere or discourage the redevelopment of brownfield sites and/or land that is contaminated.

### **What is contaminated land?**

The definition of contaminated land comes from the Environmental Protection Act 1990 Part IIA Section 78A (2)

*“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) pollution of controlled waters is being, or is likely to be, caused.”*

In general terms, contaminated land usually means land where industrial or other human activities have resulted in the presence of substances in the ground with potential to cause harm to human health, structures, or the environment. Statutory guidance has been developed on how to identify contaminated land.

For land to meet the statutory definition a significant pollutant linkage must be identified. In determining whether there is a significant pollution linkage, North West Leicestershire District Council will identify:

**A Source:** the physical presence of a contamination in or on the ground in a sufficient quantity to be a potential hazard.

**A Pathway:** a mechanism by which the Source can come into contact with someone or something that could cause harm.

**A Receptor:** something of someone that may be harmed by the contamination.

Where all three pollutant linkages are present, North West Leicestershire District Council will carry out an assessment of the risk to human health, structures or the environment.

If any of the identified land falls within the above statutory definition, the land will be classed as contaminated land and dealt with accordingly.

### **Prioritisation of the sites**

The inspection and identification of all the sites in the district will be a major undertaking. It has been necessary to establish a priority system to ensure that the sites with the greatest potential to cause harm are identified first. The following priorities have been established as a result of the assessment of the characteristics of North West Leicestershire district:

- Sites which may present a significant risk to human health;
- Sites which may present a significant risk to drinking water supplies;
- Sites that may present a significant risk to other surface water and groundwater supplies;
- Sites that may present a significant risk to Sites of Special Scientific Interest.;
- Sites that may present a significant risk to agricultural land;
- Sites that may present a significant risk to historical buildings or sites of archaeological interest.
- Sites that may present a significant harm attributable to Radioactive Substances.

### **Inspection of the District**

The initial inspection of the district will take approximately 6 years to complete. The initial inspection process involves looking at the historical land use as well as the present day usage. Information collected from the preliminary survey of the district will be used to prioritise the sites for further more detailed inspections. The more detailed works on the individual sites will then be carried out based on the results of this prioritisation process.

As part of the more detailed individual site inspections, the Environment Agency will be consulted, as will any other statutory body that may have an interest in the site. The other statutory bodies could include Natural England, English Heritage or the Health and Safety Executive, depending on the nature of the site involved. Contact will be made at an early stage with any landowner and/or occupier of the site to determine whether any site investigation has been carried out previously.

If after carrying out a more detailed assessment and inspection of the available information of the site, it may be necessary for North West Leicestershire District Council to take samples from the land. Hopefully this will be carried out with the agreement of the landowner/occupier however the local authority has been given powers of entry onto land to take any samples.

Only when North West Leicestershire District Council is satisfied with the information they have collated, will a full risk assessment be carried out to decide whether the sites falls within the statutory definition of contaminated land.

### **Taking Action on Contaminated Land**

When a site has been identified as being contaminated land North West Leicestershire District Council has a duty to ensure that the appropriate action is taken to remedy the problem.

It is hoped that the person who has been identified as being liable to pay for any remediation on the site – the “Appropriate Person”, and North West Leicestershire District Council will liaise and formulate a voluntary agreement to take action on the site. Where a voluntary agreement can not be reached, the district council has the power to serve a remediation notice. Any formal notice served and any other formal action taken will be kept on a Public Register. The Public Register will be maintained by the Environmental Health at the Council Offices in Coalville. The register will be available for public viewing during normal office hours.

In addition to the information held on the Public Register, over time North West Leicestershire District Council will collect information relating to the state of contaminated land in the area. Unless this information has been classed as confidential, any individual or organisation can ask for the information. There may be a reasonable charge for this information to cover the costs of the council.

Any requests for information on contaminated land should be made to

Environmental Protection Officer (Land Contamination)  
Environmental Health  
North West Leicestershire District Council,  
Council Offices, Whitwick Road,  
Coalville,  
Leicestershire,  
LE67 3FJ

Tel: 01530 454 615

Email: [environmental.protection@nwleicestershire.gov.uk](mailto:environmental.protection@nwleicestershire.gov.uk)

### **Reviewing the Strategy**

To ensure that North West Leicestershire District Council fulfils its statutory function, the contaminated land strategy will have to be kept under review in line with any new information received on potential contaminated site or in relation to any new statutory guidance that it published. It is anticipated that a complete review of the strategy will take place within 5 years of the date of its publication.

Copies of this strategy are available on request in alternative languages or for the visually impaired.

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# 1 Introduction

Under Part IIA of the Environmental Protection Act 1990 [1], Local Authorities in England are given responsibilities for regulating contaminated land. Part IIA was brought into force on the 1<sup>st</sup> April 2000 by The Contaminated Land (England) Regulations 2000. SI2000/No.227 [5] and was amended by The Contaminated Land (England) (Amendment) Regulations 2001 SI2001 No.663 [6], The Radioactive Contaminated Land (Enabling Powers) (England) Regulations 2005 SI2005/No.3467 [7] and The Radioactive Contaminated Land (Modification of Enactments)(England) Regulations 2006 SI2006/No.1379 [8]. These were then superseded by The Contaminated Land (England) Regulations 2006 SI2006/No.1380 [9] which were then amended by The Radioactive Contaminated Land (Modification of Enactments) (England) (Amendment) Regulations 2008 SI2008/No.520 [11].

There are two main parts to the local authority's duties under Part IIA, an inspection function and an enforcement function. It is a statutory requirement that each local authority publish a strategy for carrying out inspection of its area to identify land that may be contaminated. This strategy fulfils that requirement. It deals principally with the inspection function, showing how the local authority will inspect its area for contaminated land, identify contaminated land and manage the information that it collects in the process.

The purpose of the contaminated land legislation is to ensure that historically contaminated land is cleaned up in such a way that it is safe, suitable for a beneficial use, and does not pose a risk to health or the environment.

Prevention of new contamination is dealt with by different legislation, for example the Environmental Permitting regime and the Waste Management Licensing system.

## 1.1 General Policy of North West Leicestershire District Council

This strategy is written in the context of North West Leicestershire District Council corporate priorities, the Leicestershire local area agreement and the Environmental Health Mission Statement:

Leicestershire local area agreement priorities:

- Children and Young People
- Safer Communities
- Stronger Communities
- Cleaner Greener
- Healthier Communities
- Older People
- Economic Development and Enterprise

Mission Statement

*“Through partnership, enforcement and education to provide a versatile and efficient service to ensure the district is healthy and safe for all”*

North West Leicestershire District Council is also fully committed to providing Best Value at all times. This is a Government initiative designed to ensure that local authorities are delivering their services at value for money. The principals of Best Value will be implemented for all aspects of the contaminated land regime.

## 1.2 Regulatory Context

This strategy is principally concerned with the inspection of land to determine whether it may be contaminated. This is only one aspect of the responsibilities that local authorities have gained. In this section, an overview of the legislation is given, to place the strategy in context and explain some terminology that will be used later on in the document.

Please note that this section provides a summary and explanation of the main provisions of the contaminated land legislation. It is not a definitive or exhaustive guide, and it has no legal force. Please refer to the Environmental Protection Act 1990, Part IIA: inserted by Environment Act 1995, Section 57. See Environment Act 1995 for text of Part IIA. [1] and the statutory guidance, DEFRA Circular 01/2006 [13] for a full description.

### 1.2.1 Regulatory role of the Local Authority

Local authorities have gained significant new responsibilities for contaminated land. Local authorities must:

- Ensure that their areas are inspected to identify contaminated land;
- Determine whether any particular site is contaminated land;
- Act as enforcing authority to ensure that contaminated land is remediated appropriately (except where the site is a special site, in which case the Environment Agency acts as enforcing authority).

The enforcement role applies only to sites that are identified as contaminated land. When such a site is identified, the authority will:

- Establish who is responsible for the contamination;
- Decide what remedial action is required;
- Ensure that the remedial action is carried out – either through agreement with the person responsible for the contamination, or by serving a remediation notice;
- Determine who should bear what proportion of the costs of the remediation;
- Record information about the regulatory action on a public register.

In carrying out its duties, the authority is required to act in accordance with the statutory guidance [13].

### 1.2.2 Regulatory role of the Environment Agency

The Environment Agency has four important functions in regulating contaminated land:

- 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;
- To act as enforcing authority when a site is designated as a Special Site;
- To publish periodic reports on contaminated land.

A Special Site is a site that meets one of the statutory definitions for Special Sites. In general, Special Sites have had uses where the Environment Agency is likely to already have a regulatory responsibility, for example Integrated Pollution Control sites. Special Sites are not necessarily more contaminated than other kinds of site. Examples of Special Sites are nuclear sites, Ministry of Defense sites, oil refineries, and sites that may be causing pollution of drinking water resources.

### 1.3 What is contaminated land?

In general terms, contaminated land usually means land where industrial or other human activities have resulted in the presence of substances in the ground with potential to cause harm to human health, structures, or the environment. However, in English law the term “contaminated land” means something more specific than this. The duties and powers of local authorities extend only to land that falls within the statutory definition of contaminated land – enforcement action cannot be taken where land is not legally “contaminated land”.

The definition of contaminated land from the Environmental Protection Act 1990, Part IIA, Section 78A (2) [1] is:

*“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) pollution of controlled waters is being, or is likely to be, caused.”*

The meanings of the terms within the definitions are important. The statutory guidance gives quite detailed explanations of what each term in the definition means. Below, a brief summary is given to aid understanding of the statutory meaning of contaminated land.

### 1.3.1 Significant Harm

Significant Harm includes:

- Death, disease, serious injury, genetic mutation, birth defects, or the impairment of reproductive functions in humans;
- Irreversible adverse change, or threat to endangered species, affecting an ecosystem in a protected area (e.g. site of special scientific interest);
- Death, serious disease or serious physical damage to pets, livestock, game animals, or fish;
- A substantial loss (20%) in yield or value of crops, timber, or produce;
- Structural failure, substantial damage or substantial interference with right of occupation to any building;
- Lasting exposure to any person resulting from the after-effects of a radiological emergency, past practice or past work activity.

### 1.3.2 Significant Possibility of Significant Harm

In determining whether there is a significant possibility of significant harm, the local authority will use a risk assessment approach, considering both the severity and the likelihood of the possible harmful effect. This will involve establishing:

- The nature and degree of harm predicted;
- The susceptibility of the receptors to which harm might be caused;
- The timescale within which the harm might occur.

### 1.3.3 Pollution of controlled waters

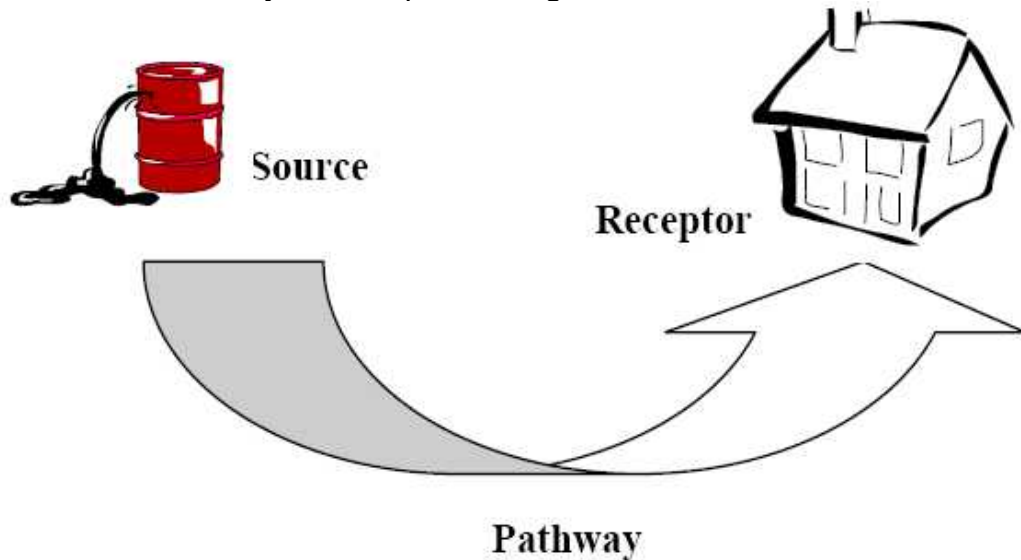
“Controlled waters” are all natural inland and near coastal waters, including groundwater. Therefore, all ponds, lakes, rivers, streams, estuaries and coastlines are controlled waters. Pollution of controlled waters is defined in Section 78A(9) of the Environmental Protection Act 1990 [1] as meaning “the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter”.

### 1.3.4 Principles of pollutant linkages: Source, pathway and receptor

In order to be sure that any harm or pollution is a result of the presence of substances in, on or under the land, the local authority will check to see whether there is a demonstrable or plausible means for the substance (termed the “source”) to come into contact with something that may be harmed (the “receptor”). This means of contact is termed the “pathway”. Where a source, a receptor and a pathway exist together, we call this a pollutant linkage. If there is no pollutant linkage, the substance cannot cause harm.

For example, consider an industrial site that has become contaminated with lead (a toxic metal). The receptor of concern is the people that work on the site. To be harmed by the lead, the people must be able to come into physical contact with the soil that contains the lead – they must be able to inhale soil dust, or get soil in their mouths. If all the contaminated soil is covered by buildings, concrete and tarmac, the people cannot contact the soil. There is no pollutant linkage, and no risk of harm. In this case, even though a potentially harmful substance was present, the site would not legally be contaminated land.

Figure. 1. Source → Pathway → Receptor Linkage.



### 1.3.5 Principles of risk assessment

Risk assessment is the means by which the local authority will determine whether land appears to be contaminated land in accordance with the definitions above, in particular whether there is a significant pollutant linkage.

Risk assessment is a structured method for making decisions in circumstances where there is uncertainty. In risk assessment we distinguish between the concepts of hazard and risk:

Hazard is an attribute or situation that in particular circumstances could lead to harm

Risk is a combination of the probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequences of the occurrence (i.e. how likely is the hazard, and how bad would it be if it happened).

The source-pathway-receptor analysis described above is used to identify the hazard (the pollutant linkage). The risk assessment considers how likely the pollutant linkage is to exist, and how severe the consequences would be if it did exist. This could involve, for example, considering how much contaminant might be able to contact the receptor, over what time period, and how sensitive the receptor might be to the contaminant. At the

end of the process, the assessor will be able to determine whether the pollutant linkage is a significant pollutant linkage, and therefore whether the site is contaminated land.

To find out more about risk assessment, we recommend Publications: Department of the Environment (1995) A Guide to Risk Assessment and Risk Management for Environmental Protection, HMSO, London [56] and Ferguson, C., Darmendrail, D., Freier, K., Jensen, B.K., Jensen, J., Kasamas, H., Urzelai, A. and Vegter, J. (editors) 1998 Risk Assessment for Contaminated Sites in Europe. Volume 1 Scientific Basis. LQM Press, Nottingham [58].

### 1.3.6 Policy on Remediation – ‘Suitable for Use’

It is Government policy that land should be remediated to a standard where it is suitable for its current use, and significant harm or pollution of controlled waters can no longer occur. This is to be achieved by considering the pollutant linkages that have been identified and ensuring that each is treated such that the linkage is broken – for example:

- Remove or treat the source (the pollutant)
- Break or remove the pathway
- Protect or remove the receptor

In addition, remedying any effects that had already occurred as a result of the pollutant linkage would be required.

When identifying the best method for remediation, the local authority will use the concept of “best practicable technique”. Such techniques will have proven effectiveness, be practical to achieve in the particular circumstances of the site, and will be durable over a timescale appropriate to the problem. The authority will also consider the cost of the remediation in proportion to the severity of the harm or water pollution.

### 1.3.7 Requirements for a Strategic Approach

The statutory guidance [13] requires local authorities to take a strategic approach to the inspection of land and identification of land that may be contaminated. The statutory guidance [13] states that the approach must:

- be rational, ordered and efficient;
- be proportionate to the seriousness of any actual or potential risk
- seek to ensure that the most pressing and serious problems are located first;
- ensure that resources are concentrated on investigating in areas where the authority is most likely to identify contaminated land; and
- ensure that the local authority efficiently identifies requirements for the detailed inspection of particular areas of land.

## 1.4 Development of the Strategy

The Environmental Health Department of North West Leicestershire District Council is responsible for carrying out the inspection of land within the district.

This strategy has been prepared by North West Leicestershire District Council Health and Enforcement Services with assistance from consultants Symonds Group Ltd. Eleven local authorities in the Lincolnshire and the East Midlands have collaborated in preparation of their strategies, and have shared consultancy costs, experiences and ideas. The other authorities that contributed to the group were the Welland Partnership, consisting of East Northamptonshire, Melton, Rutland, East Lindsey, West Lindsey, Lincoln City, North Kesteven, South Kesteven, Boston, South Holland,

## 1.5 Objectives of the Strategy Document

The main objectives of this strategy document are:

- To meet the statutory requirement to publish a strategy for the inspection of North West Leicestershire District Council's area for contaminated land;
- To explain how North West Leicestershire District Council plans to meet the particular statutory objectives for the strategy, i.e.:
  - be rational, ordered and efficient;
  - be proportionate to the seriousness of any actual or potential risk;
  - seek to ensure that the most pressing and serious problems are located first;
  - ensure that resources are concentrated on investigating in areas where the authority is most likely to identify contaminated land;
  - ensure that the local authority efficiently identifies requirements for the detailed inspection of particular areas of land.
- To provide a readily available source of reference on North West Leicestershire District Council's aims, objectives, procedures and information management systems for all interested parties, including members of the public, local businesses and landowners, environmental organisations and the Council itself.

## 1.6 Overview of the Inspection Process

The basic tasks required to inspect the council's area for contaminated land are set out below. Several of these tasks have already been completed, and this strategy explains how and when the other tasks will be undertaken. Section numbers are given so that the detailed explanation of each task can be identified in the strategy document.

Table 1. Inspection process detailed description section numbers

<b>Task</b>	<b>Section</b>
Establish a team within NWLDC and allocate responsibilities for contaminated land	8.3
Establish links with statutory bodies and appropriate local organisations	8.4, 8.6
Acquire information required to carry out survey and inspection	5.1
Establish systems to manage the information and keep it updated	7.5
Carry out initial desk based survey of entire area and prioritise sites that may be contaminated for more detailed assessment (Stage 1)	4.1, 5.2, 5.3
Carry out preliminary risk assessment of sites in priority order and assign priority for detailed inspection (Stage 2)	4.1, 5.2, 5.3
Carry out detailed inspections in priority order	4.1, 6.3
Use risk assessment to determine whether inspected sites are contaminated land	6.3
Place details of contaminated land on a public register and commence appropriate action	7.2
Assess new information provided by the planning process, the public, statutory bodies or other organisations using the same procedures as above	5.4
Respond to enquiries, complaints and requests for information	8.1, 8.2, 8.6
Review the strategy and performance against objectives and targets regularly to ensure compliance with the law and to monitor progress	9

## **2 CHARACTERISTICS OF THE LOCAL AUTHORITY'S AREA**

### **2.1 General Description**

North West Leicestershire District Council was founded on 1st April 1974. This was as a result of the disbandment of the Ashby Rural District, Castle Donington Rural District, Coalville Urban District as well as the Ibstock Rural District. Ashby Woulds Town Council and Ashby Town Council were reorganised and still exist today.

North West Leicestershire is an area of some 27,933 hectares (69,022 acres), lying to the west of the Charnwood Forest and River Soar. The River Trent forms the northern most boundary. The district is bordered by Lichfield district, North Warwickshire, South Derbyshire, the boroughs of Erewash, Rushcliffe, Charnwood, and in the south by Hinckley & Bosworth.

In 1999, 88,800 people lived in North West Leicestershire, the most populous towns being Coalville and Ashby De La Zouch.

The M1, A42 and A511 dissect the district. These communication links have been an important factor in the regeneration of the area.

Description - The character of North West Leicestershire is diverse. The area combines both large tracts of rolling countryside and quaint villages with its industrial heritage.

The southern part of the district falls into the former category. Here the population lives in the dispersed rural communities such as Chilcote and Stretton en le Field or the rural villages of Appleby Magna, Swepstone, Snarestone and Newton Burgoland.

The belt of land running from Moira and Albert Village to the west of Coalville endures the district's industrial legacy. For at least two hundred

years, this area has been subject to extensive mineral workings, such as coal, clay and aggregate. The earliest evidence of coal mining is found in the area around Coleorton and Staunton Harold where numerous abandoned bell pits litter the countryside. Advances in mining techniques and the development of the railway led to the boom in mining culminating in the foundation of Coalville and the growth of mining villages such as Measham, Donisthorpe, Moira, Ibstock and Whitwick. The demand for easily worked coal during the post war years has led to the rural tracts of land around Ashby, being extensively mined by opencast methods. The area around Moira is now being reclaimed by forestry as the heart of The National Forest.

The extreme east of the district comprises the peaks of Charnwood. This is an area formed from rocks of the Cambrian and Precambrian eras, which are some of the oldest rocks in England and contain internationally important fossils of the earliest known life recorded in the country. Charnwood Forest has a variety of habitats including extensive woodlands, acid grassland and lowland heath on the hills.

The area of the district termed the Northern Parishes returns to the rural. The population is concentrated in the large villages of Castle Donington and Kegworth. Mineral working past and present can be found in the gravel pits along the River Trent and in the limestone quarries found in the villages of Breedon on the Hill and Worthington. In this part of the district, the East Midlands Airport and Donington Park Race Track are also found.

English Nature reflects these characteristics by identifying five Character Areas within North West Leicestershire. These are:

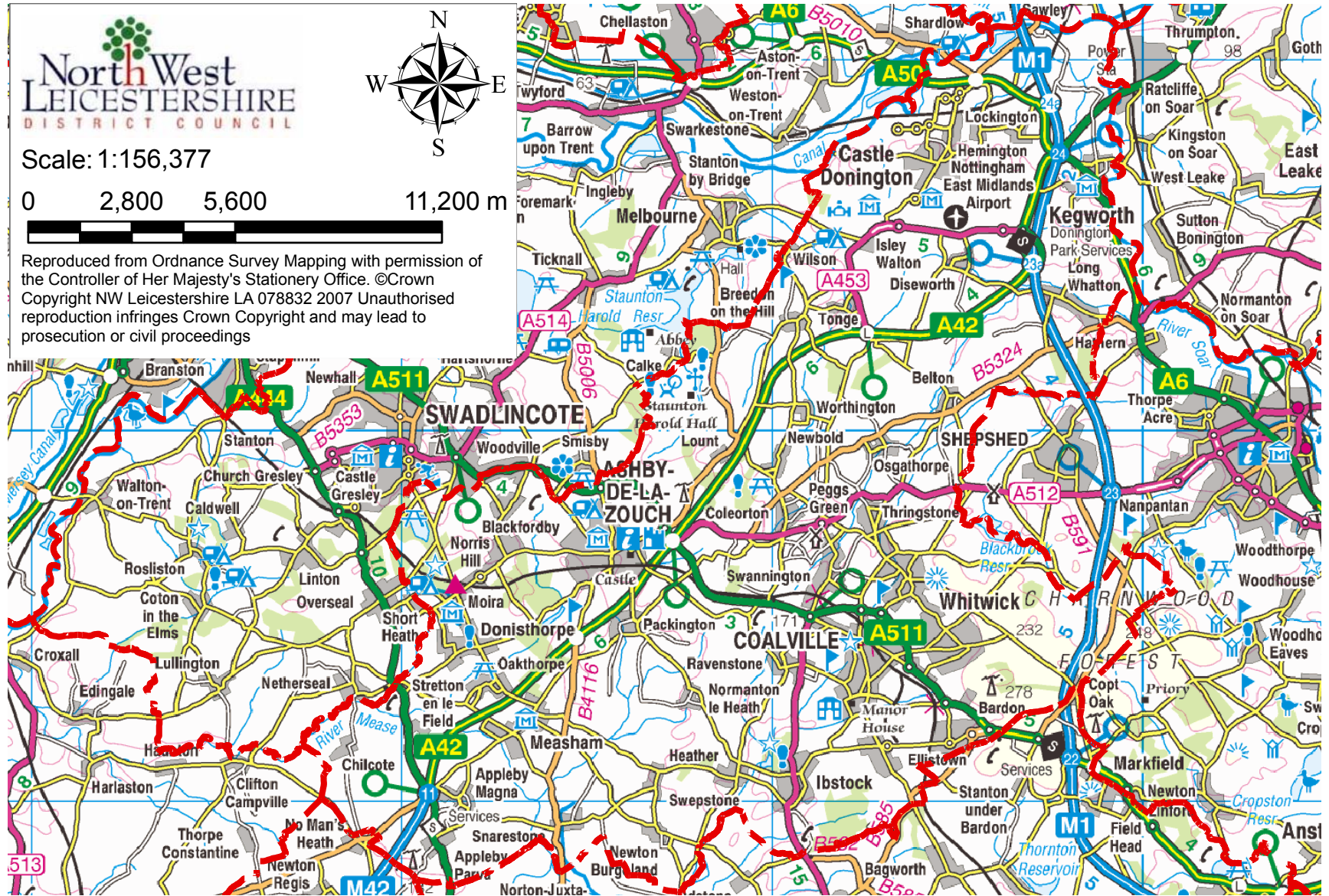
- Mease and Sence Lowlands
- Leicestershire and South Derbyshire Coalfield
- Melbourne Parklands
- Charnwood
- Trent Valley Washlands

The following are the parish population figures as of 1998:

## Contaminated Land Strategy 2010

Appleby Magna	1,131	Lockington & Hemington	511
Ashby De La Zouch	13,067	Long Whatton	1,607
Ashby Woulds	2,893	Measham	4,481
Bardon	21	Normanton le Heath	115
Belton	864	Oakthorpe & Donisthorpe	2,077
Breedon on the Hill	914	Osgathorpe	402
Castle Donington	6,339	Packington	827
Charley	184	Ravenstone with Snibston	2,063
Chilcote	103	Snarestone	270
Coleorton	982	Staunton Harold	133
Coalville	32,513	Stretton en le Field	43
Heather	1,002	Swannington	1227
Ibstock	5,681	Sweepstone	635
Isley cum Langley	70	Worthington	1,353
Kegworth	3,494		

Figure. 2. Map of North West Leicestershire District Council Area



## 2.2 Past and present industry

Despite being a mainly rural area there is an extensive industrial legacy within North West Leicestershire.

In the Coleorton area, there is evidence of mining activity dating back to the 13th century. The opening of the Ashby Canal in the late 18th century, led to the development of the mining industry in the Ashby Woulds area with the connection of the South Derbyshire Coalfield with its potential markets. It was not until the development of steam locomotives and in particular, the Swannington Incline in the 1830's that the Leicestershire Coalfield was able reach its potential.

The birth and rapid expansion of the new town of Coalville provided a focus for industries to be established. These included a railway wagon manufacturer, iron foundry as well as factories producing a range of materials including elastic.

Other extractive industries have grown up, including quarries around out crops of particular rock, gravel extraction alongside the River Trent and clay working in the coal mining areas.

Locally cloth manufacturing has been an important industry. This is reflected by the fact that many of the larger villages within the district have been the locations for small factories.

Other industries and businesses have grown up within North West Leicestershire, which include the snack, biscuit and soap factories in Ashby and the East Midlands Airport.

The decline of the mining industry during the 1980's has meant that new industries have had to be encouraged into the district in order to prevent the whole area going into decline. This has been achieved by encouraging new businesses and lighter industries to establish themselves, giving North West Leicestershire a more diverse industrial base located throughout the district.

## 2.3 Local Authority Owned Land

Like other local authorities, North West Leicestershire District Council owns a diverse range of land, which ranges from housing estates to parks and cemeteries. The definitive list of council owned property is held on the Land Terrier system. The land uses identified on the Contaminated Land Land-use Database has been compiled from the Council's Housing Department and the Council's Asset Register.

Land owned by the Council is also subject to the interest of other parties. Industrial estates and business parks owned by the Council are subsequently leased to tenants, housing is rented and in this instance, the tenants have a right to purchase the freehold estate. Other open areas are leased to Parish Councils.

Finally, North West Leicestershire District Council is responsible for the infrastructure in certain locations, although the surrounding land is privately owned.

As the coal industry declined, North West Leicestershire District Council became responsible of several colliery sites. These have subsequently been redeveloped and put to use in regenerating the local economy. On the former Whitwick Colliery site, stands the Whitwick Business Park, parts of which are now in private ownership.

## 2.4 Known information on contamination

North West Leicestershire District Council is aware of some sites in the district that are likely to be contaminated, and in some cases the authority is already in possession of a significant amount of information on these sites. In most cases the sites have come to the authority's attention via the planning process. Where development on potentially contaminated sites is proposed, developers have been asked to provide detailed information on sources, pathways and receptors and to carry out risk assessment. Where risk assessment shows that clean up is needed, the

developer is required to provide a remediation method statement detailing how the clean up will be achieved.

There are also a number of lists and registers kept by North West Leicestershire District Council, Leicestershire County Council and the Environment Agency that contain details of sites that have had potentially contaminative uses. These include lists of closed landfill sites and registered petrol storage sites.

## 2.5 Specific local features including protected locations

The contaminated land regime allows local authorities to take action to prevent significant harm to certain ecological sites. Where a site falls within the remit one of the following pieces of legislation the local authority can take action to require remediation of contaminated land.

- Sites of Special Scientific Interest (Wildlife and Countryside Act 1981 Section 28);
- National Nature Reserves (Wildlife and Countryside Act 1981 [2]);
- Marine Nature Reserves (Wildlife and Countryside Act 1981 [2]);
- Areas of Special Protection for Birds (Wildlife and Countryside Act 1981 [2]);
- European Sites – Special Areas of Conservation and Special Protection Areas, and candidate sites for these designations (The Conservation (Natural Habitats, &c.) Regulations 1994 SI1991/No. 2716 [4]);
- Any habitat or site afforded policy protection under Planning Policy Statement 9: Biodiversity and Geological Conservation [14] (i.e. candidate Special Areas of Conservation, potential Special Protection Areas and Listed Ramsar sites);
- Nature Reserves established under the National Parks and Access to the Countryside Act 1949 [1].

Where a site does not fall within the controls of the above pieces of legislation the local authority is not in a position to take action to prevent damage to wildlife and ecology.

There are 17 Sites of Special Scientific Interest in North West Leicestershire District (Table 2)

With the exception of Bardon Hill Quarry, which is a regionally important geological site, all of the Sites of Special Scientific Interest are sites of ecological significance.

Table 2. Sites of Special Scientific Interest

Site Name	Grid Reference
Breedon Hill	SK 406 234
Breedon Cloud Wood And Quarry	SK 415 214
Lockington Marsh	SK 486 304
Donington Park	SK 414 269
Pasture & Asplin Woods	SK 426 216
Lount Meadows	(Area 1) SK 376 189 (Area 2) SK 385 191 (Area 3) SK 394 192
Blackbrook Reservoir	SK 458174
Oakley wood	SK 485217
Charnwood Lodge	SK 467153
Coalville Meadow	SK 447151
Bardon Hill	SK 461 130
Bardon Hill Quarry	SK 459133
Newton Burgoland Marshes	SK 381 084 SK 382 090
River Mease	SK360 144 to SK195 148
Dimminsdale	SK 377 218
Grace Dieu & High Sharpley	SK 437 170
Ashby Canal	SK 346 099 to SK 387 043

## 2.6 Historic Buildings and Ancient Monuments

North West Leicestershire District Council has designated 21 Conservation Areas within the district. These have been designated in recognition of the areas special architectural or historic interest. There are also over 650 listed structures within the district.

There are 23 Schedules Ancient Monuments in the district. There are three Registered Historic Parks and Gardens in North West Leicestershire. These are: Staunton Harold, Coleorton Hall, and Whatton House.

Under the contaminated land regime buildings and property, ancient sites and important archaeological sites are considered as receptors and should be protected.

## 2.7 Geology

The geology of North West Leicestershire is as diverse as any other of its characteristics.

North West Leicestershire encompasses just over 600 million years of a highly varied geological history. It includes most of Charnwood Forest, a region famous for its scenic beauty and for its unique exposures of the Late Precambrian-age Charnian Supergroup. This sequence, of at least 3500m thickness, is largely composed of bedded volcanoclastic rocks together with massive intrusive andesites and dacites. It represents material eroded or ejected from a contemporary volcanic arc. Cambrian-age rocks of the Brand Group, locally known as the 'Swithland Slates', succeed the Charnian rocks. The Charnian sequence and overlying Cambrian strata were then folded, cleaved and metamorphosed during the early Devonian period.

The next rocks to be deposited were the Carboniferous limestones, exposed around Breedon on the Hill, Staunton Harold and Ticknall. They are largely dolomitised and cavernous, and comprise, the Milldale Limestone, Cloud Hill Dolostone and Ticknall Limestone formations.

Succeeding the limestones are Carboniferous (Namurian) sandstones and mudstones of the Millstone Grit Group, representing the deposits of a river delta which advanced southwards across the East Midlands region. The sandstones give rise to a scarp and dip topography around Melbourne and the Staunton Harold Reservoir. The overlying Carboniferous (mainly Westphalian-age) strata are divided into the Lower, Middle and Upper Coal Measures. They contain numerous coal seams, locally up to 5 m thick but mainly averaging 1-2 m thickness, which have been mined extensively within the North-West Leicestershire and South Derbyshire coalfields. Seatearth clays underlie individual coal seams, and are both numerous and thick in the South Derbyshire Coalfield, around Swadlincote, where they are an important national fireclay resource.

The end-Carboniferous, Variscan phase of faulting and block uplift terminated Coal Measures deposition and ushered in a period of about 60 million years of erosion spanning the Permian. In early Triassic times this was brought to a close with deposition, mainly from rivers, of the Sherwood Sandstone Group, here comprising the Moira, Polesworth and Bromsgrove Sandstone formations. These units collectively represent an important aquifer in the region. Arid or sub-humid climates prevailed throughout the rest of the Triassic, when the region was dominated by desert and Playa Lake environments in which were deposited over 200 m of red mudstones belonging to the Mercia Mudstone Group. These strata filled deep valleys and eventually completely submerged the hill ranges developed on the Charnian rocks and the Carboniferous limestones around Breedon on the Hill. They are divided into the Sneinton, Radcliffe, Gunthorpe, Edwalton and Cropwell Bishop Formations.

The oldest Quaternary drift deposits date to the Anglian glaciation, of about 450 000 years ago. They include patches of Till (formerly known as boulder clay) carried by the ice sheets, Glaciofluvial Deposits, formed by gravelly glacial river systems, and Glaciolacustrine Deposits, formed by the ponding of waters in lakes beneath the ice. Younger Quaternary drift deposits are most extensive and continuous within the wide floodplain of

the river Trent and its tributaries. They are dominated by River Terrace Deposits, representing earlier floodplain levels, and Alluvium, which is localised along the modern river courses. Deposits of Head represent material that has either been washed down local slopes, or has moved down slope by gravity creep processes.

The legacy of human development in the district has been the extensive modification of the natural land surface, both for mineral exploitation and infrastructure development. Such activities have resulted in mappable areas of Infilled Ground, Made Ground and Worked Ground.

### 2.7.1 Geology as a Source of Contamination

There are a number of potential sources of contamination from geology depending on the local circumstances. Gases such as methane, carbon dioxide and hydrogen sulphide can be generated from organic deposits such as peat and alluvial river deposits.

Coal measures present in the south of the district are a potential source of methane gas and heavy metal contaminants. Where mining and quarrying of coal has been undertaken the spoil and waste products may result in high concentrations of heavy metals acting as a contaminate source.

Radon gas is a naturally occurring substance emitted by the radioactive decay of Radium present in all rocks and soils. There is a link between high radon levels in a property and the increased risk from cancer. Certain areas of North West Leicestershire District have been designated as Radon Affected Areas [35] and whilst radon does not fall into the definition of contamination for the purpose of this report, further information about radon gas and effects on health can be obtained from the Environmental Health Department tel. 01530 454545 or email [environmental.protection@nwleicestershire.gov.uk](mailto:environmental.protection@nwleicestershire.gov.uk)

## 2.7.2 Geology as the Pathway of Contamination

Certain rock types are very effective in allowing the movement of substances dissolved in ground water. Rocks and sediments such as sand and gravel, chalks and limestone can have a high permeability which could allow rapid movement of liquids and gases.

As previously highlighted there are significant areas of glacial and river deposits of sand and gravel in the North West Leicestershire district which could act as a potential pathway for any contamination.

Soil can also act a pathway for contaminants, for example the uptake of heavy metals by vegetables directly through the soil. The motion of burrowing animals/insects in the soil may cause fissures increasing the likelihood of the movement of contaminants.

## 2.7.3 Geology as a Receptor

The geology of the area plays an important part in determining the location of a receptor because of its role in supplying water. The rocks that bear water are called aquifers. Due to the geological make up of the rocks, it is often the same rock type that acts as an aquifer as well as being a good transmitter of water. The protection of aquifers is an essential part of the contaminated land regime.

## 2.8 Hydrogeology

The district's extensive major aquifer protection zone is to be found in the southwest. However, some of the solid geology of the district is classified as minor aquifer, such as coal measures and some sandstones.

**Major Aquifers** are highly permeable formations, commonly with significant fracturing. They may be highly productive and are able to support large abstractions for public supply and other purposes.

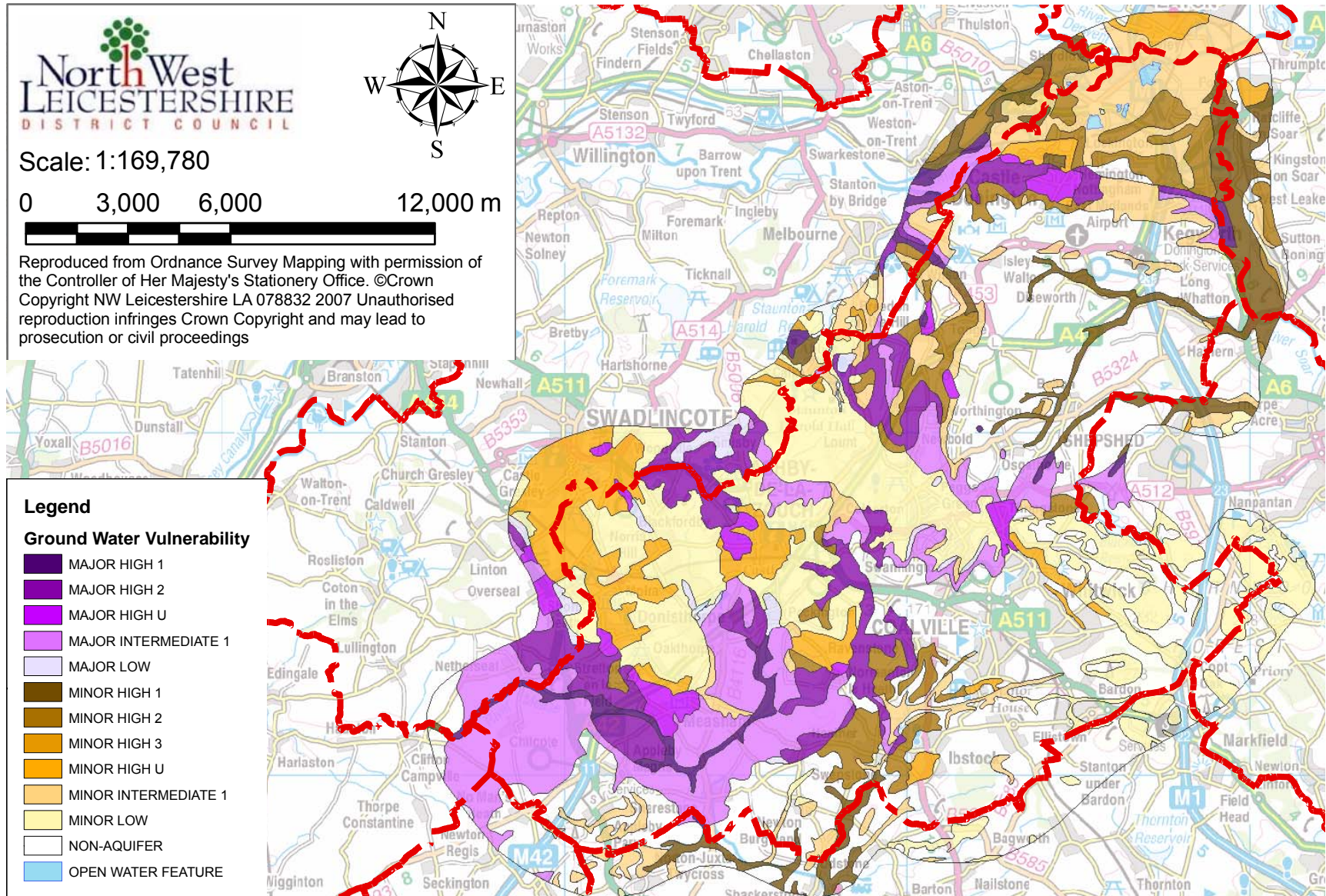
**Minor Aquifers** can be fractured but do not have a high primary permeability. They include formations of variable permeability, and

unconsolidated superficial deposits. Although seldom producing large quantities of water, they are important for local supplies and contribute to base flow to rivers.

**Non-aquifers** are generally those formations that are regarded as containing insignificant quantities of groundwater. Groundwater flow through such rocks does, however, take place and should be considered in assessing the risk associated with persistent pollutants.

Contaminated Land Strategy 2010

Figure. 3. Map of Groundwater vulnerability



Geological and Hydro geological information produced from Environment Agency and British Geological Survey's Digital Data under licence.

## 2.9 Conclusions

Whilst this chapter has identified potential sources and receptors in the district due to the local characteristics at this stage no specific sites have been located or has the pollution linkage been established. The mechanism to identify the specific sites and the appropriate time scale involved is discussed in section 3, 4 and 5

Generally the potential sources of contamination are:

- Old landfill sites;
- Old gas work sites;
- Heavy engineering sites;
- Manufacturing/industrial sites;
- Transportation and distribution sites (including railway land);
- Mining works.

The potential receptors for contaminated land include:

- Residential areas;
- Sports and leisure areas;
- Surface and groundwater supplies including aquifers, particularly where a source protection zones, or private water supply exists;
- Sites of Special Scientific Interest;
- Scheduled Ancient Monuments;
- Conservation areas.

### **3 The Local Authority Strategy: Overall Aims**

In this section we set out the specific aims and objectives of this strategy to meet our obligations (see also Section 1).

#### **3.1 Aims of the Strategy**

North West Leicestershire District Council wishes to identify contaminated land present in its area in the most practical and efficient way and ensure that the most pressing and serious problems are addressed first. In addition the concept of Best Value will be applied to all investigations carried out. With these priorities in mind, the following overall aims for this strategy have been identified:

- To protect human health, important ecological sites and the water environment;
- To have a transparent decision making process wherever possible. To demonstrate this commitment, any land where the council may be the appropriate person will be assessed as a priority (i.e. land owned by, formerly owned or leased by the local authority, or where the local authority was responsible for the site condition/activities). The enforcement duties of North West Leicestershire District Council in this strategy will be kept separate from the responsibilities of the council as a landowner;
- To have a body of information for contaminated land that is useful and accessible;
- To be efficient, consistent and rational in carrying out all inspection work;
- To carry out the investigation of contaminated land in conjunction with other Council policies and strategies.

#### **3.2 Objectives and Milestones**

In order that the aims highlighted above can be met, it is necessary to have realistic objectives set. Where relevant, target dates for each of the

objectives will be set. The completion and publication of the contaminated land strategy is a significant milestone and the review process incorporated in the strategy will ensure that the strategy remains effective in achieving these aims.

Table 3 sets out the actions required in order that the inspection of the land in North West Leicestershire district is carried out in accordance with the published aims and objectives.

Table 3. Inspection actions timescale

Task	Status /Revised Target Date
Produce a preliminary database of potentially contaminated sites from known information other than historical maps	Completed
Publish the Revised Contaminated Land Strategy	1 October 2010
Purchase and installation of historical land use data. Undertake the training of staff in the use of the GIS (Geographical Information System).	1 September 2012
Assign Survey Priority Categories to ALL sites on the data base including North West Leicestershire District Councils own land.	1 April 2013
Complete risk assessments to establish Inspection Priority.	1 October 2013
Instigate detailed inspections of High Inspection Priority sites	1 October 2013
Carry out a review of the Strategy and inspection procedures	1 October 2015
Complete detailed inspections of High Inspection Priority sites.	1 October 2025
Complete detailed inspections of Remaining Inspection Priority sites.	1 October 2050

The target dates for the completion of the inspection of sites are only proposed at this time as it is appreciated that the inspection process will be an on-going activity and may take many years to complete. The length

of time will be dependant on the number of potentially contaminated sites that are identified in the first instance.

The initial priority rating of any site will always be subject to change as new developments are planned. Sites that previously would not fall under the definition of contaminated land may fall within the regime if the source, pathway, receptor linkage is created through potential land use changes.

## **4 Local Authority Priority Actions**

In this section of the strategy we set out what our priorities for action are and why, with reference to:

- The background information presented in Sections 1 and 2;
- North West Leicestershire District Council's overall aims as presented in Section 3.

We also explain how these priorities are incorporated into our procedures for identifying contaminated land. These procedures are detailed in Sections 5 and 6.

### **4.1 Priorities**

Having regard to the local circumstances described in Section 2, the following priorities are for dealing with land that may fall within the definition of contaminated land.

#### **4.1.1 Sites which may present a significant risk to human health;**

Where there is a significant risk of humans coming into contact with land contamination including:

- residential land,
- allotments,
- schools,
- playing fields etc.

#### **4.1.2 Sites which may present a significant risk to drinking water supplies;**

Sites which may present a risk to drinking water supplies include:

- sites containing private water supplies,
- surface water sources supplying drinking water abstractions. and
- ground water sources supplying drinking water abstractions

4.1.3 Sites that may present a significant risk to other surface water and groundwater supplies;

There is no major aquifer in the district however there are 2 minor aquifers one of which has a high leaching potential which need to be protected. All surface water should be given high priority because of its vital role in the health of humans and ecological benefits.

4.1.4 Sites that may present a significant risk to Sites of Special Scientific Interest;

As previously described there are a number of Sites of Special Scientific Interest in the district. Where a SSSI is at risk from contaminated water the site would be considered a higher priority as highlighted above.

4.1.5 Sites that may present a significant risk to agricultural land;

Sites where contamination would have a direct impact on the health or quality of, crops or farm animals. The contaminated land regime would not look at the quality of food related to agricultural practises as these are considered by the Food Standards Agency.

4.1.6 Sites that may present a significant risk to historical buildings or sites of archaeological interest;

A build up of gases such as methane released from contamination sources may create a risk to buildings. Polluted ground water and high pH soils may undermine the fabric of the buildings.

4.1.7 Sites that may present a significant risk from lasting exposure to any person resulting from the after-effects of a radiological emergency, past practice or past work.

The Industry Profile series of documents, produced by DEFRA and its predecessors, provides background information on many of the activities which have given rise to land contamination, and factors which may assist

in the identification of sources of contamination. An industry profile has been prepared specifically for land uses which may be subject to radiological contamination.

## 4.2 Compilation of Potentially Contaminated Land Sites

North West Leicestershire District Council will create a database of potentially contaminated land sites, compiled from two primary sources, the Landmark and Environment Agency datasets. The Landmark digital historic land use database is composed of 6 time epochs North West Leicestershire District Council will merge all the different epochs together, removing sites with identical identification numbers to obtain a single dataset of potentially contaminated land sites from the historical mapping. This will be augmented with Historic landfill site data provided by the Environment Agency.

## 4.3 Assigning Hazard Scores

Based on the site description from the Landmark dataset, North West Leicestershire District Council will categorised the sites into class divisions in accordance with the Department of the Environment classification (DoE) Pilot Survey of potentially contaminated land in Cheshire – A methodology for identifying potentially contaminated land, 1990 [57].

North West Leicestershire District Council will attribute each DoE category a hazard score from 1 - 5 (1 being the least hazardous and 5 being the most). This provides a consistent classification system for categorising sites of similarly hazardous land uses.

The hazard score is derived from officer experience with other projects and other available information, including site classification and scoring scheme. The hazard score is important as it contributes towards the final assessment score in the proximity analysis.

The most hazardous sites identified in the DoE Pilot Survey include:

- landfills;
- military land;
- oil and petroleum refining and storage; and
- gas manufacture and distribution sites.

The least hazardous sites include:

- warehouses,
- quarries and
- air shafts.

The hazard score can be amended as more information is obtained on the site.

#### 4.4 Pathway and Receptor Proximity Scores

The pathway and receptor datasets that are available for use in the prioritisation process include:

- Residential areas;
- Schools;
- Hospitals;
- Private water supplies;
- Rivers;
- Source protection zones;
- Groundwater vulnerability maps;
- Sites of Special Scientific Interest;
- Schedule of ancient monuments.

Pathway and Receptor sensitivities in our model are accounted for by using buffer zones to represent the distance from the site boundary to the receptor. The larger the buffer zone, the more sensitive the pathway or receptor. Two buffer zones are used in the prioritisation model, an inner (category A) and outer (category B) buffer zone, with the inner buffer attracting a higher category score (see 0). This score is important as it will also influence the prioritisation score.

The analysis is run for each pathway or receptor dataset, and the model automatically calculates the proximity of each potentially contaminated land site to each pathway or receptor feature within the dataset.

Figure. 4. Schematic diagram of proximity scoring method.

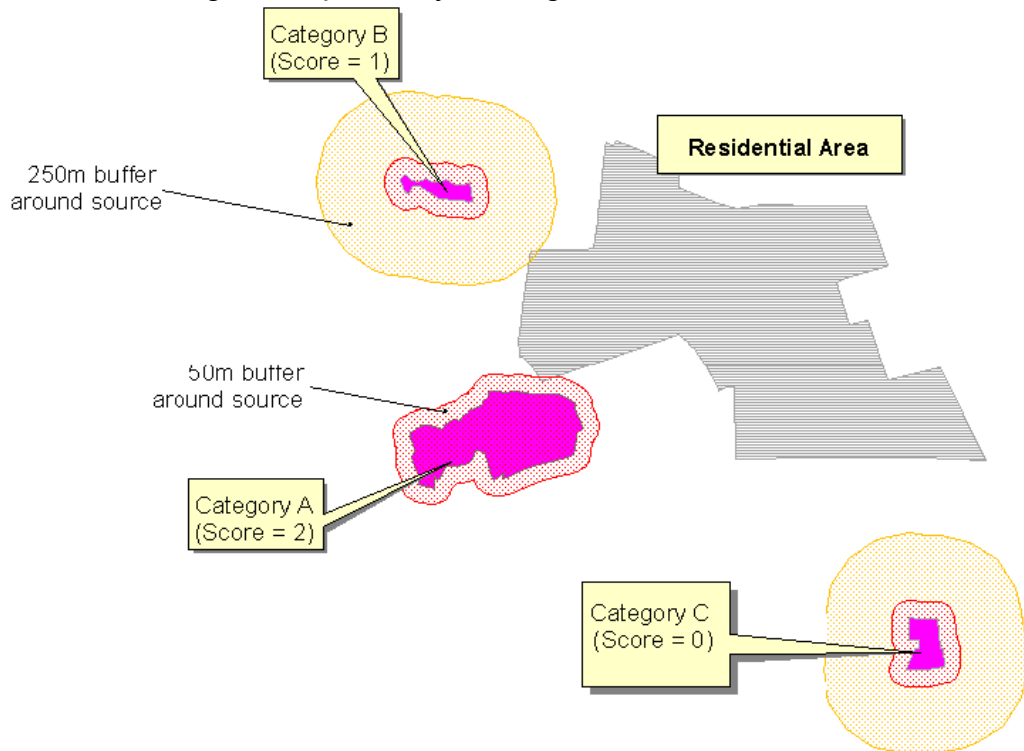


Table 4 indicates the inner and outer buffer zone distances and hence relative sensitivity, of individual receptors. These have been determined based on Symonds contaminated land expertise and experience of using the prioritisation model.

Table 4. Pathway & Receptor Sensitivity

Pathway or Receptor	Category		
	A	B	C
Residential/Settlement (including proposed land allocations from the Local Plan)	0-50m	51-250m	>250m
Schools	0-50m	51-250m	>250m
Hospitals	0-50m	51-250m	>250m
Main rivers	0-50m	51-500m	>500m
Private Abstraction wells	0-50m	51-250m	>250m
Source Protection Zones	0-50m	51-500m	>500m
Ground water vulnerability zones	0-50m	51-500m	>500m
Sites of Special Scientific Interest	0-50m	51-250m	>250m
Conservation areas	0-50m	51-250m	>250m
Schedule of ancient monuments	0-50m	51-250m	>250m

## **5 SURVEYING THE AREA AND PRIORITISING SITES FOR DETAILED INSPECTION**

In this section we set out our procedures for carrying out the survey of our area to identify contaminated land, and explain how we will prioritise potentially contaminated sites for detailed inspection. The procedures for carrying out detailed inspections are explained in Section 6.

### **5.1 Information collection for survey and inspection**

A considerable amount of work has been undertaken to identify potentially contaminated sites and to devise a time table for more detailed inspections

There are two basic categories of information used in the initial risk rating process. The first is information used to identify sites where contamination may be present (listed in Table 5). The second is information about environmental sensitivity (listed in Table 6). This information is used to determine whether significant harm or pollution of controlled waters may be occurring.

Section 5.4 explains how the information in Table 5 and Table 6 is used to identify land that may be contaminated, and prioritise the land for detailed inspection. Section 7 explains how the information will be managed and kept it up to date. As information is collated it will be loaded into a Geographical Information System (GIS).

Table 5. Indicators of Potentially Contaminated Land

Type of information	Source of Information
Records of actual harm or pollution of controlled waters	Environment Agency, Environmental Health and planning departments
Historical maps (scales 1:10,000 ; 1:2,500) Published 1850's, 1890's/1900's, 1920's, 1930's, 1950's, 1960's/70's, 1980's/90's.	Digitised historical maps on GIS system, local libraries, county libraries, local record office, Bodleian Library
Sites with Integrated Pollution Control authorisations	Environment Agency, Environmental Health Department
Registers of other potentially contaminative uses e.g. scrap yards, petrol stations, quarries	Environment Agency, Leicestershire County Council
Sites with waste management licences	Environment Agency
Closed landfill sites	Environment Agency, Environmental Health department
Existing lists of potentially contaminated land	Environmental Health Department, East Midlands Development Agency (EMDA)
Current land uses	Ordnance Survey maps, Planning Department (Structure Plans)
Records of remediation or clean-up work	Environmental Health Department, Environment Agency, EMDA
Other general historical information	Planning records, libraries.

Table 6. Indicators of Environmental Sensitivity

Type of information	Source of Information
<b>Water resources</b>	
Groundwater source protection zones	Environment Agency
Aquifer classification and vulnerability	Groundwater Vulnerability Maps, Geological Maps
Locations of drinking water abstractions	Environment Agency, Health & Enforcement Services
Surface waters (rivers, streams, ponds, lakes etc.)	Ordnance Survey mapping and Environment Agency
Flood information (floodplain / washland area/other flood risk areas)	Environment Agency, Planning department
Environmentally sensitive areas	Environment Agency
Nitrate sensitive areas	Ministry of Agriculture Fisheries and Food
<b>Ecology and Wildlife</b>	
Sites of Special Scientific Interest (SSSI's), Nature Reserves, Ecological sites	Natural England
<b>People and Property</b>	
Land uses (e.g. residential areas)	Ordnance Survey (Current mapping) / Planning Department (Structure Plans) / Ministry of Agriculture Fisheries and Food
Listed buildings/Conservation Areas	English Heritage, Planning department
Scheduled Ancient Monuments, sites of archaeological interest	Leicestershire County Council, English Heritage, Planning department.

## 5.2 Methodology for Initial Survey and Prioritisation

The flow chart (Figure. 5) summarises the procedure used to carry out an initial survey of the district and prioritise the sites that are identified for detailed inspection. The detailed inspection process is explained in Section 6. The initial survey and prioritisation outlined here is a desk

based procedure, utilising information that the authority collected from the sources listed in Table 5 and Table 6. Visits to sites, sampling and laboratory testing are part of the detailed inspection process in Section 6. This is considered to be the most rapid and efficient means of ensuring that serious problems are identified quickly.

To ensure that information collected on a site, and the reasoning for decisions made, is well organised and easily retrieved, it will be entered into a computer database. Each site will be assigned a unique reference number. This number will also identify the site on the GIS system. Further details of the information management system are given in Section 7.

### 5.3 Preliminary Prioritisation

The prioritisation model calculates an Assessment Score by adding up the scores of each of the factors described above. Thus,

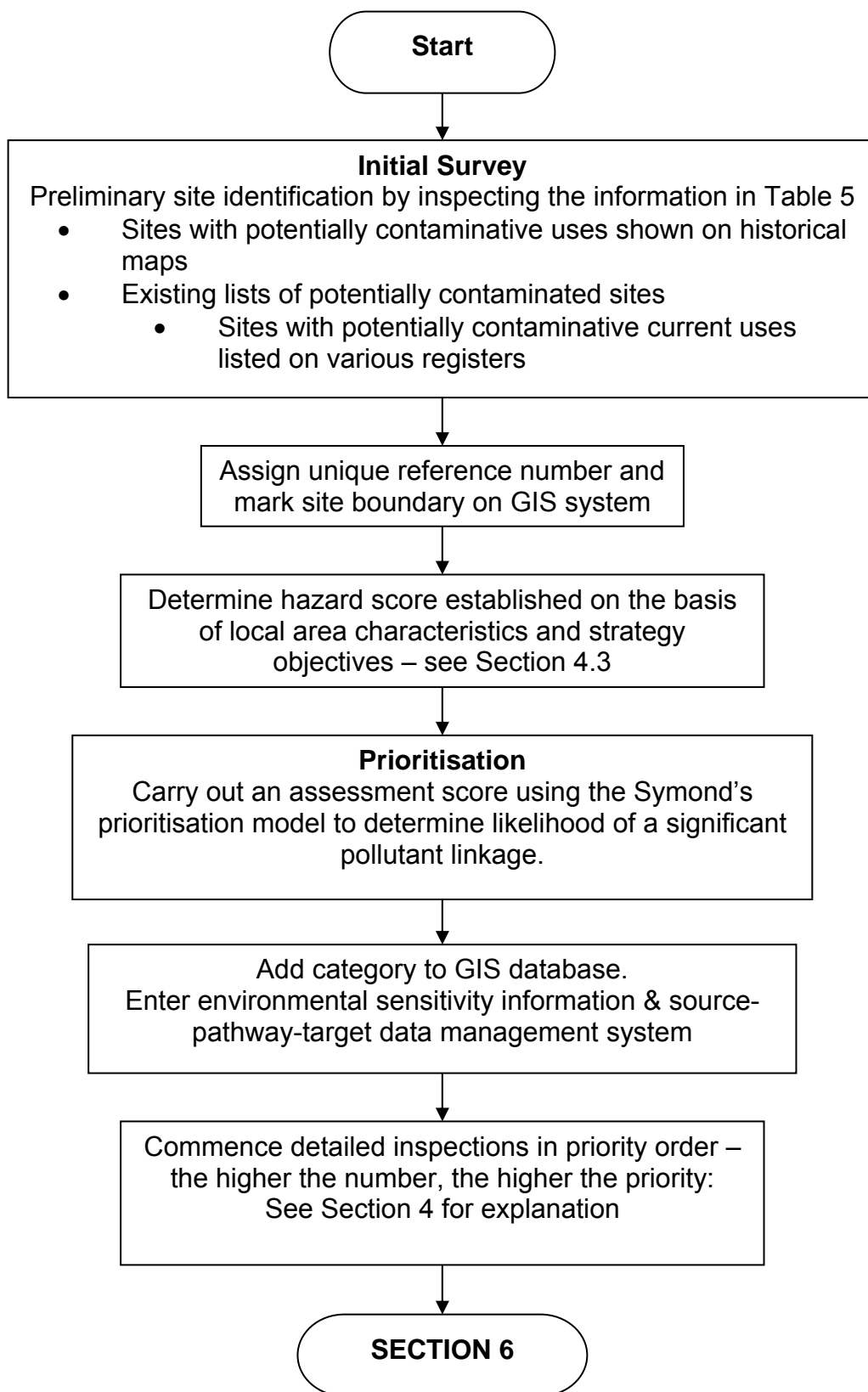
Assessment score = Hazard score + [sum of path & receptor scores]

The Assessment score can be ranked to indicate which sites should be reviewed and inspected first (i.e. it allows the sites to be prioritised for inspection).

### 5.4 Ongoing Identification of Potentially Contaminated Sites

The work of identifying and prioritising sites that may be contaminated will continue after the initial survey and prioritisation work is complete. New information provided by the statutory bodies involved, the planning process and by the general public, businesses and other organisations may identify new sites or affect the prioritisation of sites that have already been identified.

Figure. 5. Flow chart showing method for initial survey and prioritisation



## 5.5 Information Evaluation

In this section the methods for evaluating information are briefly explained. The subheadings refer to the stages shown in the flow chart above in Section 5.2.

### 5.5.1 Initial Survey of the area

The purpose of the initial survey is to create a list of potentially contaminated sites within North West Leicestershire District Council's area. In general, this will be based on evidence that the site is being, or has been, used for an activity that may have caused contamination (a potentially contaminative use).

Initially records will be collated of land either known or suspected to be contaminated from council sources and from the Environment Agency. In some cases there may already be evidence of actual harm or pollution of controlled waters. If information already exists that is sufficient to determine that the site should be in the highest inspection priority and likely to be in need of urgent attention, then this priority will be assigned directly, without waiting for the whole initial survey to be completed. Otherwise, these sites will be placed on the list of potentially contaminated sites.

Next, historical maps will be reviewed and areas that may have had potentially contaminative uses identified and added to the list.

As a priority records of land in North West Leicestershire District Council's ownership or occupation will be reviewed. Where the records indicate that this land may have had a potentially contaminative use, it will be added to the list.

The District Council, the County Council and the Environment Agency hold registers of sites where potentially contaminative activities are currently carried out. These exist as result of other environmental legislation. These registers will be reviewed and sites added to the list of potentially

contaminated sites as appropriate. Examples of registers which may contain details of potentially contaminative uses are Integrated Pollution Control sites, sites with waste management licences, registered scrap yards and registered petrol storage sites.

Some sites may be identified by more than one of the above searches. Site boundaries will be entered onto a GIS system and a unique identification number will be assigned to each site. This will ensure that all information relating to the same site is logged under the same reference number.

#### 5.5.2 Sites where remediation has already been carried out

North West Leicestershire District Council, the Environment Agency and the East Midlands Development Agency hold records of sites that have already been remediated. This information will be collected and examined as part of the initial survey. These sites would be placed on the list of potentially contaminated sites for prioritisation. They will be evaluated in the same way as the other sites, and the remedial action taken into account when prioritising the detailed inspection.

### 5.6 Priorities for taking action on sites that are Contaminated Land

The detailed inspection will lead to a determination of whether the site is contaminated land or not. Where sites are found to be contaminated land, an action priority classification will be given, since some contaminated land sites will be more serious than others. This approach is essential in order that resources can target the most serious problems first.

Section 8 explains how we will obtain and respond to new information and complaints. Section 9 details how new information will trigger reviews of the survey, prioritisation and inspection process.

## **6 Programme for Inspection**

The survey of the district will result in a prioritised list of sites that require detailed inspection to determine whether they are areas of contaminated land. Section 5 explains how the prioritised list of sites will be generated in a systematic and efficient manner. This section explains how the detailed inspections will be carried out.

### **6.1 Ensuring Compliance with Statutory Guidance on Inspection**

North West Leicestershire District Council is obliged to demonstrate that the arrangements for the detailed inspections comply with the statutory guidance relating to the inspection of particular areas of land. The guidance is summarised below. The remainder of Section 6 explains in more detail how the inspections will be carried out in compliance with the statutory guidance.

The detailed inspection should provide sufficient information or evidence to indicate the actual presence of a pollutant;

The detailed inspection may include the following actions:

- a) Collection and assessment of documentary information, or other information from other bodies (see Section 5),
- b) A site visit to carry out a visual inspection and, in some cases, limited surface sampling,
- c) An intrusive investigation of the land (e.g. trial pits, boreholes);

North West Leicestershire District Council has the statutory power to enter a site/area in order to carry out inspection and take samples under section 108 of the Environment Act 1995;

Before exercising its powers of entry to a site, the district council should be satisfied on the basis of information already obtained that:

- a) There is a reasonable possibility of the presence of a contaminant, a receptor and a linkage,
- b) Where intrusive investigation is deemed necessary, that it is likely that the contaminant is actually present and given the current use of the land that a receptor is actually or likely to be effected;

North West Leicestershire District Council should not use its power of entry to carry out any intrusive investigation if:

- a) Detailed information\* on the condition of the land has been provided by the Environment Agency, or some other person,
- b) A person offers to provide such information\* within a reasonable and specified time and subsequently provides the information within the agreed time period;

\*provided that the information is reliable and adequate

Any intrusive investigations should be carried out in accordance with the appropriate technical standards (see references [18] [19] [20] [21] [22] [45]).

All reasonable precautions should be taken to ensure that the council avoids harm, water pollution or damage to natural resources, or features of historical or archaeological interest, whilst carrying out an intrusive investigation;

Natural England shall be consulted on any action that would require the consent of this organisation, prior to carrying out intrusive investigations on any area notified as a Site of Special Scientific Interest;

Where it is no longer reasonable to assume a pollution linkage no further detailed inspections should be carried out on the site.

## 6.2 Criteria for Selecting Areas and Individual Sites

All sites which could be considered as contaminated land will have a priority assessment before detailed inspection commences. The order in which detailed inspection will be carried out is given in Section 5.3, and

the reasons for the order given are explained in Section 4.1. There will normally be more than one site in each priority category, and it is therefore necessary to decide which site is the most important. Before beginning detailed inspections on a group of sites in a priority category, the local authority inspector will review the information available for all the sites in the category and decide upon the order in which these will be inspected. Criteria for this decision will be based on the priorities as outlined in Section 4 to ensure that the highest risk sites are inspected first.

There are some other issues that may influence the order in which sites are dealt with:

- several detailed inspections may be progressed simultaneously, and the time taken to obtain information may vary between sites;
- If information is obtained indicating the possible existence of a site with a higher priority category than those being progressed at the time, resources will be diverted to investigating the potentially more serious problem.

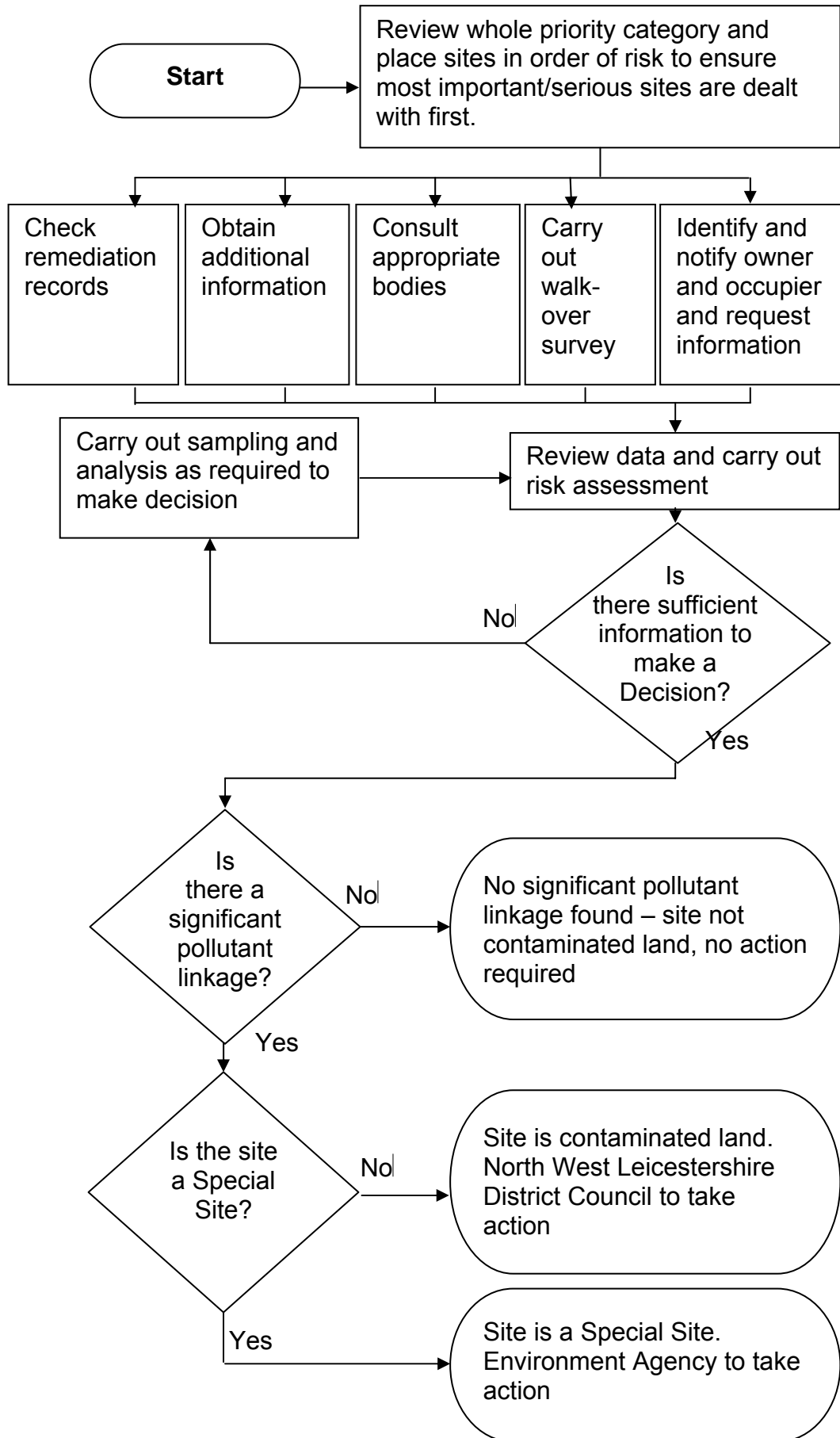
### 6.3 Methodology and Procedures for Detailed Inspection

The purpose of the detailed inspection is to obtain sufficient information for North West Leicestershire District Council to establish if the land:

- a) appears to be contaminated land;
- b) is a Special Site.

Procedures will be established for carrying out detailed inspections to obtain information sufficient to decide whether the site is contaminated land or a Special Site, and to comply with the statutory guidance outlined above. The methodology for detailed inspection is summarised in the flow chart below.

Figure. 6. Flow Chart for Detailed Inspection



### 6.3.1 Review priority category

Before commencing detailed inspections on a particular priority assessment number the inspector will review the information for each site with that number and decide the relative urgency of each case in terms of the likelihood that significant harm or water pollution is occurring. This will ensure that the potentially most serious sites are dealt with first. This review will take place only at the start of the inspection process on each category. Similar reviews of progress and relative urgency of cases will be undertaken at regular intervals as part of reviewing the strategy. Further details of review procedures are given in Section 9.

### 6.3.2 Check remediation records

The first step in the detailed inspection is to check whether the site has recently been remediated. Records of site remediation are kept up to date through the planning process. If the site has been remediated, the likelihood of significant harm or water pollution may well have been reduced. If this is the case, the priority assessment will be amended to reflect the new situation. The inspector will not automatically assume that remediation has been effective in preventing a significant pollutant linkage, and will seek information to demonstrate that this is so.

### 6.3.3 Obtain additional information

The initial survey and prioritisation process will have provided information that is adequate to determine the likely presence and significance of contamination in most cases. All sites are different, however, and where appropriate the inspector will carry out further research to clarify the possible sources, pathways and receptors. Examples of further research at this stage would be to request additional large scale historical maps from the Bodleian Library in Oxford; to look at aerial photographs held by the County Library and to make site specific enquiries to relevant statutory bodies and other organisations. Reference will be made to published guidance in seeking further documentary information [37].

#### 6.3.4 Consult appropriate bodies

The site inspector for North West Leicestershire District Council will consult both with other internal officers and externally to seek further details and advice on a site specific basis. The list of consultees will depend on the nature of the possible significant pollutant linkage. For example, Natural England would be consulted if there was a risk of significant harm to an ecologically important area. The Environment Agency will be consulted in most cases. Links have already been established with the organisations that may need to be consulted; these are given in Section 8.

#### 6.3.5 Carry out walkover survey

The inspector will visit sites during detailed inspection to confirm the current site use and condition and to look for any evidence of contamination. A standard proforma will be used to ensure that the same information is sought on each site. Walkover surveys will be carried out in accordance with published guidance on best practice [34].

North West Leicestershire District Council has statutory powers to enter sites to inspect them, but will normally inspect sites by agreement with the site owner and/or occupier. Prior to carrying out the walkover survey, the council's inspector will review the information currently held for the site to ensure that there still appears to be a reasonable possibility of the presence of a contaminant, a pathway and a receptor.

#### 6.3.6 Identify and notify owner and occupier

Site owners and occupiers will be contacted at the detailed inspection stage. The principal purposes of this first contact will be to inform them that their site will be inspected for potential contamination problems, and to request any information (e.g. site investigation data) that already exists.

### 6.3.7 Review data and carry out risk assessment

Information from the above activities will be reviewed and used to produce an updated source-pathway-receptor risk assessment. The risk assessment will indicate whether significant harm or water pollution is likely, in a similar manner to the prioritisation procedure in Section 5. Because there is now more information, the results of the risk assessment will be more reliable.

### 6.3.8 Data sufficient for decision

It is possible that there will be sufficient information to determine that the site appears to be contaminated land or a Special Site without the need for more detailed sampling and analysis to be carried out. In this case the information must always include evidence that contamination is certainly present on the site.

The risk assessment may show that there is no significant pollutant linkage; for example the landowner may have carried out a site investigation and found no contamination to be present. In these cases, no action will be necessary and further inspections/ information will not be pursued. Details of such sites will remain on North West Leicestershire District Council's database, since changes such as new development on a site can create new pollutant linkages. Triggers for a site inspection to be reviewed are detailed in Section 9.

### 6.3.9 Carry out sampling and analysis

Where the risk assessment shows that there is a reasonable possibility of a pollutant linkage, the inspector will seek evidence that contamination is actually present on the site. This generally requires taking samples and analysing them for the contaminants that may be present.

The scope of the sampling and analysis required depends on the individual site. In all cases only the required information will be sought to decide whether the site is contaminated land or a Special Site. In deciding

what kind of site investigation is needed, reference will be made to appropriate published guidance [38], [60].

In some cases the landowner or occupier, or other party (e.g. an organisation that is, or expects to be the appropriate person) may offer to carry out a site investigation. In these cases, the inspector will specify minimum requirements for the investigation (for example number of samples, contaminants that must be analysed for, position and depth of samples) to ensure that adequate information is obtained. An agreed timetable will also be devised within which the information must be provided.

Once adequate site investigation data is obtained, the risk assessment procedure will be repeated to confirm whether the site appears to be contaminated land or a Special Site.

## 6.4 Potential Special Sites

A Special Site is a site which meets one of the definitions specified in The Contaminated Land (England) Regulations 2006 SI2006/No.1380.[9] Special Sites will be regulated by the Environment Agency. The category of Special Sites includes sites where the Environment Agency already has regulatory responsibility, for example Integrated Pollution Control sites, to prevent duplication of regulatory roles. Special Sites are not necessarily more contaminated or more likely to cause significant harm than other contaminated land sites.

Examples of Special Sites are:

- Sites that could be contaminating drinking water resources;
- Industrial sites likely to have difficult contamination problems, such as waste acid tar lagoons, oil refining, explosives and sites regulated under Integrated Pollution Control;
- Nuclear sites;
- MoD land (with some exceptions, like off-base housing).

When the inspector identifies a site that is considered likely to be a Special Site, the Environment Agency will be notified and the information on the site copied to the Agency. When the Environment Agency has confirmed that they agree that a site falls within the definition of a Special Site, they will complete the inspection process to confirm that the site is contaminated land. North West Leicestershire District Council will retain details of the site on its computer database. The Environment Agency will maintain a public register of Special Sites on similar line to the public register held by the local authority. The Agency will advise the council of any significant progress on the site's remediation.

## 6.5 Appointing Consultants

North West Leicestershire District Council may, from time to time, need to appoint external consultants to assist in a number of areas to fulfil its statutory duties, for example:

- Advise on particular technical issues;
- Undertake some or all of the detailed site inspections;
- Prepare and undertake detailed technical presentations to the general public or to other bodies.

## **7 Information Management**

### **7.1 General Principles**

In the course of preparing this strategy and subsequent work, North West Leicestershire District Council has obtained large amounts of information from a variety of sources that needs to be managed efficiently. Statutory Guidance states that we must state how this will be done. This section of the strategy sets out how the information that has been obtained and information that will be obtained in the future will be managed. This includes arrangements that have been made to allow access to the information we hold.

It is the intention of North West Leicestershire District Council to have an inspection strategy that is as transparent as possible so that reasons for the decisions made concerning contaminated land can be readily understood. Information will therefore be managed as set out below to achieve this aim and to comply with requirements of the statutory guidance [13].

### **7.2 The Public Register**

North West Leicestershire District Council is obliged to maintain a public register of information about contaminated land in its area of responsibility. Details of what must be included in the register are set out in the statutory guidance [13]. Briefly, these details are:

- a) Remediation Notices. To include:
  - a. Details of the remediation notice;
  - b. Who the notice has been served on;
  - c. Where the contaminated land the notice refers to is;
  - d. Why the land is contaminated land, what the contamination is and where it came from (if not from the land in question);
  - e. What the contaminated land is currently used for;

- f. Details of what remediation each appropriate person has to do and when this has to be done by;
    - g. The date of the notice.
  - b) Appeals against Remediation Notices. To include:
    - a. Details of any appeal against a remediation notice served by North West Leicestershire District Council and any decision on such an appeal.
  - c) Remediation Declarations. To include:
    - a. Any remediation declaration prepared and published by North West Leicestershire District Council and for any such declaration:
      - i. Where the contaminated land the Declaration refers to is;
      - ii. Why the land is contaminated land, what the contamination is and where it came from (if not from the land in question);
      - iii. What the contaminated land is currently used for;
      - iv. Details of what remediation each appropriate person has to do and when this has to be done by;
      - v. The date of the Declarations.
  - d) Remediation Statements. To include:
    - a. Any remediation statement prepared and published by the responsible person or by North West Leicestershire District Council and for any remediation statement,
      - i. Where the contaminated land the remediation statement refers to is;
      - ii. Why the land is contaminated land, what the contamination is and where it came from (if not from the land in question);
      - iii. What the contaminated land is currently used for;
      - iv. Details of what remediation each appropriate person has to do and when this has to be done by;
      - v. The date of the remediation statement.
  - e) Appeals against Charging Notices. To include:

- a. Any appeal against a charging notice served by North West Leicestershire District Council and any decision on such an appeal.
- f) Designation of Special Sites. To include:
  - a. Details of any land in North West Leicestershire District Council's area of responsibility designated as a Special Site by the district council or the Secretary of State and the reasons for this designation.
  - b. Any notice given by the Environment Agency (EA) of its decision to adopt a remediation notice (The EA being the enforcing authority for special sites).
  - c. Any notice given by or to North West Leicestershire District Council terminating the designation of any land as a Special Site.
- g) Notification of Claimed Remediation. To include:
  - a. Any notification given to North West Leicestershire District Council of remediation claimed to have taken place
- h) Convictions for Offences in relation to a Remediation Notice. To include:
  - a. Any conviction of a person, for any offence in relation to a remediation notice served by the local authority, including the name of the offender, the date of conviction, the penalty imposed and the name of the Court.
- i) Guidance issued to North West Leicestershire District Council by the Appropriate Agency. To include:
  - a. Details of any guidance issued for a particular site (by the Environment Agency in most cases).
- j) Other Environmental Controls such as:
  - a. Where the local authority cannot issue a remediation notice because the powers of the appropriate agency (usually the Environment Agency) may be exercised instead:
    - i. Where the contaminated land is;

- ii. Why the land is contaminated land, what the contamination is and where it came from (if not from the land in question);
    - iii. What the contaminated land is currently used for;
    - iv. Any steps of which the district council has information or has taken towards remedying any significant harm or pollution of controlled waters that causes the land to be contaminated land.
  - b. Where the powers of the appropriate waste regulation authority or waste collection authority may be exercised instead (in relation to deposition of controlled waste which causes the land to be contaminated land) a remediation notice may not be issued however the following details may be recorded on the register:
    - i. Where the contaminated land is;
    - ii. Why the land is contaminated land, what the contamination is and where it came from (if not from the land in question);
    - iii. What the contaminated land is currently used for;
    - iv. Any known steps taken to remove the waste, or reduce the consequences of its deposit, including steps taken by a waste regulation authority or waste collection authority and the name of the authority.
  - c. Where a water discharge consent is in force a remediation notice may not specify any works that would impede or prevent a discharge to a water body for which a discharge consent is in force:
    - i. Details of the consent;
    - ii. Where the contaminated land is;
    - iii. Why the land is contaminated land, what the contamination is and where it came from (if not from the land in question);
    - iv. What the contaminated land is currently used for;

### 7.2.1 Arrangement of Information in the Public Register

For ease of reference, the above information is organised so that all the entries relating to a particular site can be readily consulted in connection with each other.

North West Leicestershire District Council will add new information to the register as soon as is reasonably possible after it has been generated. The contents of the register therefore change over time as the information in it is added to or updated.

### 7.3 Information not on the public register

During the course of any investigation in to a potentially contaminated site, a lot of information will be generated by the local authority. When a site is not considered to be contaminated land, this information will not be on the public register. A site will only appear on the public register when a Remediation Notice has been served. Wherever possible the landowner or occupier will be encouraged to take voluntary action to remediate contaminated land. When voluntary investigation and remediation is being undertaken land will not appear on the public register.

The statutory guidance [13] requires North West Leicestershire District Council to prepare a written record of any determination that particular land is contaminated land even when this site does not appear on the public register. This must include information summarised below (by reference to other documentation if necessary):

- A description of the particular significant pollutant linkage, identifying all three components of source, pathway and receptor;
- A summary of the evidence upon which the determination is based;
- A summary of the relevant assessment of this evidence; and
- A summary of the way in which the inspector considers that the requirements of the statutory guidance [13] have been satisfied

Under the Environmental Information Regulations 2004, any information that is held by the local authority on land is potentially available to the

public on request. Information will not be made available when it is deemed to include commercially confidential matter, or it holds information that would be against national security interests if it was in the public domain. Arrangements for releasing information are given in section 8.

## 7.4 Confidentiality of Information

Under certain circumstances information on contaminated land may not or cannot be placed on the public register (or released in response to other requests). Circumstances where information is withheld are:

- where this is in the interests of national security;
- where this is commercially confidential;
- where the information relates to the affairs of any individual or business.

Where information has been excluded from the public register for reasons of commercial confidentiality, a statement will be placed on the register to indicate this.

Supply of any other environmental information held by North West Leicestershire District Council is also subject to certain exceptions. These are:

- where this is in the interests of national security;
- where the information is an issue in any legal proceedings or enquiry;
- where the information is still being completed, or is an internal communication of a relevant person;
- where this would affect the confidentiality of the deliberations of a relevant person;
- where this is commercially confidential.

The confidentiality of any information supplied to North West Leicestershire District Council by third parties is determined when this is received. Where a third party states that information it supplies to the local authority is commercially confidential, or cannot be released for any of the other reasons given above, then justification will be sought from the third

party to give the reasons for this. Information which is confirmed as confidential on the basis of a justification cannot be released to other parties. Where North West Leicestershire District Council is unable to supply information it will give the reason for this.

Any person, organisation or business may request in writing that the information they provide is excluded from the public register on the grounds of commercial confidentiality giving suitable grounds for why the information should be excluded.

North West Leicestershire District Council must consider all requests they receive and decide whether there are sufficient grounds to exclude the information.

When it is decided that the information would not fall within the remit of commercial confidentiality, the person concerned will be notified in writing. That person then has 21 days in which to appeal to the Secretary of State. Whilst an appeal is pending, no information shall be placed on the public register. If no appeal is made, after the 21 day period the information will be placed on the public register.

When any information is excluded from the public register on the grounds of commercial confidentiality, that exclusion will generally lapse after 4 years. If the individual, organisation or business still considers the information to contain commercially confidential material, a further application to the local authority would have to be made.

## 7.5 Storage Systems

Any information collected during the inspection procedure will be stored on a data management system and cross-referenced to the GIS Arcview software. The system will comprise of a digital map of the entire district, linked to a database containing all the information held by North West Leicestershire District Council.

As part of the implementation of the contaminated land strategy, an assessment will be carried on the various data management systems that are available. The database will hold all the information from the public register for particular areas or sites. The information stored on the database will be linked to the GIS by means of a unique reference number.

Some of the information will be held in paper form. This information will be held within the Health & Enforcement Services Section. This information will be cross-referenced using the same unique reference number that will link the site to the GIS system and the database.

### 7.6 Administration

Any information collected will be managed by the Environmental Health Department. The Contaminated Land Officer is responsible for collation of data, entering this onto the system and subsequent management. This includes ensuring that all confidential information is identified and managed in an appropriate manner.

The Contaminated Land Officer is also responsible for ensuring that all information is accurately recorded and up to date. This is achieved in part through links with other regulatory regimes (see section 7.7 below) and through the review process detailed in Section 8.

When digital data is supplied by third parties, the council will seek to ensure that a mechanism for regular updates of the data is put in place. Such data is supplied by both commercial organisations (e.g. digital historic maps) and public bodies such as the Environment Agency, Natural England and English Heritage.

## 7.7 Use by Other North West Leicestershire District Council Departments

There are links between the regulatory role for the inspection of contaminated land and other regulatory regimes such as Development Control, Building Control, and Land Charges. Other departments of the council will, from time to time, therefore need access to the information obtained in this strategy for internal use. For example, when the Development Control department receives an application to redevelop a site, it will need to consult any information held by Environmental Health for that site (or adjacent sites) to identify any potential issues to be addressed. These consultations are also used to keep information obtained up to date.

For internal use, other departments of the council will have access to public register information about contaminated land and to other information obtained in the course of this work used to compile the public register. This will include access to confidential information as is required by North West Leicestershire District Council officer's to carry out their duties. Where access to confidential information takes place, the appropriate officer will record this so that such access can be audited.

## **8 General Liaison and Communication Strategies**

In this section we identify the organisations that North West Leicestershire District Council has regular contact with in carrying out its contaminated land duties, and detail the arrangements for transfer of information.

We also explain how external organisations and the public can contact the district council to ask for, or offer, information about contaminated land.

### **8.1 Access to the Public Register and requesting information**

North West Leicestershire District Council is under a duty to keep the public register available for free inspection at any reasonable time. In addition to the information on the public register there may be other information relevant to a particular site or to the concept of contaminated land generally that may be available to the public. There may be a charge for some of the information. Details of any charge would be made available before carrying out any work.

The public register is located at North West Leicestershire District Council offices, and is available for inspection, free of charge between the hours of 9:00 am and 4:45pm, Monday to Friday (except Bank Holidays). Facilities are also provided for making copies of individual register entries. If required, visitors can ask for help in getting to know the layout of the public register and how to find information at the time of their visit.

The Public Register for Contaminated Land is available at:

Environmental Protection Officer (Land Contamination)  
Environmental Health  
North West Leicestershire District Council,  
Council Offices, Whitwick Road,  
Coalville,  
Leicestershire,  
LE67 3FJ

Tel: 01530 454 615

Email: [gareth.rees@nwleicestershire.gov.uk](mailto:gareth.rees@nwleicestershire.gov.uk)

Requests for copies of information from the public register may be made in writing, by telephone, fax or e-mail. Copies of information not on the public register may also be requested. A reasonable charge will be made for this service.

## 8.2 Responding to complaints from the public or other organisations

North West Leicestershire District Council's responsibility for contaminated land includes responding to information and complaints from the general public, and providing information in response to enquiries. You may wish to:

- Tell us about contaminated land or water pollution;
- Complain about the condition of land;
- Find out about contaminated land in your area;
- Find out more about contaminated land in general;
- Complain about our performance in dealing with contaminated land.

Organisations and members of the public can contact the council at any reasonable time to offer information about contaminated land.

Any complaints or offers of information should be addresses to the Environmental Health Department at the above address.

## 8.3 Internal Liaison and Communication

There are links between the regulatory role for the inspection of contaminated land and other regulatory regimes such as planning and development control. Officers of North West Leicestershire District Council will in the course of their duties therefore liaise with and communicate information between the inspection team and other departments. The internal Contaminated Land Working Party will continue to meet on a

regular basis to ensure that all relevant departments are aware of the information that is available.

Planning Policy Statement 23: Planning and Pollution Control - Annex 2: Development on Land Affected by contamination [17], places a duty on developers to ensure that a site is safe for a proposed development and as a minimum the site cannot be designated as Contaminated land under part IIa of the Environmental Protection Act 1990 [3]. In order to ensure these requirements are met development control officers will consult the contaminated land officer (CLO) in every case when a planning application is received for development on or near a potentially contaminated site. All such applications should be accompanied by a desk top study and a preliminary risk assessment of the site. On receipt of all the information the environmental health officer will assess the application and advise whether further investigations or remediation works are required to ensure that the land is fit for use. Any remedial works that are required will form part of the planning conditions. If remedial works are required the CLO will ask the developer for a Remediation Statement confirming what works will be carried out. On completion of the agreed remediation works the CLO will advise the development control officers in order that the planning conditions relating to contaminated land can be removed.

### 8.4 Contact Mechanisms for Other Statutory Bodies

North West Leicestershire District Council needs to consult other statutory bodies from time to time during the course of the detailed inspection process for its area of responsibility. These bodies may be able to supply specialist advice and information about sites and receptors, or they may have a prior interest. For example, the Environment Agency will be consulted when the site may be causing water pollution, and Natural England will be consulted if harm to designated areas of ecological importance is suspected. Other Statutory bodies that may be consulted include:

- Environment Agency;

- Leicestershire County Council;
- English Heritage;
- Natural England;
- East Midlands Development Agency;
- DEFRA – Department of Environment Food and Rural Affairs;
- The Health and Safety Executive (HSE); and
- Health Protection Agency (HPA).

Neighbouring local authorities may be contacted from time to time where issues are identified which may have a direct effect on them.

#### 8.4.1 Environment Agency

North West Leicestershire District Council has responsibilities for consulting with the Environment Agency (EA) as part of the inspection strategy. The geographical location of the district means that it is covered by two Environment Agency Regions. However for the purpose of this strategy the Area Contaminated Land Officer at the Environment Agency is based at the Severn-Trent region at the following address:

Contaminated Land Officer  
The Environment Agency  
Trentside Office  
Scarrington Road  
West Bridgeford  
Nottingham  
NG2 5FA

Tel: 0115 846 3730

There are a number of occasions when the Environment Agency (EA) may be contacted:

- Consult the EA on pollution of controlled waters;
- To seek advise on a site specific basis;
- Transfer responsibility for special sites to the EA;
- Provide summary information on contaminated land (see below).

From time to time, the EA has to prepare and publish a report on the state of contaminated land in England. The purpose of this report is to assess

the scale and significance of the problem and the effectiveness of measures put in place to address it. To allow the EA to do this, North West Leicestershire District Council will supply data to it from the body of information obtained under this inspection strategy.

Details of the information the EA expects to obtain from North West Leicestershire District Council are presented in a Procedural Note [61], which is available free of charge from the Environment Agency website: <http://www.environment-agency.gov.uk/>.

The EA has prepared 3 standard forms for submission of information to it from Local Authorities. These forms are:

- |                |  |
|----------------|--|
| SOCOL/LA/FORM1 | Information about a site when the Local Authority determines it as contaminated land (to be submitted with the written notice of determination); |
| SOCOL/LA/FORM2 | Information about the remediation process, when a remediation notice, statement or declaration notice is published;                              |
| SOCOL/LA/FORM3 | Information about the level of regulatory activity, every April/May summarising the previous financial year.                                     |

As part of the development of this strategy, the Environment Agency has already provided some information, including details on sites which are regulated under the Integrated Pollution Control regime and the Waste Management Licensing Regulations

#### 8.4.2 Leicestershire County Council

The County Council holds various pieces of information that could be useful in the identification of sites which may be classified as contaminated land. Examples of this would include old landfill sites and

mineral workings. The appropriate officers at the County council will be contacted as part of the initial survey of the district.

The County Council is also a landowner and some of their sites may be affected by land contamination. Confirmation will be sought from the County Council on details of their current and former land ownership. In addition they will be asked to provide details of any known remediation works that have been carried out on their land

Written correspondence addressed to the following departments:

- For County Council owned land:  
Resources & Property Services, Community Services.
- For Derelict Land/Reclamation:  
Community Development, Community Services.
- For Minerals & Development Control:  
Environmental Control Group, Community Services.
- For Road/Highways:  
Transportation & Waste Management, Highways Department.

Leicestershire County Council  
County Hall  
Glenfield  
Leicester  
LE3 8RA

Tel: 0116 323 232

#### 8.4.3 Neighbouring Authorities.

As previously discussed, this strategy was developed in conjunction with several Lincolnshire Authorities and members of the Welland group (Section 1). The other authorities that contributed to the group were the Welland Partnership, consisting of East Northamptonshire, Melton and Rutland, East Lindsey, West Lindsey, Lincoln City, North Kesteven, South Kesteven, Boston, and South Holland.

In addition as a subsidiary to the Charter Institute of Environmental Health Leicestershire Pollution Sub Committee, the Leicestershire Contaminated

Land Working Party was developed. This group has been meeting on a regular basis to discuss specific contaminated land issues and problems associated with the development of Contaminated Land Strategies.

The local authorities which border the boundary of North West Leicestershire District Council are listed below:

Charnwood Borough Council  
Environmental health  
Council Offices  
Southfields Road  
Loughborough  
LE11 2TX  
Tel: 01509 263151

South Derbyshire District Council  
Civic Offices  
Civic Way  
Swadlincote  
Derbyshire  
DE11 0AH  
Tel: 01283 595795

Hinckley and Bosworth Borough Council  
Council Offices  
Argents Mead  
Hinckley  
Leicestershire  
LE10 1BZ.  
Tel: 01455 238141

Rushcliffe Borough Council  
Civic Centre,  
Pavilion Road,  
West Bridgford,  
Nottingham  
NG2 5FE.  
Tel: 0115 981 9911

Nuneaton and Bedworth Borough Council  
Town Hall,  
Coton Road,  
Nuneaton,  
Warwickshire,  
CV11 5AA  
Tel: 024 7637 6376

Erewash Borough Council  
Town Hall  
Wharncliffe Road  
Ilkeston  
Derbyshire  
DE7 5RP  
Tel: 0845 907 2244

Litchfield District Council  
District Council House  
Frog Lane  
Lichfield  
Staffs  
WS13 6YY  
Tel: 01543 308000

#### 8.4.4 English Heritage

English Heritage holds a lot of information on listed buildings, scheduled ancient monuments and other sites of historic interest.

East Midlands Region  
44 Derngate  
Northampton  
NM1 1UH

Tel: 01604 735400

#### 8.4.5 Natural England

Natural England is responsible for designating sites with ecological significance and providing advice on ecology and conservation.

Enquiries  
Natural England  
Northminster House  
Peterborough  
PE1 1UA

Tel: 0845 600 3078 (local rate)  
Fax: 01733 455103  
email: [enquiries@naturalengland.org.uk](mailto:enquiries@naturalengland.org.uk)

#### 8.4.6 East Midlands Development Agency

The East Midlands Development Agency encourages and contributes to the redevelopment of derelict and contaminated sites. It holds information on contaminated sites and sites where remediation has already taken place.

Apex Court  
City Link  
Nottingham  
NG2 4LA

Tel: 0115 988 8300  
Fax: 0115 853 3666

#### 8.4.7 Department for Environment. Food and Rural Affairs

As part of the initial survey of the district, The Department for Environment Food and Rural Affairs (DEFRA) will be consulted on any potential contaminated land sites which they may be aware of. DEFRA will also be consulted on a site specific basis where it is anticipated that agricultural land may be affected.

Government Office for the East Midlands  
The Belgrave Centre  
Stanley Place  
Talbot St.  
Nottingham  
NG1 5GG

Tel: 0115 9712529

#### 8.4.8 Food Standards Agency

The Food Standards Agency is responsible for consumer safety of any food which may be contaminated land. This includes any food produced in domestic gardens and allotments and food which is collected from the wild.

Contaminants Division  
Food Standards Agency  
Rm. 707C,  
Aviation House  
125 Kingsway  
London  
WC2B 6NH

Tel: 0207 2768727 (inorganic)

Tel: 0207 2768731 (organic)

#### 8.4.9 Water Authorities

The provision of drinking water and sewage treatment in North West Leicestershire district is Severn Trent. As the water authorities have an interest in contaminated site which may affect their water supplies.

Environmental Planner  
Severn Trent Water Ltd.  
Severn Trent Headquarters  
2297 Coventry Road  
Birmingham  
B26 3PU

Tel: 0121 722 4000

#### 8.4.10 Health & Safety Executive

Where it is anticipated a contamination may be causing a significant health risk, or during the course of the inspections, health and safety issues are raised which are outside the controls of the contaminated land legislation, the Health and Safety Executive will be consulted.

5<sup>th</sup> Floor Belgrave House  
1 Greyfriars  
Northampton  
NN1 2BS

Tel: 01604 738300  
Fax: 01604 738333

#### 8.4.11 Health Protection Agency

The Health Protection Agency (HPA) identifies and responds to Human health hazards and emergencies caused by infectious disease, hazardous chemicals, poisons or radiation. Where contamination presents a potential risk to Human Health the HPA will be consulted.

East Midlands South Health Protection Unit  
Atelius House  
2 Smith Way  
Grove Park  
Enderby  
Leicester  
LE19 1SX

Tel: 0116 2631400

## 8.5 Contact Mechanisms for Owners, Occupiers and Other Interested Bodies

### 8.5.1 Owners/occupiers

North West Leicestershire District Council will normally contact site owners and occupiers when a detailed inspection is required, to make arrangements for a site visit (see Section 6). Site owners and occupiers will also be requested to provide any information regarding the site that is relevant to contamination.

Landowners and businesses can contact North West Leicestershire District Council for information about contaminated land at any time. Contact details are given in Section 8.1.

### 8.5.2 Other interested bodies

The following list of local organisations/groups within the community may also need to be contacted for information about sites and/or to be advised on the possible presence of sensitive sites and contaminated land. Other organisations may be contacted from time to time to give advice on specific sites.

Leicestershire and Rutland  
Wildlife Trust

Longfellow Road  
Leicester  
LE2 6BT  
Tel: 0116 2720444

British Geological Society  
Kingsley Dunham Centre  
Keyworth  
Nottingham  
NG12 5GG  
Tel: 0115 936 3100  
Fax: 0115 936 3200

Leicestershire Archaeological and  
Historical Society

The Guildhall  
Guildhall Lane  
Leicester  
LE1 5FQ  
Tel: 0116 270 3031

Leicestershire Chamber of  
Commerce & Industry

Charnwood Court  
New Walk  
Leicester  
LE1 6TE  
Tel: 0116 204 6602

and Parish Councils in the district as listed on

<http://www.leicestershireparishcouncils.org/northwestleicestershire>

Organisations who wish to contact North West Leicestershire District Council about contaminated land should use the contact information given in Section 8.1.

## 8.6 Risk Communication

North West Leicestershire District Council has the responsibility of communicating information about contaminated land to the land owner/occupier, local residents and other interested groups. It is the policy of the district council that people are allowed access to information that they may wish to see (this does not apply when the required information has been determined as confidential), and also that they are aware that such information exists.

When contaminated land is identified, we will also identify people who may want to know about the contamination. We will contact people who may be interested and explain what the contamination is and what North West Leicestershire District Council is doing about it. All individuals or groups concerned will be kept informed of the progress of any remediation works. If applicable a Public Information leaflet will be prepared and distributed.

## 9 Review Mechanisms

In this section, we tell you how we will review the work we are carrying out for this strategy including the factors that will influence when such review takes place.

### 9.1 Reviewing Inspections and Responding to New Information

The process for identifying potentially contaminated land is an ongoing activity. Further information may come to light at any stage in the procedure, and North West Leicestershire District Council will take into account information obtained from or volunteered by the public, site owners, businesses and voluntary organisations. New and updated information will also often be provided as a result of regular exchanges of information between the various council departments (particularly between Environmental Health and Planning) and with the Environment Agency and other statutory bodies (see Section 8 for details).

Sections 5 and 6 explains how potentially contaminated land will be identified and carry out inspections to determine which sites are contaminated land. Any decisions about contaminated land will be made on the basis of information available at the time. The decision relates to 'current use' [13] which means any use which is currently being made, or is likely to be made and which is consistent with any existing planning permission. 'Current use' includes:

- Temporary uses permitted under planning legislation,
- Future uses or developments which do not require a new or amended grant of planning permission,
- Likely informal recreational use of land (authorised and unauthorised) e.g. children playing on the land.

When considering a future use which qualifies as a 'current use' North West Leicestershire District Council will assume that this proceeds in

accordance with any existing planning permission, including any conditions relating to cleaning up or preventing contamination.

For agricultural uses, 'current agricultural use' [13] does not extend beyond growing or rearing of crops or animals which are habitually grown or reared on the land.

When further information is obtained for a site, North West Leicestershire District Council will check the database to determine whether the site concerned has already been assessed. If so, the site priority will be reviewed in the light of the new information. If the site has not previously been identified, the procedure will be followed as outlined in Section 5.4, including the new information, to determine its priority category.

If the site has already been subject to detailed inspection, North West Leicestershire District Council will review the inspection and the decisions made in the light of the new information.

Examples of information that will result in the revision of a site's prioritisation and inspection decisions are as follows:

- Proposed changes in the use of surrounding/adjacent land (planning applications and Development Structure Plan reviews);
- Planning applications;
- Unplanned changes in the land use (persistent unauthorised use of land by children, travellers, fly-tipping);
- Unplanned events where consequences cannot be addressed through other relevant environmental legislation (localised flooding, landslides, accidents, fires, spillages);
- Reports from statutory bodies of localised health effects that appear to relate to a particular area of land;
- Reports from statutory bodies of adverse ecological effects that appear to relate to a particular area of land;
- Reports from statutory bodies of adverse water quality effects that appear to relate to a particular area of land;

- Verifiable reports of unusual or abnormal site conditions received from members of the public, business, voluntary organisations (wildlife trusts, conservation groups, environmental pressure groups, etc);
- Updates of information provided by the Environment Agency e.g. changes to receptors such as Source Protection Zones, abstraction licence applications;
- Updates of information provided by Natural England e.g. new SSSI's or other designated protected areas.

## 9.2 Review of the Inspection Strategy

North West Leicestershire District Council will routinely carry out a review of its inspection strategy to ensure that:

- The inspection strategy is fulfilling the council's statutory obligations;
- The inspection strategy is appropriate to the needs of North West Leicestershire District Council;
- The inspection strategy and its procedures incorporate and develop in line with practical experience and new information gained during its operation;
- Inspection procedures represent efficient use of resources.

This strategy document is reviewed and amended where necessary. It is proposed that the next complete review of the strategy will be carried out within 5 years of the date of publication of this document.

## 9.3 Auditing Procedures

There is a need for North West Leicestershire District Council to demonstrate that it is fulfilling its obligations with respect to contaminated land inspection, maintenance of a register and reporting under the contaminated land legislation [3]

To ensure that the system is operating efficiently and properly, an auditor will be appointed by North West Leicestershire District Council to audit the

data systems. The auditing will be undertaken by an internal auditor, a member of another local authority or by an external consultant.

## **10 OTHER SUPPORTING INFORMATION**

### **10.1 Glossary**

This glossary has been prepared to assist understanding of technical and legal terms used in this contaminated land strategy. Definitions should therefore be taken in the context of contaminated land; they are not necessarily full and all encompassing definitions appropriate to any purpose. Explanations of terms with legal meaning have been simplified and/or further explained for clarity and should not be assumed to comprise full legal definitions, these are given by the statutory guidance [13].

#### **ABSTRACTION**

The pumping or collection of water for drinking or other use from a well, spring, river or other water source.

#### **APPROPRIATE PERSON**

Any person who is found to be liable to pay for remediation under the terms of the Environmental Protection Act 1990 Part IIA [1]. This is firstly the polluter. If no polluter can be identified, then the landowner may be the appropriate person.

#### **AQUIFER**

A body of rock or sediment that is sufficiently permeable to store and transmit water under the ground, in quantities that permit use of the water.

#### **BROWNFIELD SITE**

Any land where there has been a previous land development (with the exception of land previously developed by agricultural or forestry buildings). A brownfield site does not mean that the land is contaminated.

#### **CHARGING NOTICE**

A notice placing legal charge on land by an enforcing authority enabling the authority to recover reasonable remediation costs from the appropriate person (s).

#### CONTAMINATED LAND

The definition of contaminated land from the Environmental Protection Act 1990, Part IIA Section 78A(2) [1], is:

*“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) *pollution of controlled waters is being, or is likely to be, caused.”*

#### CONTROLLED WATERS

“Controlled waters” are all natural inland and near coastal waters, including groundwater. Therefore, all ponds, lakes, rivers, streams, estuaries and coastlines are controlled waters. Pollution of controlled waters means the addition of any “poisonous, noxious or polluting matter or any solid waste matter”.

#### DISCHARGE CONSENT

A consent, issued by the Environment Agency, allowing the discharge of waste water (e.g. run-off, or treated effluent from a factory) to a controlled water. The consent specifies the quantity and quality of waste water that may be discharged at the consented location.

#### GEOGRAPHICAL INFORMATION SYSTEM (GIS)

A computer program that enables map-related data to be stored, viewed, and processed.

#### ENVIRONMENTAL PERMITTING PROGRAMME (EPP)

Under the Environmental Permitting regulations 2007 [12] industrial sites operating particular processes require a permit to operate from the Environment Agency or the Local Authority (depending on the nature and scale of the process). In general, processes regulated under Environmental Permitting are likely to be more polluting than those not regulated; however this covers all forms of pollution and does not necessarily mean that these sites are likely to cause contamination of the ground.

### MAJOR AQUIFER

This is a highly permeable (rock) formation. This type of aquifer can be very productive and can support a large amount of water for public drinking water or other purposes.

### MINOR AQUIFER

These can be fractured or potentially fractured rocks which do not have a high primary permeability. In addition they could be made up of inter-bedded rocks or unconsolidated rocks with various permeability. These aquifers do not generally produce large quantities of water for abstraction purposes but they are important for local supplies and for supplying base flows for rivers.

### PATHWAY

A mechanism for a receptor to be exposed to a contaminant that may harm the receptor.

### POLLUTANT LINKAGE

A circumstance where it is possible that a contaminant (source) may contact a receptor (via a particular pathway)

### POTENTIALLY CONTAMINATIVE USE

A development that exists, or has previously existed, on a site where the nature of the development is such that it is possible that contamination of the ground may have occurred.

#### PUBLIC REGISTER

The register maintained by the enforcing authority containing details of formal action that is or has been taken on land that is contaminated land.

#### RAMSAR SITE

Area which have been formally listed as a Wetland of International Importance by the Secretary of State.

#### RECEPTOR

A receptor is either:

- A living organism (including humans) or group of organisms,
- Ecological system
- property that is being, or could be harmed by a contaminant
- controlled waters which are being, or could be, polluted by a contaminant

#### REMEDIATION

Remediation is an action carried out to reduce the risk of significant harm or water pollution. It entails breaking or removing significant pollutant linkages, by treating the source (contaminant); blocking the pathway or protecting or removing the receptor.

#### REMEDIATION DECLARATION

A document prepared and published by the enforcing authority, detailing remediation actions that it would have specified for a given site, but is prevented from so doing by Section 78E (4) and (5). This says that the authority must only specify remediation that is reasonable, given the seriousness of the harm or water pollution, and the cost of the works that would have to be carried out.

#### REMEDICATION NOTICE

A notice specifying what an appropriate person has to do by way of remediation and when he is to do each of the specified actions by. Note that the actions specified do not always consist of “remediation”.

“Assessment actions” and “monitoring actions” can also be specified in remediation notices.

#### REMEDICATION STATEMENT

A statement prepared and published by the responsible person detailing the remediation actions that have been carried out (or are planned).

#### RESPONSIBLE PERSON

The person responsible for carrying out the remediation. Not necessarily the same as the appropriate person.

#### RUN-OFF

Surface water that flows across an area and into rivers, streams etc. or drains during rainfall (i.e. all the water that does not soak into the ground).

#### SIGNIFICANT HARM

Significant harm includes:

- Death, disease, serious injury, genetic mutation, birth defects or the impairment of reproductive functions in humans
- Irreversible adverse change, or threat to endangered species, affecting an ecosystem in a protected area (e.g. site of special scientific interest)
- Death, serious disease or serious physical damage to pets, livestock, game animals or fish
- A substantial loss (20%) in yield or value of crops, timber or produce
- Structural failure, substantial damage or substantial interference with right of occupation to any building

Further information on significant harm is given in Annex 3, Chapter A, Table A of Circular 01/2006 DEFRA (the statutory guidance) [13].

#### SIGNIFICANT POLLUTANT LINKAGE

A pollutant linkage where the amount of contaminant (source) that may be able to contact the receptor is likely to be sufficient to result in significant harm or pollution of controlled waters.

#### SIGNIFICANT POSSIBILITY OF SIGNIFICANT HARM

In determining whether there is a significant possibility of significant harm, the local authority will use a risk assessment approach, considering both the severity and the likelihood of the possible harmful effect. This will involve establishing:

- The nature and degree of harm predicted
- The susceptibility of the receptors to which harm might be caused
- The timescale within which the harm might occur

#### SOURCE

A substance capable of causing harm, that is present in, on, or under the ground.

#### SOURCE PROTECTION ZONE

An area around a major groundwater abstraction (drinking water source) where ground contamination may result in the contamination of the water source. Source protection zones are defined by the Environment Agency and there are restrictions on development of some kinds (e.g. landfill sites) within them.

#### SPECIAL SITE

A Special Site is a contaminated land site that is regulated by the Environment Agency instead of the Local Authority. The definition of a Special Site is given in Section 78C(7) and 78D(6) of the Environmental Protection Act 1990 [3]

Examples of Special Sites are:

- Sites that could be contaminating drinking water resources
- Industrial sites likely to have difficult contamination problems, such as waste acid tar lagoons, oil refining, explosives and sites regulated under Integrated Pollution Control
- Nuclear sites
- MoD land (with some exceptions, like off-base housing)

### STATUTORY GUIDANCE

Guidance that must be complied with by the enforcing authority. The statutory guidance for English local authorities is given in DEFRA Circular 01/2006 [13].

### WALKOVER SURVEY

A preliminary survey of a site carried out by visual inspection. Normally the survey is guided by a checklist of areas or features to be inspected.

### WASHLAND

An area of the floodplain that is allowed to flood or is deliberately flooded by a river or stream for flood management purposes, with potential to form a wetland habitat

### WASTE MANAGEMENT LICENCE

Under the Environmental Permitting Regulations 2007 [12], all businesses involved in waste management must hold a license for each site or premises on which waste management operations are carried out. Licenses are issued and enforced by the Environment Agency.

## 11 REFERENCES

### 11.1 Legislation and Regulations

- [1] National Parks and Access to the Countryside Act 1949
- [2] Wildlife and Countryside Act 1981
- [3] Environmental Protection Act 1990, Part IIA: inserted by Environment Act 1995, Section 57. See Environment Act 1995 for text of Part IIA.
- [4] The Conservation (Natural Habitats, &c.) Regulations 1994  
SI1991/No. 2716
- [5] The Contaminated Land (England) Regulations 2000. SI2000/No.227
- [6] The Contaminated Land (England) (Amendment) Regulations 2001  
SI2001 No.663
- [7] The Radioactive Contaminated Land (Enabling Powers) (England) Regulations 2005 SI2005/No.3467
- [8] The Radioactive Contaminated Land (Modification of Enactments)(England) Regulations 2006 SI2006/No.1379
- [9] The Contaminated Land (England) Regulations 2006  
SI2006/No.1380
- [10] The Radioactive Contaminated Land (Modification of Enactments) (England) (Amendment) Regulations 2007 SI2007/No.3245
- [11] The Radioactive Contaminated Land (Modification of Enactments) (England) (Amendment) Regulations 2008 SI2008/No.520
- [12] The Environmental Permitting (England and Wales) Regulations 2007 SI2007/No. 3538

## 11.2 Statutory Guidance

- [13] Environmental Protection Act 1990, Part IIA. Contaminated Land, DEFRA Circular 01/2006, Department of Environment, Food and Rural Affairs, September 2006
- [14] Planning Policy Statement 9: Biodiversity and Geological Conservation, Office of the Deputy Prime Minister (ODPM).2005
- [15] Planning Policy Statement 23: Planning and Pollution Control, Office of the Deputy Prime Minister (ODPM). 2004
- [16] Planning Policy Statement 23: Planning and Pollution Control - Annex 1: Pollution Control, Air and Water Quality, Office of the Deputy Prime Minister (ODPM). 2004
- [17] Planning Policy Statement 23: Planning and Pollution Control - Annex 2: Development on Land Affected by contamination, Office of the Deputy Prime Minister (ODPM). 2004

## 11.3 British Standards

- [18] BS 10175:2001 Investigation of potentially contaminated sites - Code of practice
- [19] BS 5930:1999 Code of practice for site investigations
- [20] BS 8485:2007 Code of practice for the characterization and remediation from ground gas in affected developments
- [21] BS EN 1997-1:2004 Eurocode 7 - Geotechnical design - Part 1 - General rules
- [22] NA BS EN 1997-1:2004 national annex to Eurocode 7 - Geotechnical design - Part 1
- [23] BS EN 1997-2:2007 Eurocode 7 - Geotechnical design - Part 2 - Ground investigation and testing

- [24] BS EN ISO 14688-1:2002 Geotechnical investigation and testing - Identification and classification of soil - Part 1 - Identification and description
- [25] BS EN ISO 14688-2:2004 Geotechnical investigation and testing - Identification and classification of soil - Part 2 - Principles for a classification
- [26] BS EN ISO 14689-1:2003 Geotechnical investigation and testing - Identification and classification of rock - Part 1 - Identification and description
- [27] BS EN ISO 22475-1:2006 Geotechnical investigation and testing - Sampling methods and groundwater measurements - Part 1 - Technical principles for execution
- [28] BS EN ISO 22476-2:2005 Geotechnical investigation and testing - Field testing - Part 2 - Dynamic probing
- [29] BS EN ISO 22476-3:2005 Geotechnical investigation and testing - Field testing - Part 3 - Standard penetration test
- [30] BS ISO 15176:2002 Soil quality - Characterization of excavated soil and other soil materials intended for re-use
- [31] BS ISO 17616:2008 Soil quality - Guidance on the choice and evaluation of bioassays for ecotoxicological characterization of soils and soil materials
- [32] BS ISO 18772:2008 Soil quality - Guidance on leaching procedures for subsequent chemical and ecotoxicological testing of soils and soil materials
- [33] BS EN ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories

## 11.4 Non Statutory Technical Guidance

- [34] Aspinwall and company. 1994. A Framework for Assessing the Impact of Contaminated Land on Groundwater and Surface Water, Contaminated Land Report (CLR) 01 (2 volumes) - Department of the Environment, Transport and the Regions
- [35] Chris Scivyer. 2007. BR211 RADON Guidance on protective measures for new buildings (including supplementary advice for extensions, conversions and refurbishment). IHS BRE Press Bracknell
- [36] Applied Environmental Research Centre Ltd (1994) Guidance on preliminary site inspection of contaminated land, Contaminated Land Report (CLR) 02 (2 volumes), Department of the Environment Transport and the Regions
- [37] RPS Consultants Ltd, 1994. Documentary Research on Industrial Sites, Contaminated Land Report (CLR) 03, Department of the Environment Transport and the Regions
- [38] Centre for Research into the Built Environment (1994) Sampling Strategies for Contaminated Land, Contaminated Land Report (CLR) 04, Department of the Environment Transport and the Regions
- [39] Meta\_generics ltd. 1994. Information systems for land contamination, Contaminated Land Report (CLR) 05, Department of the Environment, Transport and the regions Transport and the Regions
- [40] M.J. Carter Associates 1995 Prioritisation and Categorisation Procedure for Sites which may be Contaminated, Contaminated Land Report (CLR) 06, Department of the Environment
- [41] DEFRA and Environment Agency, 2002. Assessment of Risks to Human Health from Land Contamination: An Overview of the Development of Guideline Values and Related Research,

Contaminated Land Report (CLR) 07. Environment Agency R&D Dissemination Centre.

- [42] DEFRA and Environment Agency, 2002. Priority Contaminants Report, Contaminated Land Report (CLR) 08, Department for Environment, Food, and Rural Affairs. Environment Agency R&D Dissemination Centre.
- [43] DEFRA and Environment Agency, 2002. Contaminants in Soil: Collation of Toxicological Data and Intake Values for Humans, Contaminated Land Report (CLR) 09, Department for Environment, Food, and Rural Affairs. Environment Agency R&D Dissemination Centre
- [44] DEFRA and Environment Agency, 2002. Contaminated Land Exposure Assessment Model (CLEA): Technical Basis and Algorithms, Contaminated Land Report (CLR) 10, Department for Environment, Food, and Rural Affairs. Environment Agency R&D Dissemination Centre.
- [45] DEFRA and Environment Agency, 2002. Model Procedures for the Management of Contaminated Land, Contaminated Land Report (CLR) 11, Department for Environment, Food, and Rural Affairs.
- [46] Environment Agency, 2001 Technical Aspects of Site Investigation, Technical Report P5-065/TR. Environment Agency R&D Dissemination Centre.
- [47] Environment Agency, 2001 Development of Appropriate Soil Sampling Strategies for Land Contamination, Technical Report P5-066/TR. Environment Agency R&D Dissemination Centre.
- [48] DEFRA, 2008. Guidance on the Legal Definition of Contaminated Land. Department for Environment, Food, and Rural Affairs.

- [49] Environment Agency. 2009, Science Report – SC050021/SR2: Human health toxicological assessment of contaminants in soil, Environment Agency.
- [50] Environment Agency. 2009, Science Report – SC050021/SR3: Updated technical background to the CLEA model, Environment Agency.
- [51] Environment Agency. 2009, Science Report – SC050021/SR4: CLEA Software (Version 1.05) Handbook, Environment Agency.
- [52] Department of the Environment Transport and the Regions, 2001 Contaminated Land Inspection Strategies – Technical Advice for Local Authorities.
- [53] Environment Agency, 2008 (ERA 1) Ecological Risk Assessment Framework for contaminants in soil. SC070009/SR1. Bristol: Environment Agency
- [54] Environment Agency, 2008 (ERA 2a) Guidance on desk studies and Conceptual Site Models in Ecological Risk Assessment. SC070009/SR2a. Bristol: Environment Agency
- [55] Office of the Deputy Prime Minister (ODPM), 2004 Planning Policy Statement 23 Planning and Pollution Control. London: ODPM.

## 11.5 Other Guidance

- [56] Department of the Environment (1995) A Guide to Risk Assessment and Risk Management for Environmental Protection, HMSO, London
- [57] Department of the Environment, 1990. Department of the Environment classification (DoE) Pilot Survey of potentially contaminated land in Cheshire – A methodology for identifying potentially contaminated land.

- [58] Ferguson, C., Darmendrail, D., Freier, K., Jensen, B.K., Jensen, J., Kasamas, H., Urzelai, A. and Vegter, J. (editors) 1998 Risk Assessment for Contaminated Sites in Europe. Volume 1 Scientific Basis. LQM Press, Nottingham
- [59] SNIFFER (1999) Communicating understanding of contaminated land risks Scotland and Northern Ireland Forum for Environmental Research, SEPA, Stirling
- [60] CIRIA (1995) Remedial Treatment for Contaminated Land Volume III: Site investigation and assessment, Special Publication 103, CIRIA
- [61] Environment Agency Procedural Note 6: State of Contaminated Land Report (2000)

## 11.6 Data sources

- [62] British Geological Survey DigMapGB-50 Digital Geological Maps 1:50,000
- [63] Environment Agency Digital Groundwater Vulnerability Map 1:100,000