



EAST RIDING
OF YORKSHIRE COUNCIL

CONTAMINATED LAND INSPECTION STRATEGY

2013 – 2018

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NON TECHNICAL SUMMARY

There is a substantial legacy of contaminated land in the United Kingdom, due to its long industrial heritage and previous waste disposal practises. Although there are now various regimes in place to prevent new contamination occurring, the historic contamination which remains in the environment still has the potential to adversely affect people's health, as well as damage water quality, ecological systems and property. It is expected that most contaminated land will be cleaned up voluntarily, for example through the planning system. However, where land is deemed unsuitable for its current use on the basis of a significant risk from contamination, the council has a responsibility to intervene and ensure that those risks are properly mitigated. This strategy sets out how East Riding of Yorkshire Council intends to go about this process. It replaces the council's original contaminated land inspection strategy published in 2001 (and reviewed in 2003, 2005 and 2010). The strategy summarises the key principles of the contaminated land regime, within the local context of the East Riding of Yorkshire, and the council's own corporate priorities. It describes how the council has gone about identifying potentially contaminated land in its area, and how these sites are categorised during more detailed inspection. It also outlines the steps that are taken in determining contaminated land, and establishing liability for remediating the land, in accordance with Government guidance.

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1.0 INTRODUCTION

1.1 THE DEFINITION OF CONTAMINATED LAND

Over the past hundred years the economic wealth of this country and the standard of living of its people have increased enormously. However, this focus on economic growth in the past has often ignored the negative impacts on people and the environment.

As a result of our failure in the past to move towards sustainable development we have been left with a substantial legacy of land which is potentially contaminated by previous industrial use and waste disposal activities.

The contaminated land regime is set out in Part 2A of the Environmental Protection Act 1990. It was introduced in April 2000, and gives specific legal powers to local authorities to identify and deal with contaminated land. The regulations were widened in 2006 to include land contaminated by radioactivity.

The legal definition¹ of contaminated land 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) significant pollution of controlled waters is being, or is likely to be caused’.*

‘Substances’ are defined as any natural or artificial substance, whether in solid or liquid form, or in the form of a gas or vapour. Further guidance on the definition of ‘significant harm’ and ‘significant pollution’ is provided in Appendix I.

The above definition reflects the role of the regime which is to enable the identification and remediation of land where contamination is causing unacceptable risks to human health or the environment. It does not necessarily include all land where contamination is present. The definition for radioactive contaminated land is slightly different, and is discussed later in section 3.3.8.

Remediation means taking steps to prevent, minimise, remedy or mitigate the effects of significant harm or significant pollution of controlled waters. It may include assessing the land or waters in question, and carrying out subsequent inspections to review the condition of the land or waters.

¹ As defined by section 78A(2) of Part IIA of the Environmental Protection Act 1990, inserted by Section 57 of the Environment Act 1995, and amended by Section 86 of the Water Act 2003

Every local authority has a legal duty to inspect its area from time to time in order to identify contaminated land. East Riding of Yorkshire council's duties under Part 2A are primarily undertaken by the specialist environmental control team within the Public Protection service.

For certain categories of sites which have been determined as contaminated land, the Environment Agency is the enforcing authority. These are known as 'special sites', and further details are provided in Appendix 2.

1.2 GOVERNMENT POLICY

Under Part 2A, the starting point should be that land is not contaminated unless there is reason to consider otherwise. Part 2A is intended to deal with the worst sites, where no appropriate alternative solution is available. The council must always consider the benefits and the costs of taking action under Part 2A, to ensure that intervention is both precautionary and proportionate.

The Government's main policy objectives with respect to contaminated land are:

- To identify and remove unacceptable risks to human health and the environment.
- To seek to bring damaged land back into beneficial use.
- To seek to ensure that the cost burdens faced by individuals, companies and society as a whole are proportionate, manageable and economically sustainable.

These key objectives are reflected in the council's contaminated land inspection strategy

1.3 AIMS AND OBJECTIVES

The aim of this strategy is to set out in writing how the council intends to implement its responsibilities under Part 2A, in accordance with statutory guidance, and how it fits in with other regulatory systems. The statutory guidance states that local authorities should take a strategic approach for carrying out its duties under Part 2A, and should adopt a written strategy for inspecting their areas.

The strategic approach should aim to:

- a) be rational, ordered and efficient;
- b) be proportionate to the seriousness of any actual or potential risk;
- c) seek to ensure that the most pressing and serious problems are located first;

- d) ensure that resources are concentrated on investigating in areas where the authority is most likely to identify contaminated land; and
- e) ensure that the council efficiently identifies requirements for the detailed inspection of particular areas of land.

The principal objectives of the inspection strategy are:

- i. to meet the statutory obligation placed on the council to produce a written strategy under Part 2A;
- ii. to provide a strategic framework which the council will use to identify, inspect and determine contaminated land, and describe the measures that may be taken to remediate such land;
- iii. to describe how the council will prioritise and categorise sites;
- iv. to inform the public, and improve communication with stakeholders, of the council's intentions in relation to contaminated land;
- v. to ensure that the council's corporate priorities and ambitions will be achieved by adopting this strategy, in particular valuing our environment and revitalising our communities, by removing unacceptable risks to human health and the environment; and

1.4 STRATEGY REVIEW AND PROGRESS

The council's original contaminated land inspection strategy was published in 2001, following the introduction of Part 2A in April 2000. Prior to 2001, the council had already been involved in the investigation and voluntary remediation of several sites where risks from contamination had been identified. The strategy was reviewed in 2003 and again in 2005, to report the progress of detailed site inspections and the ongoing development of the contaminated land geographical information system (GIS), as well as to incorporate the release of the Contaminated Land Exposure Assessment (CLEA) tool by the Government in 2002. By 2008/09, thirteen properties had been determined as contaminated land, and subsequently remediated, and around fifty detailed inspections of priority sites had also been completed where no evidence of significant risks were identified.

A full review of the strategy was undertaken in 2010, following changes in the council's approach to prioritisation, as well as changes in national policy, in particular the introduction of the Contaminated Land (England) Regulations 2006, which brought radioactive contaminated land under the Part 2A regime. The 2010 strategy is amended in line with the revised statutory guidance published in April 2012, as well as other key changes that could affect the regime. This new strategy will replace the 2010 revision and the previous strategy published in 2001.

The strategy will continue to be reviewed at least once every five years, as recommended by Government, and there will be a constant review of data held on the GIS, which will be updated accordingly. The review process may lead to amendments to the inspection plan, in light of existing workloads, available budget and staffing resources.

I.5 CONSULTATION

A number of internal council sections, including asset strategy, legal and democratic services, planning and development control, public health, and the policy group, have been consulted on the production of this strategy. A draft copy of the strategy was also available on the council's website.

The following neighbouring local authorities and external public bodies were also invited to provide comments on the strategy:

- Environment Agency
- Natural England
- Food Standards Agency
- English Heritage
- Health Protection Agency
- Hull City Council
- City of York Council
- Selby District Council
- Ryedale District Council
- Scarborough Borough Council
- Doncaster Council
- North Lincolnshire Council

I.6 CORPORATE PRIORITIES

The contaminated land inspection strategy has been prepared in the context of the council's vision statement and corporate priorities, and embraces the council's corporate service standards.

The council's vision is a short statement of what we want to achieve, through our work, for the residents of the East Riding and guides us in everything we do. Our vision is:

To improve the quality of life for our community, earn the respect of the people we serve and build pride in belonging to the East Riding of Yorkshire

The Government's objectives underlying the contaminated land regime, such as reducing health risks and improving environmental and economic sustainability, are also reflected in the council's five corporate priorities:

- **Maximising our potential** – working with others to support strong economic growth and strong communities, ensuring East Riding is a great place to invest in, live, work and visit.
- **Valuing our environment** – responding to climate change, developing our infrastructure and safeguarding our heritage.

- **Supporting vulnerable people, reducing inequalities** – supporting in times of need, protecting from harm, and improving the quality of life.
- **Promoting health, wellbeing and independence** – helping people to stay healthy, strong and fit for the future.
- **Reducing costs, raising performance** – developing our workforce and working with partners to provide excellent service, effective governance and value for money.

The council's contaminated land service and the other environmental control functions are predominantly involved with the priorities of 'valuing our environment' and 'promoting health', but contribute across the full range of corporate priorities.

The East Riding Local Strategic Partnership (LSP), which brings together organisations from the public, private, community, and voluntary sectors within the East Riding, has produced the East Riding Community Plan 'Our East Riding'. This sets out several shared ambitions to make the East Riding a better place to live in, work in and visit:

- Children and young people have a brighter future
- Older people enjoy a healthy independent lifestyle
- Communities are thriving, prosperous and safe
- Regeneration transforms deprived areas and reduces health and other inequalities, and
- We value and care for the diverse character of the area

The LSP has also identified certain key sustainability principles, which emphasises the council's commitment to social and economic development without compromising our environment. This approach is fundamental in preventing new environmental problems for future generations, and therefore fulfils one of the objectives of the contaminated land regime. The key sustainability principles of the LSP are:

- Build strong and inclusive urban and rural communities which reflect our culture, now and in the future
- Ensure that the East Riding is well managed
- Protect and enhance the quality of our towns and villages
- Provide quality environments
- Be economically prosperous
- Provide services which meet the people's needs and are accessible to all

The Community Plan is closely linked with other key strategic council documents, such as the Business Plan and the Local Development Framework, so that the needs of the local community are met and the council's corporate priorities are delivered, through effective service planning.

1.7 RISK MANAGEMENT

Risk is defined as the probability of an event occurring and its potential impact on an objective. Risks can be positive, i.e. an opportunity to benefit, or negative, i.e. a threat to success. Risk management is the process of identifying and effectively managing risks that would impact on the council achieving its objectives.

In terms of achieving the objectives of the contaminated land inspection strategy, examples of risks which could have a negative impact include reduction of allocated resources, both financial and personnel, changes in national or European law or statutory guidance, making decisions based on incomplete or false information, and potential legal challenges to the decisions or actions of the council when acting out its duties under Part 2A. The identification and management of risk is key to a better more informed decision making process.

Risk cannot usually be eliminated, and so control measures need to be put in place to reduce identified risks to an acceptable level. A risk management analysis has been undertaken for delivering the strategy, to allow the relative ranking and prioritisation of identified risks, and to identify mitigating controls. The outcomes of the risk management process will be reviewed alongside the strategy. Risk analysis for the implementation of the strategy will also be undertaken at a project specific level, and a risk register will be maintained and will also be subject to periodic review.

1.8 EQUALITY AND HUMAN RIGHTS

East Riding of Yorkshire Council is committed to fulfilling its roles as an employer, service provider, purchaser of goods or services and community leader without discrimination in terms of colour, culture or ethnic origin, nationality, religion or belief, gender, disability, age, sexuality, geographical location or any other status.

All councillors, employees and agents of the council must seek to eliminate discrimination and promote equality and good relations within all communities. In developing this strategy, the equalities impact assessment screening process has been completed. A full equalities impact assessment was deemed not to be required for this strategy, there being no specific adverse impacts on any particular group(s) within the community. If, at any time, this strategy is considered to be discriminatory in any way, the environmental control manager should be contacted immediately to discuss such concerns.

Under the provisions of article 8 of the Human Rights Act, everyone has the right to respect for their private and family life, their home and their correspondence. There shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of national security, public

safety, the economic well being of the country, for the prevention of disorder or crime, for the protection of health or morals or for the protection of the rights and freedom of others.

The three main principles that the council will adhere to in order to comply with article 8 during the course of its investigations into contaminated land are:

- The council will only undertake actions which are securely authorised by law. The rule under law authorising those actions will be sufficiently accessible by the subject of the council's actions and the manner of the exercise of those actions will have pre-determined limits to protect the public from arbitrary interference.
- The council will only act for a prescribed purpose and its actions will be proportionate.
- The council will only take action which it deems to be necessary in the interests of public safety, the economic well being of the country, for the prevention of disorder or crime, for the protection of health or morals or for the protection of the rights and freedom of others.

2.0 THE EAST RIDING OF YORKSHIRE

2.1 CHARACTERISTICS OF THE AREA

2.1.1 Geographical location

The East Riding of Yorkshire is situated in the northeast of England, on the North Sea coast. The principal towns are Beverley, Bridlington, Goole and Driffield. The area is bounded to the north by Ryedale and Scarborough Districts (part of North Yorkshire), to the west by York City and Selby District, and to the south by the metropolitan borough of Doncaster, North Lincolnshire and the City of Hull. The rivers Derwent/Ouse and Humber form the western and southern boundaries respectively, with the eastern boundary comprising the North Sea coast. Much of the area is low-lying and is therefore at risk from flooding. The Holderness coastline begins at the chalk cliffs of Flamborough Head and extends 85 km south to Spurn Point at the mouth of the Humber estuary. The coastline is mostly composed of boulder clay and in parts is the fastest eroding coast in Europe.



Figure 1– Map of the East Riding

2.1.2 Size and population

East Riding of Yorkshire Council is one of the largest unitary authorities by area in England, covering 930 square miles. It has a population of approximately 338,000, and comprises 171 parishes and 26 wards. The largest town is Bridlington with a population of approximately 35,000 people. The other major settlements are Beverley, with a population of

approximately 30,500, Goole, with a population of approximately 19,500, and the Haltemprice area to the west of Hull which includes Cottingham (17,000), Hessle (15,000) and Anlaby/Willerby/Kirkella (23,000). However, over half the population live in rural communities. Increasingly, the East Riding population is becoming older due to migration by retired people, particularly to coastal resorts. The proportion of 55-64 year olds in the region has increased by four per cent since 1991.

2.1.3 Landscape and infrastructure

Two stretches of the Holderness Coast have Heritage Coast status – Flamborough Head and Spurn Point. These two locations are afforded protection due to their special scenic and environmental value. Holderness itself forms the eastern strip of the county. It is low-lying, undulating countryside, and includes the River Hull which flows south from Driffeld. The Yorkshire Wolds form the middle ridge of the county. They are rolling chalk hills curving north from near Hessle and spreading out before ending abruptly at the cliffs of Flamborough and Bempton. On the edge of the Wolds are the market towns of Driffeld, Pocklington and Market Weighton. To the west of the Wolds is the Vale of York. It is flat, low-lying ground which includes the towns of Goole and Howden. The River Derwent flows along the East Riding's western boundary.

The East Riding has a range of transport services. The River Ouse flows around Goole and turns into the Humber Estuary. There is a major port at Goole as well as some smaller ports along the Humber. The East Riding is connected to the motorway network via the M62, and there are regular train services to Sheffield and Leeds. Trains also run several times a day from Hull to London.

2.2 INDUSTRIAL DEVELOPMENT AND LAND-USE

Traditionally the area has been associated with agriculture – 95% of the land area is still in some form of agricultural use. Fishing too has always been an important factor in the area's economy, with major employers along the Humber and elsewhere, and tourism now is a particularly important part of the coastal economy.

Inland, industry is found in pockets close to the main conurbations, frequently on former Second World War airfields which have been subsequently developed as industrial estates. Major industrial uses today include food and drink manufacture, chemical manufacture, transport and distribution, agricultural and aeronautical engineering, mineral products and natural gas refining.

The inland port of Goole and independent wharfs on the rivers Humber and Ouse have long been associated with the handling of coal, timber and other materials. Various shipworks have existed in the Goole and Hull areas. Whereas the port comes within the jurisdiction of the Hull and Goole Port

Health Authority for general environmental health issues, East Riding of Yorkshire Council is the regulator for the purposes of Part 2A.

Agriculture, associated industries and rural trades were widespread throughout the 19th and early 20th centuries, e.g. blacksmiths, millers, tanners, malters, brewers, abattoirs, rope makers, and agricultural engineers. Beverley in particular, was historically a major centre for the tanning industry.

Limestone historically provided the only locally available durable building stone. The chalk uplands of the wolds, therefore, became dotted with quarries, many of which have been subsequently used for the unregulated disposal of waste by landfill. As limestone gave way to brick as the principle building material, brickworks and tileworks became established in the areas of glacial clay deposits, the resulting excavations also being subsequently used for waste disposal in many instances. There are still operational sand and gravel pits in the area.

Chalk also provided the raw material for the manufacture of whiting, used in paints, and there are still operational whiting works located near Melton, Beverley and Middleton on the Wolds.

There have been several railway lines that have previously crossed the East Riding. The lines from York to Beverley via Pocklington and Market Weighton, and from Selby to Beverley via Holme on Spalding Moor and Market Weighton are now disused, as are the lines from Hull to Hornsea and to Withernsea. However, the lines from Selby to Hull via Howden, from Doncaster to Hull via Goole, and from Hull to Teesside via Beverley, Driffield and Bridlington remain operational.

Ownership and maintenance of the majority of operational railway land lies with Network Rail (formerly Railtrack). These operations were transferred in 1994 from the British Railways Board (BRB). A small number of sites passed into the ownership of other companies associated with the railway and some lines were already owned by private railway companies. Sites which were not part of the operational railway, e.g. disused branch lines, generally remained under the ownership of BRB (Residuary) Ltd. Most of this land has now been sold off, and the Government have recently consulted on proposals to abolish BRB (Residuary) Ltd. Some disused lines are currently owned by the council and have been adopted for the use as footpaths and cycle paths.

There are around 35 former gasworks in the East Riding, which manufactured and supplied gas to various settlements and private estates. However, since the arrival of piped natural gas, most of these sites became redundant. Some sites have been retained for gas storage or as gas valve compounds. Others have since been sold off and redeveloped, while others have been voluntarily remediated by their current owners to make them suitable for use.

Due to the nature of its landscape and its proximity to the North Sea, the East Riding has seen a recent increase in demand for development in the

energy sector. This includes onshore and offshore windfarms, pipelines and storage facilities for natural gas, as well as farm diversification into energy crops.

2.3 ECOLOGY

Part 2A enables local authorities to take action to prevent significant harm to protected ecological systems from contamination. The East Riding has many nature conservation sites which are designated because of their international or national ecological or scientific importance.

These include:

- Ramsar Sites (Humber Estuary; The Lower Derwent Valley);
- 5 Special Protection Areas (Humber Estuary; The Lower Derwent Valley; Hornsea Mere; Flamborough & Bempton Cliffs; Thorne and Hatfield Moors);
- 5 Special Areas of Conservation (Flamborough Head; The Lower Derwent Valley; River Derwent; Thorne Moor; Humber Estuary (Candidate));
- European Marine Sites (Flamborough Head; Humber Estuary);
- A Biogenetic Nature Reserve (Millington Wood and Pastures); and
- 47 Sites of Special Scientific Interest (e.g. Pocklington Canal, Melton Bottom Chalk Pit, Hornsea Mere)

In addition, Local Nature Reserves, such as the Humber Bridge Country Park, provide important habitats for local wildlife. The East Riding of Yorkshire Biodiversity Action Plan (ERYBAP) strategy was published in October 2010. The ERYBAP sets out what is special about the biodiversity of the East Riding and what action will be taken, through partnership work, to conserve Priority Species and conserve, enhance, restore and re-create Priority Habitats, and set appropriate targets to achieve this. A number of these species and habitats are already legally protected, and threatened. Natural England is the Government's advisor on the natural environment. When considering if land is contaminated, the council will consult Natural England in cases involving ecological systems, to determine what constitutes ecological harm, and will if necessary also liaise with the council's own biodiversity officers and other local conservation groups.

The Environment Agency, in consultation with relevant stakeholders have developed an Ecological Risk Assessment Framework, which provides a tiered risk-based system for local authorities and other regulators and practitioners to assess ecological risk specifically from land contamination.

2.4 GEOLOGY, HYDROGEOLOGY AND HYDROLOGY

Since the East Riding is a relatively extensive area, various geological and topographical characteristics are found across the region.

The earliest rock formations deposited in the area are the sandstones and mudstones of the Permian and Triassic periods, in the west of the East Riding, which include the Sherwood Sandstone. This was followed by shales, sandstones and limestones during the Jurassic and Cretaceous periods. During this period the Yorkshire and Lincolnshire wolds were formed which extend from Flamborough Head to beyond the southern boundary of the area. No Tertiary deposits were laid down in the area, however, during the Quaternary glaciation, huge ice sheets and glaciers covered this part of England depositing sands, gravels, silts and clays. More recently superficial alluvial deposits have been deposited in river flood plains.

Areas of naturally occurring metal enriched soils are identified in the British Geological Survey's Regional Geochemical Atlas, which includes arsenic, nickel, barium, and cadmium.

The main groundwater resources within the East Riding comprise the principal Cretaceous Chalk aquifer, which runs in a broad sweep from Flamborough Head in the north to the Humber Estuary in the south, and the principal Sherwood Sandstone aquifer to the south west of Goole.

The region is entirely dependent upon groundwater for public water supplies. There are 22 groundwater source protection zones situated within the East Riding, where public supplies are considered to be particularly vulnerable to pollution by direct infiltration of contaminants. There are 163 private water supplies currently in use in the East Riding, comprising boreholes, wells and springs, and some of these are periodically sampled and analysed by the council in accordance with the Private Water Supplies Regulations 2009.

The main surface water catchments comprise the rivers Ouse, Derwent and Hull and their tributaries. The Environment Agency is responsible for monitoring river water quality in England. For more information visit their website www.environment-agency.gov.uk/research.

2.5 HISTORIC BUILDINGS, ANCIENT MONUMENTS AND ARCHAEOLOGY

Buildings, property, ancient monuments and important archaeological sites are also classed as 'relevant receptors' under Part 2A. The East Riding has an important and diverse built heritage. There are over 2,500 listed buildings within the East Riding and over 100 of these are listed as Grade I - buildings of outstanding or national architectural or historic interest. There are also 103 Conservation Areas within East Riding towns and villages, which require preservation and enhancement.

There are numerous parks and gardens of historic interest too. These include Sledmere House, Burton Constable, Londesborough Park and Dalton Hall, all of which appear on English Heritage's Register of Parks and Gardens. In addition, the historic battlefield at Stamford Bridge provides the backdrop for one of the most important turning points in English history. As such, the area of the battlefield is identified on English Heritage's Register of Historic Battlefields – one of only 43 in the country.

The Humber Sites and Monuments Record (SMR) identifies approximately 350 Scheduled Ancient Monuments in our area. Scheduling refers to the legal system for protecting nationally important archaeological sites in England. The East Riding is rich in archaeological and historic remains and concentrations of sites are found in towns such as Beverley, Hedon and Elloughton-cum-Brough. When planning any intrusive site investigation or remediation work, the council will have due regard for such receptors, and will consult the Humber Archaeological Partnership and the council's building conservation section, in order to identify any constraints at an early stage.

3.0 THE CONTAMINATED LAND REGIME

3.1 GOVERNMENT GUIDANCE AND REGULATIONS

Part 2A of the Environmental Protection Act 1990 (“the 1990 Act”) is supported by statutory guidance, the Contaminated Land (England) Regulations 2006, and the Contaminated Land (England) (Amendment) Regulations 2012. Section 86 of the Water Act 2003, which was introduced in February 2012 by way of a commencement order, amended the definition of contaminated land in relation to pollution of controlled waters.

Contaminated Land Statutory Guidance was published by the Department for Environment, Food and Rural Affairs (Defra) in April 2012, and replaces the previous guidance set out in Defra circular 01/2006. The statutory guidance sets out the Government’s policy and provides guidance to local authorities which must be followed when implementing Part 2A. The regime was extended in 2006 to include radioactive contaminated land. Updated statutory guidance on radioactive contaminated land was published in April 2012 by the Department of Energy and Climate Change (DECC), and also replaces the previous guidance set out in Defra circular 01/2006.

The following non-statutory technical guidance relevant to Part 2A has been considered as part of this strategy:

- Contaminated Land Report 11 – Model Procedures for the Management of Land Contamination (Environment Agency/Defra, September 2004)
- Local Authority Guide to the Application of Part 2A of the Environmental Protection Act 1990 (Defra/Chartered Institute of Environmental Health, 2007)
- Guidance on the Legal Definition of Contaminated Land (Defra, July 2008)
- Guiding Principles for Land Contamination (Environment Agency, March 2010)
- BS 10175:2011 – Investigation of potentially contaminated sites – Code of Practice (British Standards Institute, 2011)
- National Planning Policy Framework (Department for Communities and Local Government, March 2012)

Further technical guidance is available on the Environment Agency and Defra websites.

3.2 ROLES AND RESPONSIBILITIES

Local authorities are the lead regulators for Part 2A, but there is also a category of ‘special sites’ for which the Environment Agency is the regulator (see Appendix 2). The Environment Agency is the Government’s national advisor on contaminated land, and other environmental issues.

3.2.1 East Riding of Yorkshire Council

The key responsibilities of East Riding of Yorkshire Council under Part 2A are:

- To prepare an inspection strategy setting out how the council intends to inspect its area for the purpose of identifying contaminated land (or identify land for which there are reasonable grounds for inspection, for land contaminated by radioactive substances).
- Determine whether particular areas of land are contaminated land in accordance with statutory guidance (in consultation with the Environment Agency in relation to pollution of controlled waters or land contaminated by radioactive substances, and with Natural England for eco-system effects).
- Decide whether any contaminated land should be designated a 'special site'.
- Identify and notify owners and occupiers of the land, those who may be liable, and if necessary the Environment Agency.
- Undertake urgent remediation action where there is imminent danger of serious harm.
- Determine who may be liable for remediation and apportion costs.
- Ensure that appropriate remediation takes place either through voluntary action or by serving a remediation notice on those responsible, and take further action if remediation is not achieved.
- Maintain a public register detailing regulatory action under Part 2A.
- Provide a copy of this information to the Environment Agency if required.

3.2.2 The Environment Agency

The key responsibilities of the Environment Agency under Part 2A are to:

- Provide information and formal advice to East Riding of Yorkshire Council in connection with its inspection, identification and determination process.
- Arrange detailed inspection of 'special sites', and in particular, in the case of land where contamination by radioactive substances is suspected, carry out intrusive investigation.
- Provide site-specific advice regarding remediation.

- Regulate 'special sites'.
- Enforcement of remediation of radioactive contaminated land.

3.3 UNDERLYING PRINCIPLES OF THE CONTAMINATED LAND REGIME

3.3.1 Pollutant linkages

The definition of contaminated land includes the notion of 'significant harm' and the 'significant possibility' of such harm occurring. In determining what is significant, the council will have regard to the statutory guidance. The statutory guidance uses the concept of a 'pollutant linkage', or contaminant linkage, i.e. a linkage between a source of contamination and a receptor by means of a pathway. Prior to determining that any land appears to be contaminated land on the basis that significant harm is being caused, or that there is a significant possibility of such harm being caused, the council will identify a significant pollutant linkage comprising each of the following:

- a contaminant
- a relevant receptor
- a pathway by means of which either the contaminant is causing significant harm to the receptor or there is a significant possibility of such harm being caused.

Further guidance on sources and receptors is included as Appendix 4 and Appendix 5 respectively.

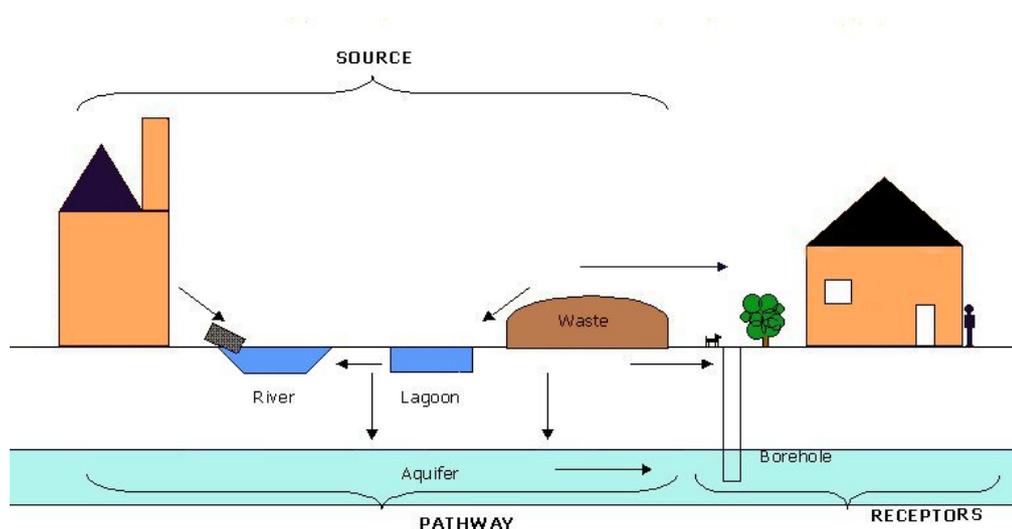


Figure 2 – An example of a conceptual model of pollutant linkages

Pollutant linkages should be represented by a conceptual model for the site, which can either be a diagram (see Figure 2) or in written form, and shows the possible relationships between contaminants, pathways and receptors. The conceptual model is important throughout the whole process of risk assessment, and should be refined as more information is gathered about a site.

When determining whether significant pollution of controlled waters is being, or is likely to be, caused, the council will act in accordance with the statutory guidance. Prior to determining that any land appears to be contaminated on the basis that significant pollution of controlled waters is being, or is likely to be, caused, the council will have identified a significant pollutant linkage where controlled waters form the receptor.

3.3.2 Suitable for use

The Government's objectives with respect to contaminated land underlie the 'suitable for use' approach to the assessment and management of risk. This approach comprises three elements:

- ensuring that, in terms of risk to human health, land is suitable for its current use
- ensuring that land is made suitable for any new use as planning permission is given for that new use
- limiting requirements for remediation to the work necessary to prevent unacceptable risks to human health or the environment.

The 'current use' is any use which is currently being made or likely to be made of the land, including likely informal use such as children playing on the land, and any use which has planning permission or is otherwise lawful under the planning regime. The 'suitable for use' approach balances the various environmental, social, and economic factors in relation to contaminated land.

3.3.3 Risk assessment

Risk assessment involves understanding the risks from contamination, and the associated uncertainties. Under Part 2A, risks should be considered only in relation to the current use of the land, or any likely future use which would not require new planning approval, and this should be demonstrated in the conceptual site model.

When identifying significant pollutant linkages, the council will carry out an appropriate technical assessment, following the Model Procedures for the Management of Land Contamination (CLR11), produced by the Environment Agency and Defra, as well as the statutory guidance. CLR11 is a technical framework for structured decision-making, and reflects the Government's policy on how risks from land contamination should be managed. The basic approach to risk assessment involves identifying the hazards (i.e. contaminant sources), assessing these in terms of pollutant linkages and the likely

consequences, and then estimating the risk (i.e. predicting the magnitude and probability of those possible consequences). This requires a phased approach to the risk assessment process:

1. Preliminary risk assessment (*desk study, site history, conceptual site model, qualitative risk assessment*)
2. Generic quantitative risk assessment (*intrusive investigation, compare site data to generic assessment criteria, refine risk assessment*)
3. Detailed quantitative risk assessment (*derive site specific assessment criteria for key pollutant linkages, refine risk assessment further to determine remedial measures*)

Further explanation on what these stages involve is provided in Appendix 6.

3.3.4 Generic assessment criteria

The Environment Agency has developed a Government supported methodology for estimating long-term risks to people from contaminants in soil, known as the Contaminated Land Exposure Assessment tool (CLEA). This software has been used to derive soil guideline values (SGV's), which can be used as minimal risk screening values to compare with concentrations of contaminants in soil. They can be used to indicate when land is very unlikely to pose a significant possibility of significant harm to human health. They are accompanied by a number of technical guidance documents, which form part of the CLEA package. Other generic assessment criteria (GAC), derived by reputable organisations and competent practitioners in the land contamination sector, are available for most of the commonly occurring contaminants in soil. As with any generic assessment tool, the limitations and assumptions must be clearly understood before they are used in the risk assessment process.

3.3.5 Background contamination

Many contaminants are naturally occurring and are commonly found in soils, due to soil forming processes and the nature of the underlying geology. Other substances are also widespread in the environment due to low level diffuse pollution and common human activities, such as the historic use of leaded petrol and the spreading of ash in domestic gardens.

The Part 2A regime was introduced to help deal with land which poses unacceptable levels of risk. For the large majority of sites where there are naturally occurring contaminants, or levels of contamination which might be considered 'normal' in a particular area, there is usually no reason to consider this land as contaminated land. The statutory guidance makes it clear therefore, that where land is at or close to 'normal' levels of contamination, it should usually not be considered further under Part 2A, unless there is a particular reason to do so. In such cases the council would need to carefully explain the reasons for taking that decision based on robust scientific evidence.

The British Geological Survey (BGS) has developed technical guidance on behalf of Defra, to help clarify what constitutes normal background concentrations (NBC's) for certain contaminants in soil, in accordance with the statutory guidance.

3.3.6 The 'polluter pays' principle

An important task of the enforcing authority under the Part 2A regime is to establish who should bear responsibility for remediating a site where there are unacceptable risks from land contamination. In general, this will follow the 'polluter pays' principle, where the person who caused or knowingly permitted the contamination will be the appropriate person to cover the cost of remediation. However, if it is not possible to find such a person, it will fall to the owner or occupier of the land. The council will then decide what remediation is necessary, either through voluntary agreement or by serving a remediation notice. More detail on determination and remediation is provided in section 6 of the strategy. In most cases, contaminated land will be voluntarily remediated through the planning process, by developers and landowners looking to bring a contaminated site back into beneficial use.

3.3.7 Pollution of controlled waters

Section 78A(9) of the 1990 Act defines the pollution of controlled waters as:

'the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter'.

'Controlled waters' are defined within Part III of the Water Resources Act 1991, and include coastal waters, inland freshwaters, and ground waters.

Section 86 of the Water Act 2003 came into force on 6th April 2012 and amended the definition of contaminated land in relation to controlled waters, so that *significant* pollution of controlled waters needs to be occurring, or there is a *significant possibility* of such pollution occurring in order to meet the definition of contaminated land under Part 2A. Further details are provided in Appendix I.

When investigating whether there is significant pollution of controlled waters, the council will therefore focus on water pollution which:

1. may be harmful to human health or the quality of the aquatic ecosystem;
2. which may result in damage to material property; or
3. which may interfere with amenities or other uses of the environment.

Land should not be designated as contaminated land on grounds that significant pollution of controlled waters is being caused where:

1. the substance is already present in controlled waters,
2. entry into controlled waters of that substance from land has ceased, and
3. it is not likely that further entry will take place.

3.3.8 Radioactivity

The historical use of radioactive materials in a wide variety of industries has led to a legacy of contamination by radioactive substances, primarily due to a lack of effective regulation or understanding of the hazards. The Part 2A regime was therefore extended in 2006 to include contamination of land by radioactivity, in respect of harm to human health only.

The definition of contaminated land was amended where radioactive contamination is concerned, so that 'harm' to human health does not need to be significant, but only that it is *'being caused or there is a significant possibility of such harm being caused'*. In this context, 'harm' is defined as *'lasting exposure to any person from substances containing radionuclides resulting from the after-effects of a radiological emergency, past practice or past work activity'*. Further guidance on what constitutes 'harm' is provided in Appendix 3.

Such sites fall under the definition of a 'special site' (see Appendix 2), therefore the Environment Agency is the enforcing authority. Where the council considers there are reasonable grounds for believing that land may be contaminated by virtue of radioactivity, it will consult the Environment Agency for detailed advice and guidance. In some cases the council may ask the Environment Agency to carry out the intrusive inspection on its behalf, subject to their advice and agreement. The council has the sole responsibility for determining whether any land appears to be radioactive contaminated land. As with non-radioactive contaminated land, a significant contaminant linkage must be identified to consider determining the land under Part2A. At all times, the council will act in accordance with the statutory guidance on radioactive contaminated land, produced by the Department of Energy and Climate Change

3.4 INTERACTION WITH OTHER REGULATORY REGIMES

A range of other regimes have been introduced by the Government in order to prevent the creation of new contamination, and prevent new development being adversely affected by contaminated land.

3.4.1 Planning and development control

Government policy recognises that voluntary remediation will often be funded by redevelopment, and Part 2A was designed and intended to work with the established role of planning and building control in those cases where the land is suitable for or scheduled for redevelopment. The strong emphasis on urban regeneration and 'brownfield' redevelopment, means this process will inevitably deal with much of the historical legacy of contaminated land.

As the local planning authority, the council is responsible for regulating development and land use in the public interest. It has extensive powers to halt or reverse development carried out in the absence of relevant

permissions or in contravention of planning conditions. The principle piece of legislation for controlling development is the Town and Country Planning Act 1990. When considering development proposals, the council is obliged to ensure that all material planning considerations, including pollution control and land contamination, are satisfactorily addressed. The council has the power to require the developer to provide such further information as is needed to determine an application for planning permission, which may include environmental assessments and reports on the investigation and remediation of contamination. Planning officers will take advice from the environmental control team as necessary.

National planning guidance has recently undergone a review to make it shorter and simpler. As a result, the National Planning Policy Framework (NPPF) was published in March 2012, and sets out the Government's planning policies for England, and how these should be applied. It replaces the previous planning policy statements and planning policy guidance. The NPPF places emphasis on local decision making and community engagement, including drawing up local and neighbourhood plans, which are central themes of the Localism Act 2011. The NPPF also sets out the Government's objectives for achieving sustainable development through the planning system by considering the economic, social and environmental roles that planning must play. Although each local authority's development plan will be the starting point for decision making, the Government expects there to be an overall presumption in favour of sustainable development, and for decisions to be made more quickly and easily.

With regard to land contamination, the NPPF makes it clear that developers and landowners are responsible for ensuring that land is suitable for its proposed use. Adequate site investigation by a competent person is required to show that the effects of pollution on health, the natural environment and the general amenity have been taken into account. As a minimum, land should not be capable of being determined as contaminated land under Part 2A, after it has been remediated through the planning process.

The Building Regulations 2000 'Approved Document C – site preparation and resistance to contaminants and moisture', provides practical guidance for ensuring that new buildings are protected from contaminants, for example by providing adequate protection from ground gas, including radon. A review of the building regulations and the building control system has recently been undertaken. The proposed changes were consulted on at the beginning of 2012.

3.4.2 Strategic planning

The strategic planning system, which sets out where new development will occur in the future, and what type of development it will be, is currently undergoing reform. The Localism Act 2011 set out the Government's intention to abolish Regional Spatial Strategies, and reinforce the idea of neighbourhood planning, to give local communities greater power to shape development. The East Riding Local Plan (or Local Development

Framework) will be the portfolio of documents which guides the management of development into the future. This replaces the Joint Structure Plan for Hull and East Riding, as well as the four local plans of the former borough councils.

The council's Local Development Scheme 2012-2015, outlines the development plan documents which will be produced as part of the Local Development Framework (LDF). These include the Core Strategy, which identifies the vision for the area and a limited number of core development policies, to address key issues such as affordable housing, renewable energy and environmental protection. There will also be an Allocations document which will show all the sites that have been identified for future development. Other specific strategies which will continue to be developed are the Bridlington Area Action Plan, the Joint Hull and East Riding Minerals document and the Joint Hull and East Riding Waste document. There will be various technical reports and assessments, as well as supplementary planning guidance to support the LDF. For the latest updates on the progress of strategic plans, please refer to the council's website at www.eastriding.gov.uk/environment/planning-and-building-control.

3.4.3 Environmental permitting

The Environmental Permitting Regulations 2010 (as amended) are designed to minimise the impact from potentially polluting activities. They combine the previous pollution prevention and control and waste management licensing regimes, but have been widened to cover impacts from water discharges, groundwater activities, radioactive substances, and other areas such as mining waste. Many industrial installations and landfill sites fall under the environmental permitting regime. Regulation is split between the Environment Agency and local authorities. Permits are issued to operators to control potentially harmful processes on their sites, and therefore reduce their environmental impact. Operators must comply with legally binding conditions set within the permit, for Environment Agency regulated A(1) sites, and local authority regulated A(2) sites, this includes controlling possible emissions to land and controlled waters, as well as to atmosphere. Failure to adhere to the conditions within the permit can lead to enforcement action.

3.4.4 Waste management

Historically, waste treatment and disposal activities were often unlicensed and unregulated and, as a result, had the potential to cause widespread pollution. Some of these sites may therefore be classified as contaminated land under Part 2A.

Between 1972 and 1974 a national survey of landfill sites was carried out by the British Geological Survey on behalf of the former Department of the Environment. Data was recorded for each site including a brief history of the site, a site map, the local geology, the types of waste deposited and a brief risk assessment of the site's potential to pollute surface water and

groundwater resources. The survey identified 35 sites within the East Riding of Yorkshire.

The Control of Pollution Act 1974 required that all active landfill sites be licensed by the waste regulation authority (then the former Humberside County Council). Licensing requirements were strengthened by the Environmental Protection Act 1990 which introduced waste management licenses. These licenses effectively ensure that comprehensive records of waste disposal locations and activities have been kept since 1974. Waste regulation functions were transferred to the Environment Agency by the Environment Act 1995. The Environment Agency holds license details of 358 landfill sites within the East Riding of Yorkshire.

In addition to those recorded landfill sites, there are many more pits, quarries and other features in the East Riding which have been infilled or raised with waste materials, and have the potential to be contaminated.

Since the mid 1980s when the dangers of landfill gas and leachates were fully recognised, new landfill sites have been required to be constructed so as to contain contaminants and prevent migration to adjoining land. However, for sites constructed before then, the movement of contamination beyond the site boundary is to be expected.

The Environment Agency still has direct regulatory authority for current waste management activities, under the Environmental Permitting Regulations. It issues and maintains registers of waste management licenses and certificates of exemption, as well as enforcing conditions of licenses and determining when a licence can be surrendered. Other activities which potentially fall within the scope of the waste management licensing regime, include the redevelopment and reclamation of certain 'brownfield' sites, which may involve the treatment or removal of contaminated soils and groundwater.

The European Landfill Directive places stricter controls on what wastes can be landfilled, and there is now more emphasis on treating and recycling certain wastes, including certain hazardous wastes, in order to reduce the overall volume of landfilled waste and minimise the long-term impact of these activities on the environment.

3.4.5 Water resources

The Environment Agency is responsible for implementing a range of measures for preventing or remedying pollution of controlled waters. This includes regulating abstractions and discharges to surface water and groundwater to improve overall water quality. The main pieces of legislation which aim to protect water resources are the Water Resources Act 1991, the Water Act 2003, the Water Framework Directive, and the Environmental Permitting Regulations 2010. The Environment Agency have produced technical guidance on protecting water resources (GP3 - Groundwater Protection: Policy and Practice; and GPLC - Guiding Principles for Land Contamination).

These promote good practice and set out what the Environment Agency expect from people who are managing land contamination risks.

Under the Water Framework Directive, the Environment Agency must characterise each of the eleven River Basin Districts in England and Wales and assess the impact of human activity on the water bodies within those districts, which include rivers, lakes, estuaries, coastal waters, and groundwater. The status of each water body will be monitored and assessed, and where necessary measures will be introduced to improve them as part of a River Basin Management Plan. East Riding of Yorkshire falls within the Humber River Basin District. Where significant pollution of controlled waters is being caused by substances in, on, or under the land, Part 2A may apply, and the council will work closely with the Environment Agency in such cases.

Groundwater is a very important resource in East Yorkshire, and many people rely on it for their drinking water. Aquifers are rocks or other natural deposits which are able to retain enough water to be able to provide a useable supply. They are also important for supporting base flow to rivers. It is therefore essential that they are protected from pollution, to maintain their quality. The principal aquifers are the Cretaceous Chalk which underlies large parts of the East Riding, and the Sherwood Sandstone which is found in the south west of the county. There are various secondary aquifers which are also important locally. Source Protection Zones are defined areas around major groundwater abstraction wells. The Environment Agency use these zones along with their groundwater protection policies to set up pollution control measures in areas at higher risk, and monitor potentially polluting activities nearby.

3.4.6 The Environmental Damage (Prevention and Remediation) Regulations 2009

The Environmental Liabilities Directive is implemented in the UK by the Environmental Damage (Prevention and Remediation) Regulations 2009 (EDR). They are intended to deal with the most serious cases of environmental damage caused by economic activities and, like Part 2A, they are based on the 'polluter pays' principle. However, the emphasis is on preventing and remedying environmental damage, and not enforcement. They only apply to damage caused after the regulations came into force, in March 2009. Environmental damage as defined by the regulations includes contamination of land that results in a significant risk of adverse effects on human health, as well as damage to species and habitats and damage to water. Local authorities are the enforcing authority for damage to land.

In accordance with statutory requirements and Government policy, the order in which these regimes should be considered when dealing with land contamination is:

1. The Environmental Damage Regulations (where applicable)
2. Remediation under the planning system (where appropriate)
3. Remediation under Part 2A (where there is no alternative)

4.0 IDENTIFICATION AND PRIORITISATION

In order to identify potentially contaminated land, it is first necessary to identify those land uses, past and present, which have the potential to give rise to contamination. It is also necessary to identify relevant receptors, so that pollutant linkages can be assessed in light of the current use of a particular site. As part of the original inspection strategy, a great deal of effort was devoted to building up a database of this information, and this process of identification is ongoing as new information and understanding about different sites becomes available. So far, over 20,000 sites have been identified where there is the potential for contamination to exist, based on current and/or historical land-use. Over half of these are infilled areas of land, such as closed landfill sites, and former pits, ponds and ditches which no longer appear on present day maps. There will also be land with more than one potentially contaminative use within the same property boundary. These would be identified as individual records, but usually investigated as one site.

4.1 INFORMATION ON THE POSSIBLE PRESENCE OF CONTAMINANTS

In order to assist in the identification of potentially contaminated land the following data has been collated:

Table 1 – Sources of information (contaminants)

Dataset	Source
Maps (historical)	Landmark Information Group / Ordnance Survey
Maps (present day)	Ordnance Survey
Pre-1974 landfill sites	British Geological Survey
Post-1972 landfill sites	Environment Agency
Part A and B Industrial Processes	East Riding of Yorkshire Council
Abattoirs	East Riding of Yorkshire Council
Trades 1855-1982	Trade Directories
Airfields	Yorkshire Air Museum, Elvington
Brownfield Sites	National Land Use database
Cemeteries	Historic Maps/Ordnance Survey
Sewerage works	Historic Maps/O.S/British Gas
Gas works	Historic Maps/O.S/Trade Directorates
Tanneries	Historic Maps/Trade Directories
Timberyards	Historic Maps/O.S/Trade Directorates
Shipyards	Historic Maps/O.S/Trade Directorates
Scrapyards	Historic Maps/O.S/Trade Directorates
Metal works	Historic Maps/O.S/Trade Directorates
Hospitals	Historic Maps/O.S
Cooperages	Historic Maps/O.S/Trade Directorates
Ministry of Defence Land	Ordnance Survey
Geochemical Surveys	British Geological Survey

Generic uses of land which are likely to have given rise to contamination are listed in Appendix 4.

4.1.1 Planning records

The council holds information submitted as part of the development control and building control processes. If development has been proposed on areas of land where past use may have resulted in contamination, the council may have requested a site investigation as part of a planning condition. If development has proceeded on such sites, remedial works may have been carried out to improve the site condition.

It is not feasible to carry out a comprehensive search of the many planning records held by the council. Planning records will, however, form a valuable resource during the detailed inspection of sites.

4.2 INFORMATION ON POSSIBLE RECEPTORS

Receptors for the purposes of Part 2A are listed in Appendix 5. In order to assist in the identification of receptors the following information has been collated:

Table 2 – Sources of information (receptors)

Dataset	Source
Maps (present day)	Ordnance Survey
Solid geology	British Geology Survey
Superficial deposits	British Geology Survey
Boreholes and wells	British Geology Survey
Water courses	Institute of Hydrology / Ordnance Survey
Licensed water abstractions	Environment Agency
Aquifer vulnerability	Environment Agency
Sites of Special Scientific Interest	Natural England
Special Protection Areas	Natural England
Special Areas of Conservation	Natural England
Ramsar sites	Natural England
National Nature Reserves	Natural England
Schools	East Riding of Yorkshire Council
Allotments	Parish Councils
Archaeology	Humber Archaeology Partnership
Ancient Monuments	English Heritage
Woodlands	Forestry Commission

Information to assist in the identification of pathways by which a receptor may be exposed to a contaminant includes:

- Geology;
- Hydrogeology;

- Licensed water abstractions and borehole records; and
- Current land-use.

4.3 DEVELOPMENT OF THE GEOGRAPHICAL INFORMATION SYSTEM (GIS)

The council had commenced the process of identifying potentially contaminated sites prior to the implementation of Part 2A. From the outset the council opted to utilise a computer based GIS to store and manage data and to assist in the identification of the following:

- The likelihood of any receptors being found in the vicinity of potentially contaminated land.
- The likelihood that any of these receptors is exposed to a contaminant, e.g. as a result of the use of the land or of the geological and hydrogeological features of the area.

The GIS is a powerful tool for managing and visualising spatially related data and is used by local authorities, the Environment Agency, industry and consultants as a mechanism for decision making with respect to Part 2A.

4.3.1 General principles of a GIS

A GIS is a highly suitable way of managing land use and ground information in order to identify pollutant linkages, assess risks, make decisions and communicate outcomes.

A GIS is a digital system for the storage, manipulation, analysis and visualisation of spatial data. At the heart of the GIS is a database that allows spatial data, such as maps, to be linked to attribute data to produce a powerful tool for analysing the environment. Datasets containing both spatial and attribute data can be drawn together and overlaid. For land contamination investigations, different layers indicate either sources, pathways or receptors. Any one of the layers can be selected and displayed within the GIS either individually or in combination with other layers.

The council maintains a service level agreement with the Ordnance Survey which provides base mapping as the primary layer for the GIS.

While the information needs of the council's directorates are different there is often a need to share data. Data management by means of GIS will increase interdirectorate communication, making it easier to evaluate ground conditions and facilitate the transmission of information to other bodies such as the Environment Agency. The GIS used by the council is the vector-based system ArcMAP by ESRI. Vector-based systems are the most appropriate for handling the majority of datasets used in land contamination studies and ArcMAP is currently the Environment Agency's standard GIS.

4.3.2 Benefits of a GIS

The general benefits of using a GIS are:

- it is a highly efficient way of storing large amounts of data;
- different layers of information can be superimposed simultaneously for a given area;
- data can be translated easily into information such as multi-layered maps or reports;
- provides an easily updateable knowledge store;
- can be interactive with other IT packages such as public register software;
- offers an accessible system for answering customer enquiries;
- makes it easier to export and import information to or from other bodies; and
- facilitates the identification of pollutant linkages.

4.4 PRIORITISATION

The information gathered in creating the contaminated land GIS has enabled the council to identify potentially contaminated land within its areas, together with information on possible pathways and receptors. More detailed inspection is then required in order to establish the presence, or otherwise, of a pollutant linkage. In accordance with the statutory guidance, the council will take a strategic approach to this task which will be rational, ordered and efficient, be proportionate to the seriousness of any actual or potential risk and will seek to ensure that the most pressing and serious problems are dealt with first. As part of the strategic inspection, it is necessary, therefore, to first categorise sites into priority groups using a rapid assessment of the potential pollutant linkages.

The council completed its initial prioritisation of higher-risk sites as part of the original inspection strategy, using the Contaminated Land Assessment Risk Analyst model (CLARA). Experience has shown, however, that the CLARA model is not sufficiently sensitive, particularly in relation to human health, for the council's purposes. In 2008, the specialist environmental control team therefore began researching the capabilities of other prioritisation models that are more sensitive to land use in the council's area. Thanks to advances in the development of GIS, the council was able to purchase ConSEPT (Contaminated Site Evaluation Prioritisation Tool) from the British Geological Survey (BGS). It uses a GIS based methodology for assessing sites according to their potential pollutant linkages, and is consistent with current Government guidance.

Using this tool, as part of the inspection process, the council will review and where necessary re-assess any sites where an initial assessment or investigation has already been undertaken, to determine if any further work is

necessary at those sites. This will be done in line with the current statutory guidance and up to date assessment criteria.

4.4.1 ConSEPT

The Contaminated Site Evaluation Prioritisation Tool, or ConSEPT, has been developed by BGS as a mechanism for categorising potentially contaminated land, based on previous land use and the likely susceptibility of designated receptors. The methodology has been developed based on a review of techniques available elsewhere, and the statutory information supplied in legislation and associated official Government guidance from Defra (and previously Department of Environment (DoE) and Department of the Environment, Transport and the Regions (DETR)). The methodology, and the software associated with it, does not designate land as being contaminated. It is a semi-quantitative prioritisation scheme for the classification of potentially contaminated land, to assist Local Authorities when planning detailed inspections under Part 2A. It is intended to be used as a screening tool by suitably qualified staff within a local authority exercising their expert judgement.

ConSEPT is a GIS-integrated programme designed to operate with the council's existing Contaminated Land GIS. It brings together existing data sets and a query system to interrogate them. The resulting categorisation of sites is very much 'live' and subject to change as knowledge improves and the data sets evolve. The method of assessment used in ConSEPT is designed specifically for Part 2A. In developing the methodology, BGS referred to appropriate existing published prioritisation techniques, specifically the 1995 Contaminated Land Report (CLR6) 'Prioritisation and categorisation procedure for sites which may be contaminated' of the former Department of the Environment (now Defra) and the 1992 Canadian 'National Classification System (NCS) for Contaminated Sites'. CLR 6 was taken to be a good indication of the expectations of central Government in establishing the methodology, along with more recent DEFRA publications. The NCS method was chosen for its simplicity as a first tier process, generally requiring readily available desk-top knowledge of a site (i.e. data appropriate to the resources and requirements of LA's).

ConSEPT uses the pollutant linkage concept (see section 3.3.1) as a framework for assessment of potentially contaminated sites as stipulated by Part 2A. The starting point for assessment of pollutant linkages is identification of sites containing potential sources of contamination, which are identified on the basis of historical land use. The contaminative potential is then determined on the basis of potential contaminants generally associated with those specific land uses (taken from DoE 'industry profiles', and literature searches). Further source evaluation factors include site area and time-span of the potentially contaminating land use. These are scored and combined with the contaminant potential score to give a source ranking class. The pathways on a site are generally deduced by proximity to, or interception of sources, rather than actual knowledge of their occurrence.

There are three sub-categories of pathway used:

1. direct contact ;
2. groundwater; and
3. surface water.

Evaluation factors for each of these three sub-categories are scored and the scores are combined to give pathway sub-category ranking classes. Finally the source, pathway and receptor sub-category ranking classes are combined according to seven likely pollutant linkage scenarios. The four relevant receptor groups are:

1. humans;
2. controlled waters (surface water and groundwater);
3. ecology; and
4. property.

The output from the assessment of each pollutant linkage is given in terms of five ranking classes, 'A' through to 'E', with 'A' indicating the highest priority for further investigation and 'E' indicating the lowest. These are then combined to give a single pollutant ranking class. The council has decided to concentrate initially on those sites categorised as 'A(1)' based on a human receptor. Priority will be given to those sites where potentially the largest number of receptors is present.

As with any computer modelling technique, there are occasions where mapping errors or limitations on how the model works will lead to inaccurate prioritisation scores. It is therefore essential that all outputs are reviewed in light of actual knowledge of a site and professional judgement, to ensure the classification of sites reflects the objectives and underlying principles of the Part 2A regime.

4.4.2 Deviating from the inspection plan

During the process of prioritisation and inspection, sites which were not given a high classification or were not identified as potentially contaminated, may, for one reason or another, be suspected of causing significant harm as a result of land contamination. Sites may also be referred to the council by the Environment Agency for detailed inspection. In such cases these sites may take priority.

From time to time the council may receive a complaint regarding potentially contaminated land from a member of the public, business or community group. Interested residents may also voluntarily supply information relating to land contamination that is not directly affecting themselves, their families or their property.

A complaint regarding contaminated land will, initially, be dealt with following the same procedure for dealing with nuisance complaints:

- Upon receipt the complaint will be logged and recorded;
- The complainant will receive a response within 5 working days;
- The complainant will be kept informed of progress towards the resolution of the complaint;
- Letters will receive a written response within 10 days.

Any anecdotal evidence provided to the council relating to contaminated land will be recorded, and every effort will be made to resolve complaints quickly and efficiently. However, intrusive investigations will not normally be undertaken without corroborative evidence and no designation of contaminated land will occur without robust scientific reasoning. Inspection and determination will be carried out in accordance with this strategy and the statutory guidance.

4.4.3 Changes in land-use

The council's development control section will increasingly have to deal with planning applications for development on or adjacent to contaminated and potentially contaminated land. The presence of contamination is a material planning consideration. It is considered expedient to address contaminated land issues at the development stage irrespective of the planned inspection programme.

It is therefore likely that proposals will be received to redevelop land which has been identified as potentially contaminated but not yet subjected to any risk assessment or investigation under Part 2A. In such cases, the environmental control team will act as consultees in the development control process and will ensure that a suitable risk assessment is carried out, and that any remediation proposals will ensure the site cannot be determined as contaminated land at a later stage, based on the proposed future use. Once remediation work is complete, the council will usually require a post-remediation verification report confirming that the agreed works have been carried out. The environmental control team will liaise with planning officers to ensure that:

- In instances where it is known or strongly suspected that the site is contaminated to an extent that would adversely affect the proposed development, an investigation of the hazards by the developer and proposals for any necessary remedial measures will normally be required before the planning application is determined. Any subsequent grant of planning permission will be conditional upon the remedial measures being carried out.
- Where there is only a suspicion that the site might be contaminated, or where evidence suggests that there may be only slight contamination, planning permission may be granted on the condition that a site investigation and assessment is carried out prior to development starting and any necessary remedial works are incorporated into the development scheme.

A contamination assessment should also be submitted with any application for a sensitive end-use, such as residential, schools, play-areas, etc, regardless of the previous use of the site. As a minimum this will include a desk study of the site. More detailed site investigation reports will be required in all cases where contamination is known or suspected. Pre-application discussions will establish at what stage in the planning process the investigation will need to be carried out. Investigations and risk assessments should normally be carried out by a suitably qualified environmental consultant. It is recommended that a tiered approach to site investigation and risk assessment is followed, as set out in the Model Procedures for the Management of Land Contamination (CLR11) document (EA and Defra, 2004).

4.5 COUNCIL-OWNED PROPERTY

There are some 5300 ha of land within the East Riding which is owned by the council (excluding highways and footpaths). This includes parks, playing fields, housing, schools, farmland, depots, offices and civic amenity sites. Any potentially contaminated land currently or formerly owned or occupied by the council will be identified and prioritised in accordance with this inspection strategy and the council's environmental policy. The environmental control team will liaise with all directorates and relevant service areas to help identify such land, and ensure it is suitable for use. Where redevelopment or change of use of council owned land is proposed, potential land contamination will be considered as part of the planning process and consultation advice sought.

The investigation of council-owned land will follow the same phased approach as with any other land. An appropriate assessment of potential pollutant linkages will be carried out, including whether the council is liable for contamination which has spread to adjacent land. Where council-owned land is determined to be contaminated land, the council will not be able to issue a remediation notice, but will instead nominate a responsible person to prepare a remediation statement, detailing what steps it will take (in accordance with the Part 2A legislation and the statutory guidance). When considering council-owned land that may be contaminated, the environmental control team will work closely with the relevant service areas and maintain good communication with stakeholders. Where a council employee reports suspected contaminated land, the environmental control team will investigate following the same procedure as for reports from members of the public (see section 4.4.2).

5.0 DETAILED INSPECTION OF CONTAMINATED LAND

5.1 DETAILED SITE INSPECTIONS

The council has a statutory duty to inspect its area in a rational, ordered and efficient manner, when looking to identify contaminated land. This begins with the strategic inspection process (as described in the previous section), to identify the most pressing and serious problems first and to concentrate resources on the areas where contaminated land is most likely to be found.

Once sites have been categorised according to the likely risk of harm, detailed inspection is then required to establish the presence, or otherwise, of a pollutant linkage. The aim of the detailed inspection is to gather site specific information on ground conditions and carry out appropriate risk assessments, to help determine whether there is significant harm or a significant possibility of significant harm occurring, or significant pollution of controlled waters.

In most cases, detailed inspections will include the following activities:

- a review of all documentation relevant to the site, including information held by the council, the Environment Agency and other relevant organisations, as well as the site owners/occupiers, and a thorough review of the site history and activities on site, past and present ('desk study');
- liaison with statutory consultees and investigation of any past pollution incidents;
- a site visit and walkover survey to assess any visual problems on site and identify the proximity of sources and receptors;
- undertake a preliminary risk assessment, and develop a conceptual site model to determine what further investigations are necessary;
- collection of soil, water and ground gas samples as required, in accordance with relevant British Standards and good practice technical procedures;
- where necessary, conduct a more detailed risk assessment to determine if a significant pollutant linkage is present, following a tiered approach as set out in section 3.3.3;
- produce a report to summarise the findings of the desk study and preliminary site investigation, recommending what further actions, if any, are necessary;
- where land is not considered to be contaminated land, a written statement to that effect will be issued to the owners of the land;
- where land is likely to be determined as contaminated land, a risk summary will be produced, explaining the reasons for this decision.

Intrusive investigation will only be carried out where there is a reasonable possibility that a significant pollutant linkage exists. The council will liaise with the affected persons and relevant stakeholders at the earliest

opportunity, and continue to communicate its activities and progress throughout the project. The council will aim to conduct its investigation as quickly, and with as little disruption and stress to affected persons, as is reasonably practical, without compromising the robustness of the assessment.

The council will also seek to minimise property blight issues as far as possible, and will be open to landowners or other interested parties taking their own steps to resolve the status of land which has been identified as potentially contaminated land. Sufficient information will need to be provided to satisfy the council that a robust assessment has been undertaken.

Where contaminated land is identified, it will be determined in accordance with the statutory guidance. If, at any stage of the process, evidence reveals a need for urgent action in order to alleviate an imminent threat to health, controlled waters or protected areas of the environment, then such action will be taken as soon as possible, in accordance with statutory guidance. Similarly, if during the inspection of a particular site it becomes clear that the land is unlikely to be contaminated land, the council will bring its inspection and risk assessment to an end, and redirect its efforts to the inspection of other land, in line with this inspection strategy.

The legislative framework for contaminated land does not always lend itself to the speedy resolution of such problems, for the following reasons:

- the council must follow a strategic approach and prioritise its inspections of contaminated land;
- proof of a viable pollutant linkage is required before any formal designation of contaminated land is permissible;
- the council must consult with interested parties before designating contaminated land;
- a minimum of 3 months must be allowed between designation and serving a remediation notice; and
- the council must make every effort to identify the original polluter of the land.

Although the council will carry out the initial detailed inspection of sites to determine the likelihood of a significant pollutant linkage, there may subsequently be a need to carry out more specialised and costly investigations and assessments at a site.

Defra set-up a contaminated land capital projects programme, which is now administered by the Environment Agency, to help local authorities fund some of the costs for implementing the regime. A local authority can apply for funding for intrusive site investigations and site remediation work. However, grants are allocated following a competitive bidding process each financial year, when bidding windows are open. Due to Government cuts the available budget was reduced significantly in 2010 from an initial allocation of

£17.5 million to £10 million, and further still in 2011/12, to £4.35 million. The budget for 2012/13 remained at £4.35 million. There is now a single 'pot' of funding for all local authorities and the Environment Agency, and projects are scored under a prioritisation scheme. Projects involving remediation works on sites already identified as causing significant harm, or a significant possibility of significant harm, to human health will normally receive the highest priority scores. Although the council will look to apply for capital funding when necessary, due to the large number of projects which are awaiting funding, it cannot be guaranteed that bid applications will be successful.

5.2 POWERS OF ENTRY

For the purposes of identifying contaminated land, the council is granted powers of entry for the purpose of inspection by section 108 of the Environment Act 1995. Any person authorised in writing by the council may:

- enter any premises at any reasonable time;
- take any other duly authorised person;
- take any equipment or materials required for the purpose;
- make any examination or investigation as may be necessary;
- take measurements or photographs;
- take samples of articles, substances, air, water, or soil on or in the vicinity of the premises;
- carry out experimental borings; and
- install or maintain monitoring or other apparatus.

In the case of residential premises, or where it is proposed to take heavy equipment on to any premises, the council must give 7 days notice of its intention and then may enter the premises either with the consent of the occupier or under the authority of a warrant issued by a magistrate.

Where entry to premises is refused or, where the council has reasonable grounds to believe that entry is likely to be refused or that force may be necessary to effect entry, then the council may gain entry under the authority of a warrant issued by a magistrate.

In all cases the council will normally consult with the occupier prior to entry on to the premises, particularly so that any necessary health and safety precautions can be identified.

In an emergency, the council may exercise its powers of entry forthwith. For this purpose a case may be considered an emergency if it appears to the council that:

- there is an immediate risk of serious pollution of the environment or of serious harm to human health; or
- circumstances exist which are likely to endanger life or health.

Compensation may be payable by the council for any disturbance caused by an inspection using statutory powers of entry.

5.3 REVIEW OF INSPECTION PLAN

The inspection plan will be constantly reviewed in order for any new information to be taken into account, so that the classification of sites can be amended accordingly. There are likely to be specific circumstances which will prompt the review process including the following:

- proposed changes in the use of land itself or surrounding land;
- unplanned changes in the use of land, particularly where this increases the risk to human receptors;
- unplanned events which cannot be addressed through other relevant environmental legislation;
- reports of localised health effects which appear to relate to a particular area of land;
- reports from third parties, including the public;
- changes in knowledge or guidance in relation to particular contaminants, pathways or receptors.

Detailed inspections which were commenced in line with the original inspection strategy will be reviewed as part of the inspection plan, in accordance with current statutory guidance, in order to conclude them or identify requirements for any further work.

5.4 TIMESCALES

The strategy does not lend itself to the setting of fixed timescales as the progress of individual sites cannot be accurately predicted. However, considerable progress has already been made since the publication of the original strategy (see section 1.4). Areas of work will be ongoing, such as developing the GIS and gathering new information on sources and receptors.

The revised strategy has used an updated and improved system for assessing and prioritising sites, and the inspection plan will reflect these changes. It is not possible to set a timescale for the determination of contaminated land, but the council will determine sites as and when they are identified as contaminated land, and will always give due regard to statutory guidance. There will need to be flexibility in the inspection process to allow for new information coming to light, as well as changes to legislation, statutory guidance and the allocation of resources.

A significant number of identified potential sites will be deemed suitable for their current use, or will already have been dealt with through the planning process, and are unlikely to require detailed inspection under Part 2A.

6.0 DETERMINATION AND REMEDIATION OF CONTAMINATED LAND

6.1 DETERMINATION OF CONTAMINATED LAND

Where, as the result of a detailed site inspection, the council identifies a contaminant, a pathway and a receptor with respect to the current use of land within its area and is satisfied that as a result of that pollutant linkage, either:

- significant harm is being caused to that receptor; or
- there is a significant possibility of significant harm being caused to that receptor; or
- significant pollution of controlled waters is being caused; or
- there is a significant possibility of significant pollution of controlled waters

then it will determine that the land is contaminated land for the purposes of section 78A (2) of the Environmental Protection Act 1990 and will make a written record of that determination.

In deciding whether or not significant possibility of significant harm to human health or a non-human receptor exists, the council will first decide if there is a possibility of significant harm, within the bounds of the current use of the land. Although it will remain a regulatory decision, as to whether the possibility of significant harm is significant, the council will have regard to the statutory guidance on this matter.

In determining whether there is significant pollution of controlled waters, or a significant possibility of significant pollution, the council will have strong regard to the Environment Agency's advice, and the issues outlined in section 3.3.7.

Further explanation of what constitutes 'significant harm' is provided in Appendix I.

Having determined that land is contaminated land, the council will, in accordance with section 73B (3) of the Act, give written notice of that determination to the following people:

- The owner of the land;
- Any person(s) appearing to the council to be in occupation of the land;
- Any person(s) appearing to the council to be an 'appropriate person',
- The Environment Agency.

6.2 DESIGNATION OF SPECIAL SITES

Certain classes of contaminated land prescribed by regulation 2 of the Contaminated Land (England) Regulations 2006 are required to be designated as 'special sites'. These are listed in Appendix 2.

If it appears to the council that land which has been determined as contaminated land is required to be designated a 'special site' it will give written notice of that decision to the people listed in section 6.1 above. Where such a notice is given, the Environment Agency is required to respond within 21 days indicating whether or not it agrees with the council's decision. In cases where the Environment Agency and the council disagree the matter will be referred to Defra who may confirm or reverse the council's decision with respect to all or part of the land. The council will, in all cases, consult with the Environment Agency prior to giving formal notice.

6.3 CATEGORISATION OF CONTAMINATED LAND (HUMAN HEALTH)

To help the council decide whether or not land is contaminated land on the grounds of a significant possibility of significant harm to human health, it will use the system of categorisation set out in the statutory guidance. This describes 4 categories of land, with categories 1 and 2 being land which is capable of being determined as contaminated land, and categories 3 and 4 which is not capable of being determined on such grounds. A similar system can be used to help determine whether or not a significant possibility of significant pollution exists for controlled waters, and is described in detail in the statutory guidance. It is felt that the majority of sites that the council have prioritised for detailed inspection will be based on the human health receptor, and has therefore been focused on here.

- **Category 1:** Land which is clearly contaminated land. These are the worst case sites, where there is a very strong argument that significant harm would occur if no action is taken to stop it, for example, due to similar land or situations having caused such harm before, or because significant harm has already been caused due to exposure to contaminants, and is likely to continue to do so. Any decision will still need to be supported by robust evidence, but the council will seek to avoid any unreasonable delay, cost or stress caused by having to demonstrate this.
- **Category 2:** This would include land where there is little or no direct evidence that similar land, situations or levels of exposure have caused harm before, but the council still feels that there is a strong case for taking action under Part 2A on a precautionary basis, having regard to the statutory guidance.

- **Category 3:** This would include land where there may still be risks posed by contaminants, but a strong case described above does not exist, and so the positive legal test cannot be met. In such cases, regulatory intervention would be unjustified. In deciding whether land falls into category 2 or category 3, the council will first consider its risk assessment, including the estimated likelihood and impact of such harm and the timescale over which it might occur. If the council still cannot make a decision whether or not there is a strong case based on this assessment alone, then the statutory guidance expects other factors to be taken into account, such as the likely direct and indirect health benefits and impacts of regulatory action, including the stress caused by disruption, and the potential for mobilising contaminants during any remediation work. If the health benefits of remediation do not outweigh the health impacts the land should be placed in category 3. The council will also have to consider whether the benefits would outweigh the financial and economic costs.
- **Category 4:** Land which is clearly not contaminated land. This would include land where no relevant contaminant linkage has been established; or where there are only normal levels of contaminants in soil; or where contaminant levels do not exceed relevant generic assessment criteria (GACs), or other relevant technical tools; or land where levels of exposure to contaminants in soil only form a small proportion of what a receptor might be exposed to from other sources.

The Government is currently developing category 4 screening levels (C4SLs), which will help decide when land is suitable for use and definitely not contaminated land. Current soil guideline values and other GACs represent minimal risk and are well within category 4. The proposed C4SLs will be set towards the top-end of category 4, and although they would still be precautionary, they will hopefully speed up the decision making process for regulators. They may also act as a suitable remediation standard for development of brownfield land.

6.4 DECIDING THAT LAND IS NOT CONTAMINATED LAND

As stated in the statutory guidance, under Part 2A the starting point should be that land is not contaminated land unless there is reason to consider otherwise. Where it is clear, following an inspection, that land does not meet the legal definition of contaminated land, the council will issue a written statement to that effect to the owners of the property and other interested parties. The statement will be qualified, for example that the risk assessment is only relevant to the current use of the land. A copy of this statement will be kept on file, along with the reasons for making the decision. The council will not formally publish the information, but will keep a record of it in the event of receiving future enquiries or requests for information.

6.5 RISK SUMMARIES

For sites which are likely to be determined following a thorough risk assessment, the council will produce a risk summary, in a simple and easy to understand format, which will form part of the record of determination. This will include:

- A summary of our understanding of the risks, including the identified contaminant linkages, and potential impacts.
- A description of the uncertainties behind the risk assessment
- A description of the local or national context of the risk assessment findings, in a way that is understandable to the layperson
- Initial thoughts on possible remediation options and what impact this is likely to have.
- Any other factors which may be relevant and support the council's decision making process.

6.6 REVIEW OF INSPECTION DECISION

Occasions may arise where the criteria on which a decision is made to determine, or not determine, land as contaminated, or to designate, or not designate, land as a 'special site', may subsequently change. Examples of such occasions include:

- New information about the land coming to light;
- Significant changes in legislation;
- Establishment of significant case law or precedent;
- Revision of guideline values for contaminants.

In such cases the council may choose to revoke or vary its determination. The council will record its reasons for doing so alongside the original determination. The council will also issue a written statement if remediation action has been taken which stops the land being contaminated land, and a copy of this will be kept with the public register (see section 7.1).

The council may decide to postpone determination if the land owner or some other person proposes to take their own action to deal with the problem, and the council is satisfied with the measures proposed. The council may also decide to keep the status of any land under review, in the event that a change of circumstances in the future may cause the land to be determined as contaminated land.

6.7 DETERMINING LIABILITY FOR REMEDIATION

For any land determined as contaminated land, the council will need to establish all owners and occupiers of that land, and who appears to be the appropriate persons to bear responsibility for any remediation action

necessary. It is the intention of Part 2A that the appropriate person, ideally the 'polluter', pays for the cost of remediation, as a result of voluntary or formal action.

As part of the process of determining that land is contaminated land the council will have identified at least one significant pollutant linkage resulting from the presence of at least one significant pollutant.

In cases where there is a single pollutant linkage the process of determining liability will, normally, consist of identifying an individual or a corporation who has caused or knowingly permitted the pollutant to be present. The succession of different occupiers or industries may have contributed to the contamination of the site, either contributing to a single pollutant linkage or resulting in multiple pollutant linkages being identified. In such cases the council will, in accordance with statutory guidance, approach the apportionment of liabilities as follows.

The council will make reasonable enquiries in order to identify all of the appropriate persons to pay for any remediation action with respect to each pollutant linkage. These persons constitute the liability group for that linkage. Thus for each pollutant linkage there may be identified either a Class A liability group comprising persons who caused or knowingly permitted the pollutant to be present, or a Class B liability group comprising persons who are the current owners or occupiers of the land.

If the council are unable to identify any Class A or Class B persons in respect of a pollutant linkage it will be treated as an orphan linkage.

The council may exclude from liability any Class A person for one of the following reasons:

- the person has been identified as having caused or knowingly permitted the land to be contaminated solely by reason of having carried out certain activities which carry limited responsibility;
- the person has made certain kinds of payment to another member of the liability group to pay for adequate remediation;
- the person disposed of the land to another member of the liability group with information regarding contamination;
- the person caused or knowingly permitted the presence of a substance which has only led to the creation of a pollutant linkage because of its interaction with another substance which was later introduced by another person;
- the land has become contaminated due to the escape of substances from other land and another member of the liability group was responsible for that escape;
- the land has become contaminated land due to the subsequent introduction by others of pathways and receptors.

The council may exclude from liability any Class B person who either:

- occupies the land under license which has no marketable value or which he is not legally able to assign or transfer; or
- is liable to pay rent which is equivalent to the rack rent for the land.

Each remediation action will be characterised as either:

- a single-linkage action which refers solely to a single pollutant linkage; or
- a common action which refers to more than one pollutant linkage and which would have been a part of the remediation action for every one of those linkages if each had been addressed separately; or
- a collective action which refers to more than one pollutant linkage but would not have been a part of the remediation action for every one of those linkages if each had been addressed separately.

In the case of a single-linkage action the full cost of remediation will be attributed to the liability group for that pollutant linkage.

In the case of a common remediation action the council will attribute liability for the cost of remediation as follows:

- for a single group the full cost will be attributed;
- for two or more Class A liability groups the cost will be attributed in equal shares;
- for two or more Class B liability groups, where there is no Class A Liability group, the full cost will be attributed to the combined groups as if they were a single group.

In the case of a collective remediation action the council will attribute costs as for a common action except that where costs are divided between several Class A liability groups, instead of being divided equally they will be apportioned as follows:

- the council will estimate the cost of addressing each pollutant linkage. Costs will then be attributed in the proportions which the estimates bear to the aggregate of the estimates.

The council will apportion costs between members of a Class A liability group to reflect the relative responsibility of each member. In doing so the council will follow the approach set out below:

- if the circumstances outlined above for exclusion from a liability group partially apply, the council may assess a person's degree of responsibility as being reduced;
- the relative responsibility of a person who caused or knowingly permitted the entry of a pollutant may be assessed against that of a second person who permitted the continued presence of the pollutant;

- where different people were in control of different areas of the land and there is no interrelationship between those areas the council will regard these people as being separately responsible for remediation actions arising from events on those separate areas of land;
- where the quantity of a pollutant present is a major influence on the cost of remediation the council may regard the relative amounts of the pollutant which are attributed to different people as a basis for apportioning responsibility;
- The council may apportion responsibility in proportion to the periods of time over which different people were in control of equivalent activities on the land.

The council will apportion costs amongst members of a Class B liability group in proportion to the capital values of their interest in the land.

Orphan linkages may arise for which no responsible Class A or Class B persons can be found. In such cases the council will take the following approach in apportioning remediation costs:

- for remediation action which refers only to an orphan linkage the council will bear the cost;
- for common or collective actions which refer to both an orphan linkage and to one or more pollutant linkages for which there is a Class A liability group all of the cost will be attributed to those groups;
- for common or collective actions which refer to both an orphan linkage and to one or more pollutant linkages for which there is a Class B liability group the council will estimate a hypothetical cost of the action which would be needed to separately remediate each linkage and apportion the costs between itself and the liability group accordingly.

At all times when determining liability and apportioning costs, the council will act fairly and be transparent, and have regard to the statutory guidance and the particular circumstances of each individual case. The council will consider the degree of responsibility of the appropriate person for the creation, or continued existence of the contamination.

6.8 LIABILITY FOR ADJACENT LAND

Cases may arise where substances migrate from one area of land to adjacent areas of land causing them to be contaminated land. In such cases the person who originally caused or knowingly permitted the first area of land to be contaminated (the Class A person) will also be liable for the remediation of the adjacent land.

Where no Class A person can be identified, the owners or occupiers of the adjacent areas of land will be separately liable for the remediation of their own land.

Subsequent owners or occupiers of land from which substances have migrated (the Class B persons) will not be liable for the remediation of adjacent land.

In assessing whether adjacent land is contaminated land, the council will only consider the current use of the site. A person will not be liable for the remediation of adjacent land which would only become contaminated land as the result of a change of use for which planning permission is required.

6.9 REMEDIATION

Once the relevant people have been notified that land has been identified as contaminated land, this begins the process of consultation on what remediation is required. In most cases it is the intention that a scheme of voluntary remediation by the appropriate persons will be agreed with the enforcing authority (i.e. the council or the Environment Agency), without the need for formal action. In such cases, the persons responsible for carrying out the remediation will usually be required to prepare a remediation statement.

The broad aim of remediation should be to:

- (a) remove identified significant contaminant linkages, or permanently disrupt them, to reduce risks below an unacceptable level; and/or
- (b) to take reasonable steps to remedy harm or pollution caused by a significant contaminant linkage.

This can involve a range of treatment, assessment and monitoring actions, and may be carried out in phases. The council will only require actions in a remediation notice which are reasonable with regard to the cost and the seriousness of the pollution or harm. In deciding what is reasonable, the council will have regard to the practicability, effectiveness and durability of remediation; the health and environmental impacts of the chosen remedial options; the financial cost which is likely to be involved; and the benefits with regards to the seriousness of the harm or pollution of controlled waters in question.

In some cases the council may carry out remediation itself, for example where urgent action is required due to an imminent danger of serious harm, or if there is no appropriate person to bear responsibility (i.e. an 'orphan linkage').

After reasonable consultation, if appropriate remediation cannot be secured by informal agreement, the council has powers to serve a remediation notice on appropriate persons. The notice will state what measures need to be

carried out to remediate the contaminated land, and the timescale for the work to be done. For multiple appropriate persons, the notice shall state what proportion of costs each one is to bear. A remediation notice cannot be served within 3 months of that person being notified that the land in question is contaminated land. In carrying out these functions the council will also adhere to its own enforcement policy and decision framework.

It is an offence under Part 2A not to comply with a remediation notice without reasonable excuse. If the council decides to carry out the remediation actions itself, it can recover its reasonable costs from the appropriate person (this does not include costs of inspecting the land to determine whether it is contaminated land). Any person who receives a remediation notice has twenty one days to appeal against the notice. The grounds for such an appeal are set out in the contaminated land regulations.

6.10 COST RECOVERY

There are a number of situations where an appropriate person is exempt from paying the full costs of remediation, for example when 'hardship' would be caused by meeting these costs. The council may decide in such cases to waive or reduce the recovery of its costs. There is also provision to place a charge on the land, to secure payment at a later date or in instalments.

Some specific considerations may include when the costs of remediation are greater than the value of the remediated land. In such cases the council will consider waiving or reducing its costs recovery from a Class B person. Also, where the appropriate person is a small or medium-sized business, and the costs of remediation would force closure, the council will need to consider the impact that would have on the local economy, and whether this would be greater than the costs of remediation.

Where a Class B person owns and occupies a dwelling on the contaminated land, the council will also consider waiving or reducing its costs recovery if it is satisfied that, at the time the person purchased the dwelling, they did not know, and could not reasonably have been expected to have known that the land was adversely affected by contamination. In such cases the council will consider whether the person took reasonable steps prior to purchasing the property, to establish the potential for contamination to be present. Further details of cost recovery considerations are provided in the statutory guidance.

7.0 ACCESS TO INFORMATION AND CONFIDENTIALITY

7.1 PUBLIC REGISTERS

The Environment Act 1995 requires the council to maintain a public register containing full particulars of the following matters:

- **Remediation notices**

In relation to a remediation notice served by the council:

- (a) the name and address of the person on whom the notice is served;
- (b) the location and extent of the contaminated land to which the notice relates sufficient to enable it to be identified whether by reference to a plan or otherwise;
- (c) the significant harm or pollution of controlled waters by reason of which the contaminated land in question is contaminated land;
- (d) the substances by reason of which the contaminated land in question is contaminated land and, if any of the substances have escaped from other land, the location of that other land;
- (e) the current use of the contaminated land in question;
- (f) what each appropriate person is to do by way of remediation and the periods within which they are required to do each of the things; and
- (g) the date of the notice.

- **Appeals against remediation notices**

Any appeal against a remediation notice served by the council, and any decision on such an appeal.

- **Remediation declarations**

Any remediation declaration prepared and published by the council.

In relation to such remediation declarations:

- (a) the location and extent of the contaminated land in question, sufficient to enable it to be identified whether by reference to a plan or otherwise; and
- (b) the matters referred to in sub-paragraphs (c), (d) and (e) above.

- **Remediation statements**

Any remediation statement prepared and published by the responsible person or by the council.

In relation to any such remediation statement:

- (a) the location and extent of the contaminated land in question, sufficient to enable it to be identified whether by reference to a plan or otherwise; and
- (b) the matters referred to in sub-paragraphs (c), (d) and (e) above, in relation to remediation notices.

- **Appeals against charging notices**

Any appeal against a charging notice served by the council, and any decision on such an appeal.

- **Designation of 'special sites'**

- (a) any notice given by the council, or by the Secretary of State, which has effect as the designation of any land as a 'special site';
- (b) the provisions of the regulations by virtue of which the land is required to be designated as a 'special site';
- (c) any notice given by the Environment Agency of its decision to adopt a remediation notice; and
- (d) any notice given by or to the council determining the designation of any land as a 'special site'.

- **Notifications of claimed remediation**

Any notification given to the council.

- **Convictions for offences under section 78M of the Environmental Protection Act 1990**

Any convictions of a person for any offence in relation to a remediation notice served by the council, including the name of the offender, the date of conviction, the penalty imposed and the name of the Court.

- **Site specific guidance issued by the Environment Agency**

The date of any site specific guidance issued by the Agency to the council.

- **Other environmental controls**

Where the council is precluded from serving a remediation notice:

- (a) the location and extent of the contaminated land in question, sufficient to enable it to be identified whether by reference to a plan or otherwise;
- (b) the matters referred to in sub-paragraph (c), (d) and (e) above, in relation to remediation notices; and
- (c) any steps of which the council has knowledge towards remedying any significant harm or pollution of controlled land by reason of which the land in question is contaminated land.

Where the council is precluded from serving a remediation notice in respect of land which is contaminated land by reason of the deposit of controlled waste or any consequences of its deposit:

- (a) the location and extent of the contaminated land in question, sufficient to enable it to be identified whether by reference to a plan or otherwise;
- (b) the matters referred to in sub-paragraph (c), (d) and (e) above, in relation to remediation notices; and
- (c) any steps of which the council has knowledge in relation to that waste or the consequences of its deposit, including in a case where a waste collection authority took these steps or required the steps to be taken, the name of that authority.

Where, as a result of a consent given under Part III of the Water Resources Act 1991, the council is precluded from specifying in a remediation notice any particular thing by way of remediation which it would otherwise have specified in such a notice -

- (a) the consent;
- (b) the location and extent of the contaminated land in question, sufficient to enable it to be identified whether by reference to a plan or otherwise; and
- (c) the matters referred to in sub-paragraphs (c), (d) and (e) above, in relation to remediation notices.

The public register may be viewed in person by prior arrangement free of charge at the council offices. Reasonable charges will be made to cover copying costs. Alternatively, all public register documents relating to the determination and remediation of properties in the council's area can be viewed online on the council's website (www.eastriding.gov.uk/environment/pollution/land-pollution).

7.2 REQUESTS FOR INFORMATION

The majority of information held by the council in relation to its duties under Part 2A is in the public domain. Requests for information will be dealt with in accordance with the Environmental Information Regulations 2004 (EIR), which implement the EC Directive on Public Access to Information (2003/4/EC). The information that public bodies should make accessible is subject to certain exceptions. Unlike the Freedom of Information Act, requests do not need to be in writing. The council has 20 working days to respond to a request.

The EIR allows data holders, such as the council, to charge a reasonable fee for the provision of environmental information to clients. This fee includes things like officer time, materials, research time, data conversion time and it also makes provisions for the data holder to include within the charge a

reflection of how much time and effort was spent collating the information. Where the payment of a charge is required the time limit of 20 working days is suspended until such time that the person(s) requesting the information accepts responsibility for the charge. The council does not normally require advance payment, only something in writing that the charge is acceptable and will be paid upon receipt of an invoice.

There are some exceptions where the council does not have to release environmental information and these are set out in the EIR. In cases where an exception is applied the council will provide a written response to the applicant within 20 working days explaining the reasons for the refusal. However, all the exceptions other than those for personal data are subject to the public interest test. This means that the council must explain to the applicant why, in all the circumstances of the case, the public interest in maintaining the exception outweighs the public interest in disclosing the information. There is also a general presumption in favour of disclosure.

If the information requested by the applicant is held by another public body, the council will provide the name and contact details of that authority. It will then be the choice of the applicant whether the council transfers the request to the appropriate public body or the applicant makes a fresh request direct to them.

The council provides an environmental enquiry service, where a factual report can be purchased which compiles data held on the contaminated land GIS within a specified search area around a property. Each report is accompanied by a detailed letter explaining the priority the council places on any potentially contaminated land found by the search and putting that site into the wider context of the council's inspection strategy. There are two types of report available, and further details on the contents and charges are provided on the land pollution page of the council's website (www.eastriding.gov.uk/environment/pollution/land-pollution).

7.3 CONFIDENTIALITY

The Data Protection Act 1998 seeks to control the way in which personal information is handled. It is likely that the council will hold information with respect to contaminated land which is personal information to which the provisions of this Act apply. For example, information will be collated and stored regarding current and past ownership and use of sites. The council will, therefore, ensure that data is stored and handled in accordance with the requirements of the above Act.

When dealing with a request for information under the EIR, the council has grounds to refuse a request if it would contravene the Data Protection Act, for example if it includes personal data.

The council will not include any information on the public register which it considers to be commercially confidential unless directed to do so by the

Secretary of State. If a third party states that information it has provided to the council is commercially confidential, the council will determine its confidentiality upon receipt. If the council determines that information is not commercially confidential it will notify the person concerned in writing. The person concerned may appeal to the Secretary of State within 21 days of being notified and the information will be excluded from the public register until the appeal is determined.

The Secretary of State may give directions to the council regarding information which should not be included in the public register on grounds of national security.

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Environment Agency (2010). *Guiding Principles for Land Contamination (GPLCI, 2, and 3)*. Environment Agency, Bristol.

Environment Agency/Defra (2004). *CLR11: Model Procedures for the Management of Land Contamination*. Environment Agency, Bristol.

Environmental Protection Act 1990, Part IIA: inserted by the Environment Act 1995, Section 57. See Environment Act 1995 for text of Part IIA.

The Contaminated Land (England) (Amendment) Regulations 2012. Statutory Instrument (SI 2012/263).

The Contaminated Land (England) Regulations 2006. Statutory Instrument (SI 2006/1380).

The Environmental Damage (Prevention and Remediation) Regulations 2009. Statutory Instrument (SI 2009/153).

The Water Act 2003 (commencement No.11) Order 2012. Statutory Instrument (SI 2012/264/C.8)

Useful Websites:

www.eastriding.gov.uk/landpollution

www.environment-agency.gov.uk/research/planning - Land contamination

www.defra.gov.uk/environment/quality/land

GLOSSARY OF TERMS

Appropriate Person:	Defined in section 78A(9) as: 'any person who is an appropriate person, determined in accordance with section 78F, to bear responsibility for any thing which is to be done by way of remediation in any particular case.'
Class A person:	A person who is an appropriate person by virtue of section 78F(2) (that is because he has caused or knowingly permitted a pollutant to be in, on or under the land).
Class B person:	A person who is an appropriate person by virtue of section 78F(4) or (5) (that is, because he is the owner or occupier of the land in circumstances where no class A person can be found with respect to a particular remediation action).
Contaminant:	A substance which is in, on or under the land and which has the potential to cause significant harm or to cause pollution of controlled waters.
Contaminated Land:	Section 78A (2) defines contaminated land as: 'any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that; a) significant harm is being caused or there is a significant possibility of such harm being caused; or b) significant pollution of controlled waters is being, or there is a significant possibility of such pollution being caused.' OR with respect to radioactive contamination defined in section 78A(2) (as modified) as; 'any land which appears to the local authority in whose area the land is situated to be in such a condition, by reason of substances in, on or under the land, that; a) harm is being caused; or b) there is a significant possibility of harm being caused.'
Controlled Waters:	Defined in section 78A(9) by reference to Part 3 (section 104) of the Water Resources Act 1991; this includes territorial and coastal waters, inland fresh waters and ground waters.
Enforcing Authority:	Defined in section 78A(9) as:

	<p>'a) in relation to a 'special site', the Environment Agency;</p> <p>b) in relation to contaminated land other than a 'special site', the local authority in whose area the land is situated'.</p>
Environment Agency:	An executive non-departmental public body whose principle aims are to protect and improve the environment, and to promote sustainable development.
Harm:	<p>Defined in section 78A(4) as: 'harm to the health of living organisms or other interference with the ecological systems of which they form part and, in the case of man, includes harm to his property.'</p> <p>OR with respect to radioactive contamination defined in section 78A(4) (as modified) as: 'lasting exposure to any person resulting from the after effects of a radiological emergency, past practice or past work activity.'</p>
Hydrogeology:	A subdivision of hydrology specifically relating to the study of waters beneath the earth's surface.
Hydrology:	The science concerned with the occurrence, distribution, movement and properties of all waters on the earth and in its atmosphere.
Inspection using statutory powers of entry:	Any detailed inspection of land carried out through use of powers of entry given to an enforcing authority by section 108 of the Environment Act 1995.
Intrusive Investigation:	An investigation of land (for example by exploratory excavations) which involves actions going beyond simple visual inspection of the land or assessment of documentary evidence. Also known as site investigation.
Local Authority:	Defined in section 78A(9) as meaning any unitary authority, district council etc.
Orphan Linkage:	A significant pollutant linkage for which no appropriate person can be found, or where those who would otherwise be liable are exempted by one of the relevant statutory provisions.
Owner:	Defined in section 78A(9) as:

	'a person (other than the mortgagee not in possession) who, whether in his own right or as trustee for any other person, is entitled to receive the rack rent of the land, or where the land is not let at a rack rent, would be so entitled if it were so let.'
Part 2A:	Part 2A of the Environmental Protection Act 1990.
Pathway:	One or more routes or means by, or through, which a receptor: a) is being exposed to, or affected by, a contaminant, or b) could be so exposed or affected.
Public Register:	Register maintained by the enforcing authority under section 78R of particulars relating to contaminated land.
Pollutant:	A contaminant which forms part of a pollutant linkage.
Pollutant Linkage:	The relationship between a contaminant, a pathway and a receptor.
Pollution of controlled waters:	Defined in section 78A(9) as: 'The entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter.'
Prioritisation:	The process of scoring sites based on the potential contaminant sources, pathways and receptors for a site and its surroundings. This creates a prioritised list of sites, which can then be inspected in priority order.
Radionuclide:	Also known as 'radioisotopes', they are atoms with an unstable nucleus which can undergo radioactive decay, emitting gamma rays and/or subatomic particles, which constitutes ionising radiation.
Receptor:	Either: a) a living organism, a group of living organisms, an ecological system or a piece of property which - i) is in a category listed in table A in chapter A as a type of receptor, and ii) is being, or could be, harmed, by a contaminant; or b) controlled waters which are being, or could be, polluted by a contaminant; or c) a person subjected to lasting exposure resulting

	from the after-effects of a radiological emergency, past practice or past work activity.
Remediation:	<p>Defined in section 78A(7) as:</p> <p>a) the doing of anything for the purpose of assessing the condition of -</p> <p>i) the contaminated land in question;</p> <p>ii) any controlled waters affected by that land; or</p> <p>iii) any land adjoining or adjacent to that land;</p> <p>b) the doing of any works, the carrying out of any operations or the taking of any steps in relation to any such land or waters for the purpose -</p> <p>i) of preventing or minimising, or remedying or mitigating the effects of any significant harm, or any pollution of controlled waters, by reason of which the contaminated land is such land; or</p> <p>ii) of restoring the land or waters to their former state; or</p> <p>c) the making of subsequent inspections from time to time for the purpose of keeping under review the condition of the land or waters.'</p> <p>OR</p> <p>with respect to radioactive contamination defined in section 78A(7) (as modified) as:</p> <p>'a) the doing of anything for the purpose of assessing the condition of -</p> <p>i) the contaminated land in question; or</p> <p>ii) any land adjoining or adjacent to that land;</p> <p>b) the doing of any works, the carrying out of any operations or the taking of any steps in relation to any such land for the purpose -</p> <p>i) of preventing or minimising, or remedying or mitigating the effects of any harm by reason of which the contaminated land is such land; or</p> <p>ii) of restoring the land to its former state; or</p> <p>c) the making of subsequent inspections from time to time for the purpose of keeping under review the condition of the land.'</p>
Remediation Notice:	Defined in section 78E(1) as a notice specifying what an appropriate person is to do by way of remediation and the periods within which he is required to do each of the things so specified.
Remediation Statement:	Defined in section 78H(7). It is a statement prepared and published by the responsible person detailing the

	remediation actions which are being, have been, or are expected to be, done as well as the periods within which these things are being done.
Risk:	The combination of: a) the probability, or frequency, of occurrence of a defined hazard (for example, exposure to a property of a substance with the potential to cause harm); and b) the magnitude (including the seriousness) of the consequences.
Significant harm:	Defined in section 78A(5). It means any harm which is determined to be significant in accordance with chapter A of the statutory guidance (that is, it meets one of the descriptions of types of harm in the second column of table A of that chapter).
Significant possibility of significant harm:	A possibility of significant harm being caused which, by virtue of section 78A(5), is determined to be significant in accordance with chapter A of the statutory guidance.
Site Investigation:	An investigation of land (for example by exploratory excavations) which involves actions going beyond simple visual inspection of the land or assessment of documentary evidence. Also known as an intrusive investigation.
Special Site:	Defined by section 78A(3) as 'Any contaminated land - a) which has been designated as such a site by virtue of section 78C(7) or 78D(6)...; and b) whose designation as such has not been terminated by the appropriate Agency under section 78Q(4)...' The effect of a site being designated as a 'special site' is that the Environment Agency, rather than the council, becomes the enforcing authority for the land.
Substance/Source:	Defined in section 78A(9) as: 'Any natural or artificial substance, whether in solid or liquid form or in the form of a gas or vapour.' OR with respect to radioactive contamination defines in section 78A(9) (as modified) as: 'Whether in solid or liquid form or in the form of a gas or vapour, any substance which contains radionuclides which have resulted from the after-effects of a radiological emergency or which are or

	have been processed as part of a past practice or past work activity, but shall not include radon gas or the following radionuclides: Po-218, Pb-214, At-218, Bi-214, Rn-218, Po-214 and Tl-210.'
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APPENDIX I - SIGNIFICANT HARM AND SIGNIFICANT POLLUTION**Table A – Categories of significant harm**

Relevant types of receptor	Effects which should be considered to be significant harm
Humans	<p>Death; life threatening diseases (e.g. cancers); other diseases likely to have serious impacts on health; serious injury (e.g. physical injury from explosive gases, or burn injuries from chemical properties); birth defects; and impairment of reproductive functions.</p> <p>Other health effects which may be considered could include: gastrointestinal disturbances; respiratory tract effects; cardio-vascular effects; central nervous system effects; skin ailments; and effects on organs such as the liver or kidneys. For each case the council will consider the impact on the health, and quality of life, of any person suffering the harm, and the scale of the harm, when determining whether the harm is significant.</p>
<p>Any ecological system, or living organism forming part of such a system, within a location which is:</p> <ul style="list-style-type: none"> • A site of special scientific interest (under section 28 of the Wildlife and Countryside Act 1981); • A national nature reserve (under section 35 of the 1981 Act); • A marine nature reserve (under section 36 of the 1981 Act); • An area of special protection for birds (under section 3 of the 1981 Act); • A “European Site” within the meaning of regulation 8 of the Conservation of Habitats and Species Regulations 2010; • Any habitat or site afforded policy protection in the National Planning Policy Framework (i.e. candidate Special Areas of Conservation, potential Special Protection Areas and listed Ramsar sites); or • any nature reserve established under section 21 of the National Parks and Access to the Countryside Act 1949. 	<ul style="list-style-type: none"> • harm which results in an irreversible adverse change, or in some other substantial adverse change, in the functioning of the ecological system within any substantial part of that location; or • harm which affects any species of special interest within that location and which endangers the long-term maintenance of the population of that species at that location. <p>In the case of European sites, harm should also be considered to be significant harm if it endangers the favourable conservation status of natural habitats at such locations or species typically found there.</p> <p>In determining what constitutes such harm, the local authority should have regard to the advice of Natural England and to the requirements of the Conservation of Habitats and Species Regulations 2010.</p>

Relevant types of receptor	Effects which should be considered to be significant harm
<p>Property in the form of:</p> <ul style="list-style-type: none"> • crops, including timber; • produce grown domestically, or on allotments, for consumption; • livestock • other owned or domesticated animals • wild animals which are the subject of shooting or fishing rights. 	<p>For crops, a substantial diminution in yield or other substantial loss in their value resulting from death, disease or other physical damage. For domestic pets, death, serious disease or serious physical damage. For other property in this category, a substantial loss in its value resulting from death, disease or other serious physical damage.</p> <p>The local authority should regard a substantial loss on value as occurring only when a substantial proportion of the animals or crops are dead or otherwise no longer fit for their intended purpose. Food should be regarded as being no longer fit for purpose when it fails to comply with the provisions of the Food Safety Act 1990. Where a diminution in yield or loss in value is caused by a pollutant linkage, a 20% diminution or loss should be regarded as a benchmark for what constitutes a substantial diminution or loss.</p>
<p>Property in the form of buildings.</p> <p>For this purpose, “building” means any structure or erection, and any part of a building including any part below ground level, but does not include plant or machinery comprised in a building, or buried services such as sewers, water pipes or electricity cables.</p>	<p>Structural failure, substantial damage or substantial interference with any right of occupation.</p> <p>For the purpose, the local authority should regard substantial damage or substantial interference as occurring when any part of the building ceases to be capable of being used for the purpose for which it is or was intended.</p> <p>Additionally, in the case of a scheduled Ancient Monument, substantial damage should be regarded as occurring when the damage significantly impairs the historic, architectural, traditional artistic or archaeological interest by reason of which the monument was scheduled.</p>

Table B – Significant possibility of significant harm

Types of significant harm for relevant receptors	When to consider a significant possibility of significant harm exists
Human health effects	Please refer to section 6 of the strategy and the statutory guidance.
Ecological system effects	<p>If either:</p> <ul style="list-style-type: none"> • significant harm of that description is more likely than not to result from the pollutant linkage in question; or • there is a reasonable possibility of significant harm of that description being caused, and if that harm were to occur, it would result in such a degree of damage to features of special interest at the location in question that they would be beyond any practicable possibility of restoration. <p>Any assessment made for these purposes should take into account relevant information for the type of pollutant linkage, particularly in relation to the ecotoxicological effects of the pollutant.</p>
Property (animal and crop effects)	If significant harm of that description is more likely than not to result from the pollutant linkage in question, taking into account relevant information for the type of pollution linkage, particularly in relation to the ecotoxicological effects of the pollutant.
Property (building effects)	If significant harm of that description is more likely than not to result from the pollutant linkage in question during the expected economic life of the building (or, in the case of a scheduled Ancient Monument, the foreseeable future), taking into account relevant information for that type of pollutant linkage.

Table C – Significant pollution of controlled waters

Relevant type of receptor	Types of pollution to be considered as significant pollution
Controlled waters	<ul style="list-style-type: none"> • Pollution equivalent to “environmental damage” to surface water or groundwater as defined by The Environmental Damage (Prevention and Remediation) Regulations 2009, but which cannot be dealt with under those Regulations • Inputs resulting in deterioration of the quality of water abstracted, or intended to be used in the future, for human consumption such that additional treatment would be required to enable that use • A breach of a statutory surface water Environment Quality Standard, either directly or via a groundwater pathway • Input of a substance into groundwater resulting in a significant and sustained upward trend in concentration of contaminants (as defined in Article 2(3) of the Groundwater Daughter Directive (2006/118/EC)5). <p>In some circumstances, the local authority may consider that the following types of pollution may constitute significant pollution:</p> <ol style="list-style-type: none"> a) significant concentrations of hazardous substances or non-hazardous pollutants in groundwater; or b) significant concentrations of priority hazardous substances, priority substances or other specific polluting substances in surface water; <p>at an appropriate, risk-based compliance point.</p> <p>The local authority should only conclude that pollution is significant if it considers that treating the land as contaminated land would be in accordance with the broad objectives of the regime. This would normally mean that the authority should conclude that less serious forms of pollution are not significant. In such cases the authority should consult the Environment Agency.</p>

APPENDIX 2 - SPECIAL SITES

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 the Contaminated Land (England) Regulations 2006, and is reproduced in the extract text below for information only. For the full legal definition and further details, reference should be made to the full text of the legislation and statutory guidance.

Contaminated land of the following descriptions is prescribed for the purposes of section 78C(8) as land required to be designated as a 'special site':

- a) land affecting controlled waters in the circumstances specified in regulation 3;
- b) land which is contaminated land by reason of waste acid tars in, on or under the land;
- c) land on which any of the following activities have been carried on at any time;
 - i) the purification (including refining) of crude petroleum or of oil extracted from petroleum, shale or any other bituminous substance except coal; or
 - ii) the manufacture or processing of explosives;
- d) land on which a prescribed process designated for central control has been or is being carried on under an authorisation, where the process does not solely consist of things being done which are required by way of remediation;
- e) land on which an activity has been or is being carried on in a Part A(1) installation or by means of Part A(1) mobile plant under a permit, where the activity does not solely consist of things being done which are required by way of remediation;
- f) land within a nuclear site;
- g) land owned or occupied by or on behalf of –
 - i) the Secretary of State for defence;
 - ii) the defence council,
 - iii) an international headquarters or defence organisation, or
 - iv) the service authority of a visiting force, being land used for naval, military or air force purposes;
- h) land on which the manufacture, production or disposal of –
 - i) chemical weapons,
 - ii) any biological agent or toxin which falls within section 1(1)(a)

of

- of the Biological Weapons Act 1974 (restriction on development of biological agents and toxins), or
- iii) any weapon, equipment or means of delivery which falls within section 1(1)(b) of that Act (restriction on development of biological weapons) has been carried on at any time;
 - i) land comprising premises which are or were designated by the Secretary of State by an order made under section 1(1) of the Atomic Weapons Establishment Act 1991 (arrangements for development etc of nuclear devices);
 - j) land to which section 30 of the Armed Forces Act 1996 (land held for the benefit of Greenwich hospital) applies;
 - k) land which is contaminated land wholly or partly by virtue of any radioactivity possessed by any substance in, on or under that land; and
 - l) land which –
 - i) is adjoining or adjacent to land of a description specified in any of sub-paragraphs (b) to (k); and
 - ii) is contaminated land by virtue of substances which appear to have escaped from land of such a description.

APPENDIX 3 - HARM ATTRIBUTABLE TO RADIOACTIVITY

The definition of contaminated land where attributable to radioactivity is slightly different, and is based on the notion of 'harm' and the 'significant possibility' of such harm being caused. Harm in this context is defined in section 78A(4) (as modified) as:

“lasting exposure to any person resulting from the after-effects of a radiological emergency, past practice or past work activity”

The extension of Part 2A to include radioactivity applies only in respect of harm to human health, and not in respect of other receptors or pollution of controlled waters.

The criteria for determining 'harm' in relation to radioactivity are based on levels of effective or equivalent doses of radiation, where it is appropriate to take action under Part 2A. The thresholds are any of the following:

- a) an effective dose exceeding 3 millisieverts per annum;
- b) an equivalent dose to the lens of the eye exceeding 15 millisieverts per annum; or
- c) an equivalent dose to the skin exceeding 50 millisieverts per annum.

Exposures which are not certain to occur are known as potential exposures and are the situations covered by the term 'possibility of harm'. The decision on whether the possibility of harm being caused is significant will be made on a case by case basis, and in accordance with statutory guidance.

APPENDIX 4 - POSSIBLE SOURCES OF CONTAMINATION

USES OF LAND WHERE CONTAMINATION SHOULD BE “STRONGLY SUSPECTED”

The Government considers that there is a very high probability that all land which has been subject to any of the eight uses set out below is contaminated unless previously treated.

1. Manufacture of gas, coke or bituminous material from coal.
2. Manufacture or refining of lead or steel or an alloy of lead or steel.
3. Manufacture of asbestos or asbestos products.
4. Manufacture, refining or recovery of petroleum or its derivatives, other than extraction from petroleum bearing ground.
5. Manufacture, refining or recovery of other chemicals, excluding minerals.
6. Final deposits in or on land of household, commercial or industrial waste other than waste consisting of ash, slag, clinker, rock, wood, gypsum, railway ballast, peat, bricks, tiles, concrete, glass, other minerals or dredging spoil; or where waste is used as a fertiliser or in order to condition the land in some other beneficial manner.
7. Treatment at a fixed installation of household, commercial or industrial waste by chemical or thermal means.
8. Use as a scrap metal store, within the meaning of section 9(2) of the Scrap Metal Dealers Act 1964(a).

Source: Department of the Environment Consultation Paper Registers of Land which May be Contaminated, 1st Review May 1992.

USES OF LAND WHERE THERE IS A “SUSPICION” OF CONTAMINATION

The following list of uses offers guidance as to when there is a “suspicion” of contamination:

1. Agriculture
 - Burial of diseased livestock
 - Storage of fuels, chemicals (pesticides/herbicides)
 - Storage and maintenance of machinery and vehicles
2. Extractive Industry

- Extracting, handling and storage of carbonaceous materials e.g. coal, lignite, petroleum, natural gas, bituminous shale
 - Extracting, handling and storage of ores and their constituents
3. Energy Industry
- Production from coal, lignite, oil, or other carbonaceous material other than from sewage or waste
 - Reforming, refining, purifying, and odourising natural gas or any other product of the processes outlined above
 - Pyrolysis, carbonisation, distillation, liquefaction, partial oxidisation, other heat treatment, conversion, purification or refining of coal, lignite, oil, other carbonaceous material or mixtures and products thereof
 - A thermal power station
 - Electricity substation
4. Production of metals
- Production, refining or recovery of metals by physical, chemical, thermal, or electronic or other extraction process
 - Heating, melting or casting metals as part of an intermediate or final manufacturing process
 - Cold forming processes e.g. pressing, rolling, extruding stamping
 - Finishing treatments, including anodising, pickling, coating and plating or similar processes
5. Production of non-metal and their products
- Production or refining of non-metals by treatment of the ore
 - Production or processing of mineral fibres by treatment of the ore
 - Cement, lime and gypsum manufacture, brickworks and associated processes
6. Glass making and ceramics
- Manufacture of glass and products based on glass
 - Manufacture of ceramics and products based on ceramics and products based on ceramics including glazes and vitreous enamel
7. Production and use of chemicals
- Production, refining, recovery or storage of petroleum or petrochemicals or their by-products, including tar and bitumen processes and manufacture of asphalt
 - Production, refining and bulk storage of organic or inorganic chemicals including fertilisers, pesticides, pharmaceuticals, soaps, detergents, cosmetics, toiletries, dyestuffs, inks, paints, fireworks, pyrotechnic materials or recovered chemicals
 - Production, refining and bulk storage of industrial gases

8. Engineering and manufacturing processes
 - Manufacture of metal goods including mechanical engineering industrial plant or steel work, motor vehicles, ships, railway or tramway vehicles, aircraft, aerospace equipment or similar equipment
 - Storage, manufacture or testing of explosives, propellants, ordnance, small arms or ammunition
 - Manufacture and repair of electrical and electronic components and equipment
9. Food Processing Industry
 - Manufacture of pet foods or animal foodstuffs
 - Processing of animal by products including rendering or maggot farming, but excluding slaughterhouses and butchering
10. Paper, Pulp and Printing Industries
 - Making of paper pulp, paper or board, or paper or board products, including printing or de-inking
11. Timber and Timber products Industry
 - Chemical treatment and coating of timber and timber products
12. Textile Industry
 - Tanning, dressing, fellmongering or other process for preparing, treating or working leather
 - Fulling, bleaching, dyeing or finishing fabrics or fibres
 - Manufacture of carpets or other textile floor coverings including linoleum works
13. Rubber Industry
 - Processing of natural or synthetic rubber including tyre manufacture or retreading
14. Infrastructure
 - Marshalling, dismantling, repairing or maintenance of railway rolling stock
 - Dismantling, repairing or maintenance of marine vessels, including hovercraft
 - Dismantling, repairing or maintenance of air or space transport systems
15. Waste Disposal

- Treating of sewage or other effluent
- Storage, treatment or disposal of sludge from water treatment works
- Treatment, keeping, depositing or disposal of waste, including scrap storage or disposal of radioactive materials

16. Miscellaneous

- Premises housing dry cleaning operations
- Laboratories for educational or research purposes
- Demolition of buildings, plant or equipment used for any of the activities in this list

Source: Department of the Environment Consultation Paper, Public Registers of Land which may be Contaminated, May 1991.

RADIOACTIVE CONTAMINATION

In relation to radioactivity, any land where there are substances present which contain one or more radionuclides (see glossary of terms) which have resulted from the after-effects of a radiological emergency or which have been processed as part of a past practice or past work activity, will be considered as potentially contaminated land by virtue of radioactivity. Where there are reasonable grounds for believing that any land may be contaminated by virtue of radioactivity (i.e. that harm is being caused, or there is a significant possibility of such harm being caused), then there is a duty on the local authority to inspect that land for the purpose of identifying whether it is contaminated land. The fact that radioactive substances have been present on the land shall not itself be taken as reasonable grounds for believing the land is contaminated.

APPENDIX 5 - PART 2A RECEPTORS

Receptor	Land Use Type
Humans	Allotments Residential with gardens Residential without gardens Schools or nurseries Recreation, parks, playing fields Open space Commercial/industrial
Ecological systems or living organisms	Sites of Special Scientific interest National Nature Reserves Marine Nature Reserves Area of Special protection for Birds European Sites Special Areas of Conservation Special Protection Areas Ramsar Sites Nature Reserves
Property in the form of buildings	Ancient monuments Buildings
Property in other forms (crops, livestock, home-grown produce, domesticated animals, wild animals subject to shooting or fishing rights)	Agricultural land Allotments and gardens Forestry areas Other open spaces, rivers, lakes etc.
Controlled waters	Surface waters Drinking water abstractions Source protection zones Ground waters – private abstractions Ground waters – principal aquifers

APPENDIX 6 - MODEL PROCEDURES FOR THE MANAGEMENT OF LAND CONTAMINATION (CLR I I)

Introduction

The Model Procedures for the Management of Land Contamination are intended to assist all those involved in managing the land and, in particular, landowners, developers, industry, professional advisers, financial service providers, planners and regulators. Overall the Model Procedures are intended to improve procedural understanding of a risk-based approach to land contamination and encourage the sharing of knowledge and good practice amongst professionals and others.

It is envisaged that the Model Procedures will provide an appropriate starting point for individual companies and organisations, such as landowners, developers, funders and regulatory bodies, to review and develop their own procedures and supporting material to meet their own specific needs. The procedures are supported by comprehensive flow diagrams designed to guide the reader from beginning to end through the entire process of:

- risk assessing potentially contaminated land
- appraising remediation options
- designing and implementing a remediation strategy
- designing and implementing verification works.

The Environment Agency is continuing to develop 'secondary procedures' to provide more detailed advice on particular elements of the overall risk management process.

The Model Procedures consist of three parts:

- Part 1 – Procedures
- Part 2 – Supporting Information
- Part 3 – Information Map

Part 1 – Procedures

This has five chapters:

- Chapter 1 - Overview of Model Procedures

The Model Procedures are intended to provide the framework for a structured technical process for informing decisions about land contamination. The basic technical process can be adapted to apply in a range of regulatory and management contexts, subject to the specific constraints set by these contexts.

- Chapter 2 - Risk Assessment

Risk assessment is the essential starting point in managing risks. The Model Procedures provide a structured mechanism for identifying potential problems and

making judgments about the consequences. Risk assessment can be a highly detailed process, particularly where risks are complex. There are a range of specific technical approaches for different contaminants and circumstances. However, these all broadly fit within an overall general process, which can be seen as a tiered approach. Each tier is applied to the circumstances of the site under consideration, with an increasing level of detail required by the assessor in progressing through the tiers. The three tiers outlined by the Model Procedures are:

1. Preliminary risk assessment
2. Risk assessment using generic criteria and assumptions
3. Risk assessment using site-specific criteria and assumptions

- Chapter 3 - Options Appraisal

Options appraisal is the second stage of the overall process of risk management. It comes into play only if risk assessment demonstrates that there are unacceptable risks associated with a site. There may be a number of ways of reducing or controlling unacceptable risks, all of which will have advantages and limitations in any particular case. The role of options appraisal is to establish, taking all the circumstances of the site into account, which options (either singly or in combination) offer the best overall approach to remediation for the site as a whole.

The Model Procedures outline three main stages of options appraisal:

1. Identifying feasible remediation options for each relevant pollutant linkage
2. Carrying out a structured evaluation of feasible remediation options to identify the most appropriate option for any particular linkage
3. Producing a remediation strategy that will address all relevant pollutant linkages, where appropriate by combining remediation options.

- Chapter 4 - Implementation of Risk Management Action

The previous components of risk management provide the identification of unacceptable risks and the selection of the most appropriate remediation strategy. To complete the process of risk management, the remediation strategy needs to be implemented. This may involve carrying out the remediation works as an independent project or combining them with other work planned for the site. For example, if the site is being redeveloped, then the remediation strategy may be combined with foundation work or earthworks to achieve a suitable starting point for development. As a result the remediation may be implemented as a standalone contract or as an integral part of any development-related or other infrastructure project.

The remediation strategy deals with all aspects of design, preparation, implementation, verification, long-term maintenance and monitoring of the remediation. Implementation of the strategy must be fully recorded, such that there is a permanent record (the verification report) of the works. Where necessary, the work needs to be monitored and maintained. Monitoring may be used as a means of demonstrating compliance against predicted behaviour and as an early warning of adverse trends.

There are three main stages in the implementation process:

1. Preparing the implementation plan
 2. Design, implementation and verification of the works
 3. Post-contract long term monitoring and maintenance.
- Chapter 5 - References and Glossary

Part 2 – Supporting Information

This contains detailed supporting information to the procedures contained in Part 1 presented in the form of information boxes. These contain examples of the inputs, criteria, tools and outputs used or generated throughout the process of risk management. To facilitate use of the information boxes, each is 'badged' using a colour/shade coded page banner and symbol to indicate which stage of the process is being supported and the type of information being presented. Part 2 covers the following subject areas:

- Types of supporting information
- Guide to arrangement of supporting information
- Supporting Information for Risk Assessment
- Preliminary Risk Assessment
- Generic Quantitative Risk Assessment
- Detailed Quantitative Risk Assessment
- Supporting Information for Options Appraisal
- Identification of Feasible Remediation Options
- Detailed Evaluation of Options
- Developing the Remediation Strategy
- Supporting Information for Implementation of the Remediation Strategy
- Preparing the Implementation Plan
- Design, Implementation and Verification
- Long-term Monitoring and Maintenance

Part 3 – Information Map

The Information Map contains details of over 80 individual or sets of key publications containing more detailed technical guidance on particular aspects of the risk

management process. Authoritative bodies, such as Defra and its predecessor departments, the Environment Agency and the British Standards Institution etc, have issued all the documents. All are considered essential for a full understanding of the technical process. Each entry sets out the title, date, report reference and publisher of the document or document set and its current status (published or in preparation). Contact details for copies of documents are also provided.

East Riding of Yorkshire Council will, on request, provide this document in Braille, audio or large print format.

If English is not your first language and you would like a translation of this document into any other language, please telephone (01482) 393939.