



CONTAMINATED LAND STRATEGY

2010 – 2015

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Foreword

Welcome to the Central Bedfordshire Council's Contaminated Land Strategy for 2010-15.

Under the Environmental Protection Act 1990 we are legally obliged to inspect the land in the District that may be contaminated and pose unacceptable risk to Public Health and the wider environment.

The Strategy has been designed to ensure that the Council meets its legal duties of inspecting its area and adheres to the principles of clear and open communication at all times. The Strategy seeks to secure solutions that are acceptable to all without necessarily resorting to enforcement action, thereby remediating land to a level acceptable by modern standards, with commensurate improvements to public health and, ultimately, the possible perceived value of property.

The Council is strongly committed to improving the environment the principles of sustainable development and to improving the environment. This Strategy also complements our Local Development Frameworks aimed at preserving Green Belt and encouraging the development of formerly used and derelict land. This in turn reflects Central Bedfordshire's vision to **improve the quality of life of all in Central Bedfordshire, and enhance the unique character of our communities and our environment** which this strategy will help deliver.

Executive summary

The Central Bedfordshire Contaminated Land Strategy 2010-15 has been developed to meet the legal requirements of the Part IIA of the Environmental Protection Act 1990. The purpose of the regime is for all local authorities to carry out periodic inspections of their area to identify sites that could be determined as contaminated land if they meet the criteria of the statutory definition and ensure appropriate action is taken to make the land suitable for use.

Alongside this primary piece of legislation, other secondary legislative regimes play an important role in ensuring that further contamination is minimised or prevented and that land remediation is secured through the planning process.

This Strategy sets out how the Council proposes to implement its inspection duties over a period of five years and contribute towards the sustainable development of the District whilst protecting human health and property as well as the wider environment of controlled waters and ecosystems.

At the heart of the Strategy is the following aim:

(To) identify, in a rational, ordered and efficient manner, areas of land that require detailed individual inspection, and respond to contaminated land problems in a manner proportionate to the risks involved.

The Council itself owns a significant portfolio of land and aims to ensure that all remediation action taken is in line with the Strategy, should any of its landholdings meet the definition of contaminated land.

The Strategy has evolved after consultation with key stakeholders, having regard to the Council's corporate vision "to improve the quality of life of all in Central Bedfordshire", its Environmental Policy and its legislative responsibilities within the overall national and local priorities.

The Council will achieve the Strategies aims and objectives through effective partnerships, provision of timely information and guidance to private developers and landowners, raising awareness of contaminated land issues and accessing the available funds to remediate land identified as contaminated in Central Bedfordshire.

The Strategy will be informally reviewed annually to monitor progress against the key objectives and priorities, to factor in any new data that may become available as well as any changes to the government policy. We will aim to ensure that all the actions taken in relation to contaminated land help protect public health and eliminate or minimise the negative impact contamination can cause to the environment. The value of property will also ultimately be enhanced by the full delivery of the Strategy as potential contamination issues are often identified only when searches are undertaken during the sale of a property and adequate time to resolve issues is not always available. The Strategy will pre-emptively resolve this uncertainty for investigated properties.

Introduction

The Central Bedfordshire Contaminated Land Strategy 2010-15 has been prepared to meet the Council's statutory obligations under the Part IIA of the Environmental Protection Act (EPA) 1990, to ensure that effective and timely action is taken to remedy land that is proven to be contaminated.

Under Part IIA, local authorities are required to cause their areas to "be inspected from time to time" to identify contaminated land. The statutory guidance required that local authorities develop and publish a strategic approach to the identification of contaminated land.

The primary piece of legislation that governs the contaminated land regime is the Part IIA of the Environmental Protection Act 1990. In fulfilling its duties as the regulator under Part IIA the Council will:

- *regularly review the Contaminated Land Strategy to ensure a rational, ordered, timely and efficient approach to dealing with potentially contaminated land sites in the District,*
- *determine which sites meet the definition of contaminated land and which of these sites need to be designated as special sites,*
- *ensure effective remediation of contaminated land occurs through voluntary action but resorting to enforcement powers where all else fails,*
- *apportioning liability and ensuring the "polluter pays" principle is followed,*
- *inform the public of the action taken in relation to land contamination by maintaining a public register.*

The Environment Agency (EA) will provide the Council with site-specific advice and support, and will take primary responsibility when dealing with special sites and the pollution of controlled waters.

The cornerstones of the new Strategy are:

- ***the Council's corporate vision*** - "to improve the quality of life of all in Central Bedfordshire",
- ***the Environmental Policy*** - *to care for and protect the environment,*
- ***the Local Development Framework*** - *to help ensure sustainable development and preserve the natural environment,*
- ***the Community Plan*** - *to lead towards creating sustainable communities, improve people's health and the wider environment.*

The Strategy has been developed having regard to these corporate priorities, the primary and secondary legislation, key national priorities, best practice and the characteristics (geographical, social and economic) of the local area.

The Government recognises that land contaminated in the past threatens the environment both now and in the future. With this in mind, the Government's key objectives driving the contaminated land regime are to¹: -

¹ Annex 1, DETR circular 02/2000

- ⇒ ***ensure that risks associated with land contamination are reduced to an acceptable level,***
- ⇒ ***bring contaminated sites back to beneficial use, and***
- ⇒ ***make sure that the cost burdens in doing so are proportionate, manageable and economically sustainable.***

The Central Bedfordshire Contaminated Land Strategy 2010-15 links into the wider regulatory framework, including waste management and pollution control systems designed to protect the environment from inappropriate development, its effects, environmental crime and land misuse.

In accordance with the legislative requirements, the Council has developed the revised Strategy that sets out the Council's approach to inspecting its area to identify contaminated land sites and ensure timely, well-planned and effective action is taken to make them suitable for use. The Council aims to be more proactive and concentrate its effort on five strategic objectives, to:

- 1. develop and follow effective procedures for all key stages in contaminated land identification, prioritisation and remediation;***
- 2. protect human health and the environment by identifying and remediating contaminated land sites with unacceptable levels of risk;***
- 3. encourage the remediation of contaminated land through the planning system and assist developers in brown-field land development;***
- 4. ensure effective management of and response to all information on contaminated land.***

Nationally, development of Brownfield land (that is, land previously used for industry) has been identified as a priority in order to preserve the Green Belt and stimulate efficient use of land. Across England, there are 154,935 acres of land in England classed as "brownfield" or "previously developed" by English Partnerships, the Government's national regeneration agency. Of this land, 66,100 acres, or 43 per cent, is available for housing and local authorities are reviewing their contaminated land strategies as they prepare to take more proactive steps towards making sites suitable for use.

The Council has inherited significant progress in gathering and evaluating historical data on past industrial activities in the District that may have led to land contamination. This has resulted in the identification of some 1800 sites of potential concern due to their historical or current exposure to landfill, sand/ clay extraction, and various other types of industrial land use. These sites will require further investigation to establish whether they meet the statutory definition of contaminated land and determine any action to be taken by the appropriate agency.

To date, some 250 sites have been remediated through the Planning process, a dozen desk studies have been commissioned, and six priority areas for action have been identified as needing investigative work. Of these, one is currently subject to likely determination as contaminated land.

We will aim to deliver the Strategy in an open, transparent and fair manner, whilst adhering to key guiding principles of customer focus, partnership working, community participation, performance management and accountability.

The Strategy consist of three major parts:

Part I *lays down the background information,*
Part II *sets out the key aims, objectives and priorities,*
Part III *centres on the Strategy delivery and all relevant procedures.*

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PART I - BACKGROUND

Regulatory and Government context

The primary piece of legislation governing the contaminated land regime is Part IIA of the Environmental Protection Act 1990 that places the main regulatory role with local authorities. It came into force on 1st April 2000 and provided a definition for contaminated land, placed a duty on Local Authorities to inspect their areas and to enforce remediation where necessary.

The main tasks for **the Council** under the Act are to:

- ⇒ ***publish a Contaminated Land Strategy that will set out the Council's approach to inspecting its area to identify contaminated land,***
- ⇒ ***upon identifying contaminated land to establish who owns it and should bear the responsibility for its remediation,***
- ⇒ ***determine if contaminated land is to be designated as a special site, whereby the regulatory role is assumed by the Environment Agency,***
- ⇒ ***decide, following consultation, what remediation is required and ensure it takes place through voluntary action, but resorting to enforcement where necessary,***
- ⇒ ***determine who should bear what proportion of the liability for meeting remediation costs,***
- ⇒ ***record information about contaminated land on a public register and ensure the register is available for public inspection.***

The Environment Agency (EA) also plays a significant regulatory part in the contaminated land regime. Its main roles are to:

- ⇒ ***provide local authorities with advice on their inspection strategies,***
- ⇒ ***provide site specific guidance to local authorities on matters of water pollution and gas regimes***
- ⇒ ***inspect sites that are likely to be designated as “special sites” and act as the enforcing authority in such cases***

What is contaminated land?

The definition of contaminated land is contained within Section 78A(2) of the EPA 1990. It is defined as:

Any land which appears to the local authority in whose area it is situated, to be in such condition, by reason of substances in, on or under the land, that, either:

- ⇒ **significant harm is being caused or there is significant possibility of such harm being caused; or**
- ⇒ **pollution of controlled waters is being, or likely to be caused.**

Radioactivity

Following extensive national consultation undertaken in July 2005 the contaminated land regime has been extended to include radioactive contamination. This was enabled by the Radioactive Contaminated Land (Enabling Powers) (England) Regulations 2005 that came into force in January 2006. The main objective for extending the Part IIA regime to include radioactivity is to provide a systematic way to identify and remediate land where contamination is causing a lasting exposure to radiation of human beings. Any land determined as contaminated land by virtue of radioactivity will be dealt with by the EA under the designation as a special site. This does not apply in respect of harm to any other receptor or pollution of controlled waters.

Pollutant linkage

For a site to meet the statutory definition of contaminated land a pollutant linkage has to be identified. A pollutant linkage contains three key elements:

1. **A source of contamination in or under the ground with the potential to cause significant harm or pollution of controlled waters;**
2. **a pathway by which the contaminant reaches its target, and**
3. **a receptor that is exposed to the pollutant or is likely to be affected by it.**



It is sufficient for any one of the key elements of a pollutant linkage to be absent for the site to fall outside of the criteria to be designated as contaminated land. In such cases, the site will not be considered for priority action.

Special sites

The Council's role as a regulator will not extend to sites that are deemed to be "special sites" – sites, that contain certain types of contaminants (e.g. acid, tars, etc), are occupied by a certain agency (e.g. Ministry of Defence sites) or are exposed to a certain industrial use (e.g. nuclear sites). The primary responsibility for taking action in such cases will rest with the EA.

The Secondary legislation & Government agenda

Contaminated land is being dealt with under a variety of supporting regimes. A brief overview of key secondary legislation is set out below.

Integrated Pollution Prevention Control (Pollution Prevention and Control Act 1999) & Pollution Prevention Control Regulations 2000

The IPPC regime (and not Part IIA) will apply where a site is polluted as a result of activities subject to IPPC after the installation was granted a permit. The requirements for remediation under the IPPC regime are of a much higher standard than under the Part IIA.

Planning & Development Management policies

The vast majority of contaminated land issues are currently addressed through the planning regime, as contamination is a material consideration when determining a planning application under the Town and Country Planning Act 1990.

The Building Regulations, 2004

The amended Document C of the Building Regulations 2004 requires builders to ensure that the ground covered by a building and garden is reasonably free of contaminants and that appropriate measures are taken during construction to protect buildings and occupants from the effects of contamination.

Planning Policy Statement 23, 2004

The aim of the framework is to ensure planners, developers and their advisers address land contamination issues at the appropriate stage in the planning process and consistently with the arrangements under the Part IIA. It sets out the way the planning and contaminated land regimes interact and expresses the Government's commitment to controlling and minimising pollution in the context of promoting and delivering sustainable development. The Central Bedfordshire Contaminated Land Strategy strongly supports the ten core principles of sustainable development that underpin this statement:

- 1. putting people at the centre,*
- 2. taking a long term perspective,*
- 3. taking account of costs and benefits,*

4. *creating an open and supportive economic system,*
5. *respecting environmental limits,*
6. *combating poverty and social exclusion,*
7. *applying the precautionary principles,*
8. *using scientific knowledge,*
9. *transparency, information, participation and access to justice,*
10. *making the polluter pay.*²

Statutory Nuisance (Part III, EPA 1990)

This regime is no longer the main regulatory control for contaminated land sites, however it will apply in cases where land is causing nuisance to human senses, for example, odour, and may be applicable in cases where contaminated land remediation activity is causing a statutory nuisance, such as noise, dust, etc.

The Water Resources Act 1991

The Act empowers the EA to prevent or remedy pollution of controlled waters caused by contaminated land. This may result in an overlap with the Part IIA regime. The Council will, therefore, consult with the EA prior to determining that land is contaminated in respect of pollution of controlled waters and when considering any remediation requirements.

Radioactive Substances Act 1993

This is the principle piece of legislation aimed primarily at preventing the creation of new radioactive contamination. The Act lays out a permitting regime for the keeping and use of radioactive materials as well as disposal and accumulation of radioactive waste.

Government's agenda

The UK Government Sustainable Development Strategy

The development of previously developed land, known as brownfield land forms a crucial part of the government's policy on regeneration and **Sustainable Development**. Its 60% target of all new developments to be built on brown-field sites has been met six years ahead of schedule, with 74% of all new developments currently built on previously developed land. Additionally, the Environment Agency has identified "Why Healthy Soil Is Important" and is a national resource worth protecting in their Soil Strategy;

"Why healthy soil is important

Healthy soils are vital to a sustainable environment, but there are increasing signs that their condition has been neglected.

Soil is important

²A Better Quality of Life - Strategy for Sustainable Development for the United Kingdom - 1999

- * *Soil supports organisms that are essential for a healthy environment.*
- * *Healthy soils are essential for a sustainable environment.*
- * *Our landscape is sustained by soil.*
- * *We use soil to grow our food and it helps to keep our drinking water clean.*
- * *Soil plays a vital role in maintaining the balance of gases in the air that we breathe.*

The state of our soil

- * *Contamination and poor soil management are causing problems in England and Wales.*
- * *There has been a steady loss of soil and there are increasing signs of damage, degradation and erosion.*
- * *Pollutants that have damaged land and soil may enter surface or groundwater, affecting our ability to meet water quality standards. They may also affect air quality.*
- * *We are beginning to understand the role of soil in storing and releasing carbon, and the potential impact this may have in tackling climate change.*

Our soil strategy

Soil: a precious resource - our strategy for protecting, managing and restoring soil will help us in our responsibility to look after soil. The strategy highlights our priorities for soil and the actions we will take.”

<http://www.environment-agency.gov.uk/homeandleisure/wildlife/31372.aspx>

A similar approach is anticipated at the **European Union** level in the near future as indicated by the following statement;

“Erosion, loss of organic matter, compaction, salinisation, landslides, contamination, sealing... Soil degradation is accelerating, with negative effects on human health, natural ecosystems and climate change, as well as on our economy. At the moment, only nine EU Member States have specific legislation on soil protection (especially on contamination).

Different EU policies (for instance on water, waste, chemicals, industrial pollution prevention, nature protection, pesticides, agriculture) are contributing to soil protection. But as these policies have other aims and other scopes of action, they are not sufficient to ensure an adequate level of protection for all soil in Europe.

For all these reasons, the Commission adopted a Soil Thematic Strategy (COM(2006) 231) and a proposal for a Soil Framework Directive (COM(2006) 232) on 22 September 2006 with the objective to protect soils across the EU. The Strategy and the proposal have been sent to the other European Institutions for the further steps in the decision-making process.”

http://ec.europa.eu/environment/soil/index_en.htm

Public Health

Public health is "the science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of society, organizations, public and private, communities and individuals" and in the UK is coordinated by the Health Protection Agency (HPA).

The Strategy complements the HPA approach in seeking to improve Public Health who will provide guidance and support in our work.

While the HPA has no specific statutory role in relation to contaminated land, it plays an important advisory role in the overall health risk assessment process. They, alongside, other governmental agencies (e.g. Environment Agency) advise on development of contaminated land policy including provision of expert advice such as the toxicology of chemicals. They also provide advice to local authorities on matters including risk assessment and risk communication.

The Central Bedfordshire Contaminated Land Strategy supports the principles of sustainability and Soil Protection through encouraging sustainable development, seeking to clean up soil and easing the pressure to develop on green-field sites in Central Bedfordshire.

It complements the Public Health approach of the HPA.

Corporate context

The Council's vision and priorities

“Our vision is to improve the quality of life of all in Central Bedfordshire, and enhance the unique character of our communities and our environment.”

The five priorities for Central Bedfordshire are;

1. Supporting and caring for an ageing population
2. Educating, protecting and providing opportunities for children and young people
3. Managing growth effectively
4. **Creating safer communities**
5. **Promoting healthier lifestyles**

The Contaminated Land Strategy plays its part in realising the corporate vision and is guided by and supports the highlighted corporate priorities.

The Planning regime

The planning regime plays a crucial role in redevelopment of brown-field sites, where land contamination is a material planning consideration. Officers responsible for dealing with land contamination liaise closely with the planning colleagues to ensure that developers take their opportunity to fulfill their obligations to make development sites suitable for use.

The three cornerstones of the regime are:

Local Development Framework (LDF)

The main aim of the Council in relation to contaminated land and pollution is to protect and enhance the quality of the Central Bedfordshire environment whilst helping revitalise the area and reduce the need for the development of green-field sites. The Strategy complements the **Spatial Vision** of the Council's Core Strategy and Development Management Policies Development Plan (November 2009), which captures the LDF;

(Central) Bedfordshire will be a place where sustainable growth has led to a higher quality of life in healthy, safe, inclusive and responsible communities and where the environmental impact of new development will have been considerably reduced.

Development Management

Development management is the principle regime for dealing with land contamination. Developers are required to ensure that a development is safe and suitable for use, for the purpose for which it is intended. The developer is responsible for:

- ⇒ *determining whether a proposed development is likely to be affected by contamination and whether it will increase the potential for contamination;*
- ⇒ *meeting the requirements of the Council in relation to land remediation and minimising the effects on the environment.*

Building control

A developer or builder intending to construct a new building is under a legal obligation to obtain building control approval in relation to the protection of the building and the garden from contamination in line with the building regulations.

SUSTAINABLE COMMUNITY STRATEGY

The Draft Central Bedfordshire Sustainable Community Strategy 2010 is based on the Council's aims and objectives and sets out how, by partnership working, the quality of life can be improved for those who live and work in Central Bedfordshire. The following priority is identified:

ENVIRONMENT

1. Protect and enhance our biodiversity and green spaces

The Central Bedfordshire Contaminated Land Strategy helps to improve and enhance biodiversity and the environment and protect Public Health by ensuring the risk of land contamination is reduced to an acceptable level.

The Strategy is envisioned as complementing the Council's **Environmental Policy**, which is currently in production, its writers having been consulted in the process of writing this Strategy.

Approach to Council's own land

It is recognised that some of the local authority's landholdings may be contaminated due to their past industrial history. These potentially contaminated land sites will be identified and, if required, remediated following the general inspection procedure applicable to any other land or property as outlined within this Strategy.

Previous Consultations

The scope of the consultations

To help develop the legacy Contaminated Land Strategies for inspecting and proposing remediation solutions to contaminated land sites in Central Bedfordshire, well-publicised extensive consultation exercise involving a wide range of stakeholders were undertaken for the previous Strategy document. It was considered that this new Strategy was not different enough to warrant a new consultation. The previous consultation processes included:

- presentations to staff and Councillors
- a public Contaminated Land Strategy consultation event
- a twelve-week written consultation exercise on the strategy method document circulated to 50 statutory and non-statutory agencies.

The outcomes of previous consultations

Specific comments were invited around the following issues:

1. Strategy objectives - *uniform support was expressed towards the Strategy objectives, especially around preventative work, where it was felt that the Council has to fulfill its role in supporting other regimes designed to prevent contamination from occurring and raise awareness of contamination issues.*

2. The Council's general approach - open and transparent supported by robust performance management - *the majority of consultees expressed strong support to the open and transparent approach proposed by the Council. However, some concern was raised about the sharing of potentially contaminated land sites list with the wider public for fear of causing undue concern.*

In relation to information management we will:

- ⇒ Respond to site-specific enquiries. This will incur a charge set out in the councils schedule of fees and charges.
- ⇒ We will not share information that is in the course of completion (i.e. is incomplete and unfinished), or is commercially sensitive as this would breach the Environmental Information Regulations 2004 and the Data Protection Act 1998.

2. Delivery of the Strategy – policy tools to ensure effective action - *the vast majority of consultees agreed that effective procedures, strong communication links with the relevant agencies, timely community involvement, consultation and professional staff are key to the delivery of the Strategy. However, some concern was expressed at the adequacy of the Council's resources that may be too small for dealing with contaminated land sites effectively. Moreover, it was stressed that as the*

majority of sites are remediated through the Planning regime it will be crucial to maintain solid communication links with planning officers and developers from an early stage in the development process and provide them with all relevant information and support.

In relation to the adequacy of Council's resources we will:

- ⇒ Utilise any annual consultancy budget of which we consider adequate for initial inspections of potentially contaminated land sites;
- ⇒ Use the expertise of our Environmental Health Practitioner (EHP) Officers who have been trained to carry out inspections of contaminated land sites;
- ⇒ Bid for funding through the Contaminated Land Capital Project Programme operated by the Department for the Environment Food and Rural Affairs (DEFRA) for carrying out intrusive site investigations and in some cases to cover the costs of remediation.

In relation to effective liaison with the Planning colleagues:

- ⇒ Environmental and Planning Services are under one Directorate – this will ensure that communication and liaison is easily improved where necessary;
- ⇒ The procedure for sharing information and ensuring timely action is taken by the right officer will be regularly reviewed;

Local context - characteristics of Central Bedfordshire

The information in this section provides an overview of the general characteristics of the local authority area and includes its geography, geology, hydrogeology, land use as well as economical factors, all of which play a principal role in shaping the Council's strategic approach to land contamination.

Geographical location

Central Bedfordshire lies in the East of England region. At about 40 miles (56 kilometres) north of London, and midway between Oxford and Cambridge, it is at the heart of the historic county of Bedfordshire. Covering an area of some 712 square kilometres, Central Bedfordshire is well positioned, being accessible to a number of important north/south communications routes - the M1 and the A5 in the west and the A1 in the east. The A507 is the main highway for travelling east to west. The district is also served by good regional and national rail links, and it is close to both Luton and Stansted airports.

Leighton Buzzard has for many years, been a famous source of high quality sand. This has, since the 1800s been used in the building/construction, foundry, chemicals and water industries. This led to the growth of associated industries including tile manufacture and haulage. Sand was transported in and around Leighton Buzzard and the surrounding villages via a network of railways many of which have since been decommissioned

Dunstable has also seen its growth as a result of the industrial expansion at the turn of the Twentieth Century. The town witnessed the convergence of printing, engineering and most significantly, the motor industry and related companies to the town. Many of these have since diminished, however, a small number still exist.

The major transport routes running through the District include the M1 in the West, A6, A421 and A1 in the East.

The District borders seven other local authorities: Bedford Borough, North Hertfordshire, South Cambridgeshire, Milton Keynes, Aylesbury Vale and Huntingdonshire.

Demographics

The Office for National Statistics (ONS) mid-year population estimates give population estimates by sex and age are published annually. These estimates cover the periods between the census, which is undertaken every ten years. Results from the 2007 mid-year population estimates (published by the ONS in August 2008) show that there are an estimated 252,100 people in Central Bedfordshire.

Current and past industrial activity in Central Bedfordshire

Agriculture

Between 1851 and 1951 the highest proportion of agricultural workers was in East Anglia. In the late 20th century, however, parts of the area saw rapid population growth based on firms moving out from London and new high-tech industry, and agriculture became less important. By 2001, the highest proportion of workers in the sector (25%) was in the Orkney Islands of Scotland, with the second highest proportion (2%) - in the South Holland district of Lincolnshire.

Manufacturing

The rate of growth in the manufacturing industry in Central Bedfordshire has been fairly steady through time and in line with the national industry growth trends.

In the past, brick-making was an important industry in Central Bedfordshire thanks to vast deposits of good quality sand and clay in the region, which were formed over 150 million years ago when the area was under sea. For much of the 20th century, the brick companies employed large numbers of people across Bedfordshire, particularly after World War II, when the rebuilding and reconstruction of the country's towns and cities created a huge demand for bricks. However, by the end of the century, the industry's fortunes were declining, threatened by new technologies and products.

Clay and sand extraction in the Central Bedfordshire area has left a significant number of pits that may have been filled with various types of material.

Construction

In mid 19th century most districts had between 4% and 7% of their workers in the construction sector; in 2001 - between 5% and 9%. In 1931, due to area expansion the industry grew rapidly in the south, especially on the edge of London. In the 1970s and 1980s, this meant the outer south-east, and also the coastal areas benefiting either from in-migration, including retirement migration, or the oil industry.

The construction industry is set to grow due to demands on the provision of affordable housing and brown-field site redevelopment.

Future Growth

The District is near and affected by two major growth areas:

- 1) ***The London-Stansted-Cambridge*** growth area that runs from the north-east in London to the city of Peterborough. The area is expected to

develop 129,000 new houses between 2001 and 2016 as well as provide investment in green space and transport;

- 2) **The Milton Keynes-South Midlands** growth area that covers parts of the south-east, east of England and the east midlands. The area is expected to develop 170,000 new houses and jobs between 2001 and 2016 as well as investment in green space.

The economic activity in the District has mainly revolved around agriculture with more industrial activity based around two broad geographical areas:

- ⇒ **the M1 corridor** – including Ampthill and Flitwick;
- ⇒ **the A1 corridor** – including Sandy and Biggleswade. This is set to expand increasing the demand for employment land, mainly for distribution uses. This is largely due to the influence of the Milton Keynes-South Midlands growth area.

Local geology and hydrogeology

The geology of an area can have significant impact on the assessment of land contamination. Geological strata often play an important role, as:

- ⇒ **the source of natural contamination** – for example, the occurrence of radon from granites and sandstone;
- ⇒ **the pathway** – for example, highly permeable sandstones may allow an easy flow of pollutants from a source to a receptor;
- ⇒ **the receptor** – for example, groundwater found in strata may be vulnerable to contamination.

Geological characteristics of Central Bedfordshire

- Superficial (drift) geology:

- ⇒ *In the eastern area of the District around Biggleswade, Southill, Henlow and Haynes, Recent and Pleistocene river gravel deposits overly Cretaceous lower greensand, Jurassic Kimmeridge and Oxford Clays;*
- ⇒ *in the western area around Woburn and Flitwick lower Cretaceous Woburn Sands formation overlies the upper Jurassic Oxford Clay;*
- ⇒ *in the central area of the District between Westoning and Biggleswade lower Cretaceous greensand overlies Gault clay and Woburn Sands.*

- Bedrock geology:

The following features of solid geology are characteristic of Central Bedfordshire:

- ⇒ *sandstone dominates across the central part of Central Bedfordshire from east to west;*
- ⇒ *Gault mudstone features across the south-eastern part of the District;*
- ⇒ *white chalk features around Arlesey, Stotfold and Stondon;*
- ⇒ *Oxford Clay and mudstone dominate across the northern and southern part of the District.*
- ⇒ *The Chalk Scarp of the Chilterns Hills interrupts this to south of the district.*

Radioactive contamination and radon

Extensive studies have been undertaken to identify areas with unacceptably high levels of radon across the UK. Radon is a colourless, odourless radioactive gas that comes from the radioactive decay of radium, which in turn comes from the radioactive decay of uranium found in small quantities in all soils and rocks, although the amount varies from place to place. It is particularly prevalent in granite and limestone areas but not exclusively. It can pose significant danger to human health if found in quantities that exceed the levels recommended by the Health Protection Agency. Some areas of Bedfordshire have been designated as lowest level radon affected areas and will need investigation on case by case basis.

Hydrogeological characteristics of Central Bedfordshire

Groundwater is usually of high quality and requires little treatment prior to use. However, it is vulnerable to contamination from both diffuse and point source pollutants, from direct discharges into groundwater and indirect discharges into or onto land. Remediation of aquifers affected by contamination is lengthy and expensive, which makes prevention of such contamination crucial.

Aquifers

Geological strata that contain groundwater are termed **aquifers**. These can be:

- ⇒ *highly permeable, **major aquifers**, and*
- ⇒ *variably permeable, **minor aquifers**.*

Major aquifers have greater capacity to transmit contamination, whereas minor aquifers do not have a high primary permeability.

In the central part of the District several major aquifers lie beneath the surface. The soils associated with major aquifers have a high leaching potential, which means that liquid pollutants have the potential to move rapidly to underlying strata or to shallow groundwaters. This is characteristic of the area around Sandy, Potton, Biggleswade and Chicksands where there are deposits of chalk as well as upper and lower greensands.

In the area around Haynes, Sutton, Stotfold and parts of Flitwick major aquifers with soils of intermediate leaching potential are found, which means that there is a possibility that some non-absorbed diffuse source pollutants and liquid discharge could penetrate the soil level.

In the area around Blunham, Northill, Astwick and Westoning minor aquifers are located where soil formations include alluvium and sand whilst in the far north of the District non-aquifers are found. They generally contain insignificant quantities of groundwater. However, groundwater flow through such soils does occur and will be considered in assessing the risk associated with persistent pollutants.

Key water resources

Rivers

The main rivers running through Central Bedfordshire are the rivers Ivel, Flitt and Great Ouse. The Ivel emerges from the chalk escarpment at Baldock in Hertfordshire but most of its course is through Central Bedfordshire, via Stotfold, Biggleswade, Sandy and Blunham before it joins the Great Ouse at Tempsford. The source of the Great Ouse is near Brackley in Northamptonshire and flows via Bedford, Great Barford and Roxton to the sea at King's Lynn. All of Central Bedfordshire rivers drain into the Fens and the Wash.

The rivers Ouzel, Lea and Flit all flow through the district, together with the Grand Union Canal. Some of the former mineral pits in the north of the district, which have not been subject to infilling by waste, have also become ponds. Each aquatic medium provides not only habitats for wildlife, they are also important recreational amenities.

River water quality

The Environment Agency monitors the quality of watercourses at various locations in terms of nutrients, chemistry and biology and grades these from **A** (very good) to **F** (bad). Both the chemical and biological river water quality in Central Bedfordshire is good, with around 99% of rivers and canals of good or fair quality (grades A-D), compared with 92% of watercourses in the East of England of good or fair quality.

Rainfall

Across the Bedfordshire area the annual average rainfall reaches 584mm, which is below national average of 838mm.

Specific local features & protected locations

The presence of contaminants can have an adverse effect on a wide range of receptors – human beings, water, buildings and eco-systems.

In the Central Bedfordshire area there is a significant number of listed buildings, ancient monuments, sensitive ecosystems, which are detailed below. The protection of these is key to the Council and its partners – English Nature and English Heritage. Close partnership working with these agencies will be crucial in dealing with specific protection issues affecting these sensitive receptors.

The Council is committed to the protection and preservation of natural habitats and has contributed to the preparation of the ***Nature Conservation Strategy for Bedfordshire***, which aims to take co-ordinated action towards the conservation of wildlife and natural habitat.

Wildlife Priority Areas (WPAs) – areas with concentrations of wildlife habitats and important biological features. The following WPAs have been identified as being in whole or in part within Central Bedfordshire:

The Valley of the River Great Ouse, The Wetlands of the River Flit, the River Ivel and Hiz Valleys, the Heathlands of the Greensand Ridge, the Chalk Downland in the south of the area.

Sites of Special Scientific Interest (SSSIs) – sites that must be protected under the Wildlife and Countryside Act, 1981 for their special flora, fauna, geological or landform features. In Central Bedfordshire there are several SSSIs, among which are *Cooper’s Hill in Ampthill, Potton Wood and Pulloxhill Marsh.*

Local Nature Reserves – these are established by local authorities under Section 21 of the National Parks and Access to the Countryside Act 1949 and can make a useful contribution to nature conservation. There are currently many such reserves in Central Bedfordshire.

Areas of Outstanding Natural Beauty (AONB) – the main aim of the AONB is to conserve and enhance the natural beauty of the area. The Chilterns AONB, designated as such in 1965, begins in Oxfordshire in the Thames Valley and stretches north-east through Buckinghamshire and Bedfordshire to Hitchin in Hertfordshire. It is amongst the finest in the country, on a par with National Parks.

Conservation Areas – areas of special historical or architectural interest that a local authority is required to preserve and enhance. In Central Bedfordshire there are over 50 conservation areas.

- **Built environment** – Central Bedfordshire contains a wide and interesting range of medieval settlements and sites and enjoys a rich built and architectural heritage..

Redevelopment history and controls

The main action taken to remediate contaminated land in the District has taken place via the Development process. To date dozens of sites have been successfully remediated in this way.

One of the more noteworthy developments in the District has been the Fairfield Hospital Farm in Stotfold:

Before



After

Prior to redevelopment the site comprised of a cow-shed, dairy, stables, pigsties, grain storage and a coach house with residential properties situated at its either end. A tramway set in a 3-meter deep cutting and subsequently backfilled with soil and brick rubble was also present.

Following investigation it emerged that the site contained elevated levels of benzo(a)pyrene and arsenic.

Site development proposal was made which



required the site to be divided into four zones: housing with gardens, public open space, housing with soft landscaping but no gardens, and a car park.

The proposed remediation strategy for the site was the implementation of a soil cover system in the garden and soft landscaping in the public open space areas.

The development of the site is now complete and a residential asset, both safe and secure for new users and a sustainable reinvention of previously redundant post-industrial land.

Known information on contamination

The Council holds a significant amount of information on the land quality in the District obtained mainly through the development control process whereby developers are required to provide documentation to support planning applications. Further sources of information include:

a) Data on the sources of contamination:

- *historical environmental records held by the Council (for the purposes of s. 143 of the Environmental Protection Act 1990);*
- *planning records;*
- *historical maps, including County Series Maps and Ordnance Survey Maps;*
- *information on controlled waters provided by the Environment Agency;*
- *information on the geological characteristics of the District purchased from the British Geological Society;*
- *data acquired from Landmark Information Group Ltd to do with historical industrial activity in Central Bedfordshire;*
- *local knowledge.*

b) Data on receptors:

- *the Geographical Information System (GIS) data on the location of receptors;*
- *the Environment Agency data-sets and maps on the location of controlled waters, ground-waters and aquifer status;*
- *the Local Plan;*
- *local knowledge.*

All available information has been systematically analysed as part of site prioritisation work and lists of over 900 sites created by each legacy Council.

It is important to note that these sites may be free of any contamination or may contain contaminants to a certain degree but not sufficient to be declared as contaminated land under the Part IIA regime (e.g. the lack of a pathway may mean the contaminant will not affect the receptor).

The list will be updated when new sites are identified following acquisition of additional information.

Action already taken

The 1st phase in contaminated land work is the analysis of all available historical information to identify sites that may be contaminated as a result of past industrial activity and prioritise them based on a risk assessment matrix for further investigation. This work has been completed by both legacy Councils and now needs streamlining into one list of Central Bedfordshire Sites of Potential Concern. This will allow Central Bedfordshire to continue with the 2nd phase –investigating those potential contaminated land sites that are considered high risk to gather additional data and consider specific remediation requirements if/ where necessary.

Major achievements since the adoption of the first Strategy in 2001 include:

- ✓ *a thorough analysis of historical records, including County Series Maps and Council-held environmental data, to assess the level of past industrial activity and establish the number of sites that may pose a significant risk to human health and the environment. This has resulted in:*

➤ **identification of potentially contaminated land sites**

➤ **commissioning of desk studies for high risk potentially contaminated land sites by independent consultants**

➤ **successful remediation of contaminated land sites through the planning regime**

- ✓ *extensive data management exercise undertaken with the information plotted onto the GIS, and identifying the need for and acquiring an additional license to use Plantech Acolaid computer system for a more efficient way of managing contaminated land data*
- ✓ *a guide to developers on how to assess and remediate land affected by contamination has been produced and placed on the Central Bedfordshire website.*

PART II – THE STRATEGY

The Strategy aims and objectives have been developed having regard to the relevant primary and secondary legislation, the Council's corporate policy, the local characteristics of Central Bedfordshire, the views of the key stakeholders, examples of best practice and resources available.

Aim and objectives

The aim and objectives of the Strategy are set out below with brief rationale for setting these objectives.

AIM

The overall aim of the Strategy is to enable the Council to identify, in a rational, ordered and efficient manner, areas of land that require detailed individual inspection, and respond to contaminated land problems in a manner proportionate to the risks involved.

This will enable the Council to direct resources and respond to the most serious and pressing problems first.

Objective 1

To ensure that the Council carries out its statutory duties in relation to inspecting and remediating contaminated land in Central Bedfordshire through the development and implementation of effective and adequate procedures.

Identifying key areas for action and producing and maintaining effective procedures for dealing with every aspect of the contaminated land regime in Central Bedfordshire will ensure that the Council acts in accordance with statutory requirements and can take timely action in a well-planned, strategic and efficient manner.

Key priorities

- *ensure there is a procedure for each key area of contaminated land identification, investigation and remediation,*
- *ensure all procedures are up-to-date and are easy to follow,*
- *ensure timely communication with key partners, especially the Environment Agency when dealing with special sites*

Objective 2

To identify and remediate areas of land where an unacceptable level of risk is being caused to human health and the environment.

In its approach to contaminated land identification and remediation the Council will adhere to robust risk assessment that will ensure all action is targeted to those sites that may contain contaminants with the potential to

cause significant harm to human health and the environment – the sites that contain the receptor with the highest risk value, such as schools, nurseries, housing and agricultural land. Remediation schemes will be designed to be effective both in terms of cost and end result – land suitable for use.

Key priorities

- re-visit remediated sites from time to time to ensure suitable for use approach is maintained,
- analyse the Council's property portfolio to identify sites that may be contaminated due to past industrial activity and carry out their risk assessment and prioritisation,
- ensure the Council remains a responsible land-holder and takes timely and effective action if determined as the Appropriate Person,
- ensure environment-friendly and efficient remediation techniques are employed in site remediation,
- encourage voluntary remediation,
- apportion liability responsibly in line with statutory guidance and without causing hardship,
- maintain information exchange mechanisms with all key partners,
- analyse all available data on sensitive receptors and sort the potentially contaminated land sites by receptor vulnerability.

Objective 3

To encourage the remediation of contaminated land through the planning system and assist developers in brown-field site development.

Effective interaction between Planning and Public Protection Officers is crucial for successful remediation of contaminated land in the District and ensuring that all planning applications with environmental health implications are dealt with in an appropriate manner. This effective partnership will also help to enable a secure and cost-effective regeneration of brown-field sites in the District whilst minimising the need to develop on green belt.

Key priorities

- establish and maintain an effective dialogue with developers from early on in land development process,
- be proactive in providing support to private developers,
- include more information in the developer's brief on what is expected of them in relation to contaminated land development,
- ensure the procedure for developing land in a contaminative state is up-to-date and widely available,
- provide timely support to the planning colleagues to ensure that land is developed in such a way that it is suitable for any new use,
- carry out effective site validation inspections following remediation.

Objective 4

To provide clarity to homeowners who may have difficulties in selling their homes as a result of conveyancing-related Environmental Searches uncovering unresolved sites of potential concern.

The Council can assist in pre-emptively resolving these conveyancing difficulties that are becoming more and more common as risk awareness rises, mortgage lending criteria tightens and solicitors receive further guidance on asking questions of the former use of land and properties in terms of environmental, subsidence and health risks.

These concerns often arise quite late in the conveyancing process and where a homeowner can show that the Strategy has either cleared their property or land of any concern, or has resolved any real concerns, all parties will be fully informed and valuation or completion difficulties avoided.

Key priorities

- *put effective risk communication processes in place and explanation of land and homeowner benefits of investigations,*
- *ensure the contaminated land guide to developers and home-owners is up-to-date and widely available,*
- *develop effective procedures to enable effective communication within the Council, with external partners and the local community,*
- *maintain transparency in the Strategy delivery – publicise case studies,*

Objective 5

To respond appropriately to and manage all information received about contamination and potential risks in a manner that is proportionate to the level and immediacy of those risks.

To carry out its duties in relation to contaminated land the Council will need to ensure that adequate information management systems are in place and can be employed effectively in planning work and tracking progress. We will aim to encourage prompt reporting of contamination incidents by the public and will have processes in place to ensure this information is captured and managed. The exercise to migrate contaminated land data to Plantech Acolaid computer system will be carefully managed and will assist in further data analysis and management.

Key priorities

- *maintain a public register and ensure it is widely available,*
- *ensure requests for information are handled in accordance with the corporate service standards,*
- *produce and information management procedure,*
- *ensure regular updates to the contaminated land web page at www.centralbedfordshire.gov.uk*

Partnership working

The contaminated land regime is complex and to be used appropriately will require regular input from and effective communication with a variety of stakeholders, both statutory and non-statutory organisations.

Forming and maintaining strong channels of communication with all key agencies and partners will help us achieve the Strategy aim and objectives.

Statutory partners

The Environment Agency (EA) – its primary responsibility is the protection of the environment. Regular communication is maintained with the EA's regional office in Cambridge. The Agency provides officers with information on various aspects of the contaminated land regime and guidance on site-specific issues. The Council liaises with the Agency on a site-specific basis and provides it with information for its annual contaminated land report.

Natural England – consider the wider environmental and ecological effects of land development and encourage local authorities and others to protect natural habitats through their work and actions. The Council will consult English Nature where land contamination may affect Natural Nature Reserves, Sites of Specific Scientific Interest and other vulnerable areas.

The Health Protection Agency (HPA)- provides guidance to Local Authorities and DEFRA on toxicology and Public Health issues in relation to contaminated land.

The Health & Safety Executive (HSE) – provides guidance on safe working practices to all working with contaminated land. The Council will consult the HSE where contamination may have human health implications or during the assessment of risks dealing with land contamination may pose to human health.

The Department for the Environment, Food and Rural Affairs (DEFRA) – co-ordinates, develops and provides all stakeholders with information and advice in dealing with contaminated land. Capital funding for local authorities has been made available to bid for through DEFRA. The Agency is a statutory consultee for the Contaminated Land Strategy.

The Food Standards Agency (FSA) – provide information on food safety issues and help to ensure that food contaminated to unacceptable levels does not enter the food chain.

Non-statutory partners

Internal partners

Environmental & Planning Services Directorate – the main internal partners are Development Management and Building Control colleagues especially during the review of development briefs and land remediation via the planning process.

Legal & Democratic Services Directorate – liaison with colleagues from this division will be required when apportioning liability, issuing remediation notices or handling remediation appeals.

External partners

Town & Parish Councils – provide a source of local knowledge on past industrial activity in their locality and will be involved in the consultation process on specific sites prior to and during site investigation and remediation.

Private developers – good communication links with private developers help to ensure appropriate standards of remediation are achieved.

Local residents – the importance of effective communication and co-operation of the local residents when dealing with specific sites cannot be overestimated. Officers will aim to adhere to core principles of communication and consultation with customers when dealing with specific sites.

Other local authorities – close liaison with the neighbouring local authorities will be maintained through the Herts & Beds Sub-group especially when dealing with cross-boundary issues and sharing best practice.

PART III – STRATEGY DELIVERY

Procedures

Site prioritisation & risk assessment

All legacy sites will be prioritised as one single list of sites in 2010 applying the methodology detailed below.

In making the assessment to establish whether or not a site is contaminated it is crucial to identify all three elements of the pollutant linkage – **the source, pathway and receptor**. Once this has been achieved a further **Risk Assessment** of the site needs to be undertaken to determine if the site is statutorily contaminated.

The Council has developed a site prioritisation model that takes this into account and attributes scores to each pollutant linkage.

Inspection Methodology

Liaison

For any piece of land identified as being contaminated land, the Council will need to establish:

- Who the owner of the land is;
- Who appears to be in occupation of all or part of the land; and
- Who appears to be an appropriate person to bear responsibility for any remedial action that might be necessary.

Following the outcome of the risk assessment, where there is a significant possibility that the site is contaminated, the Council will contact the owners, occupiers and/or appropriate persons at the earliest opportunity. They will be invited to provide as much information as possible in order to assist the investigation.

Inspection

Inspections will incorporate any of the following:

- Walkover survey, (to confirm the physical setting of the site)
- Non-intrusive Investigation (for example, ground penetrating radar)
- Intrusive Investigation (collection of samples)

Inspections will be conducted in accordance with British Standard BS10175:2001 Investigation Of Potentially Contaminated Sites – Code of Practice. An example of a procedure for investigation is shown in **Appendix D**. However, future revisions to this standard or other relevant standards will be adopted and reported in future reviews

The purpose of an investigation will be to derive information to increase confidence in the risk assessment results. During site investigation, the collection of data (whether through intrusive or non-intrusive) will be to confirm the presence of contaminants. Further, more detailed investigations may need to be performed to define the extent of contamination, together with delineating pathways.

Inspections will be performed where it is reasonably likely that contamination is present and the Initial Prioritisation stage has highlighted this. Consultants engaged with the specific knowledge and expertise, together with input from the Investigating Officer, will devise the investigation.

Site visits are necessary to each site investigation to verify the data captured and to support and reinforce the objective of the investigation. Investigating officers will also use the visit to collect additional information that has not already been ascertained or previously revealed.

The key principles of the Central Bedfordshire risk prioritisation model and related procedure is as follows:

Risk Prioritisation Procedure

The risk assessment has two main stages:

Stage 1 – Is an **Initial Prioritisation** of the site based on an assessment of the proximity of a receptor to the contaminant. Receptors are assessed under the headings of:

Development (humans, plants and the built environment);

Surface water

Groundwater

Stage 2 - Hazard Assessment - Following the results from Stage 1, the sites are categorised in terms of the priority in which they will be assessed under

stage two of the Risk Assessment. This stage is a more refined and detailed assessment. Receptors are assessed under the headings of, ‘

Development

Occupied Land

Development – unoccupied land

Surface Water

Groundwater.

Stage 1 – Initial Prioritisation

Initial Prioritisation provides a preliminary prioritisation of sites into groups for progression to stage 2. It involves gaining a basic, preliminary understanding of the potential sources (contaminants), pathways and receptors, based on previous/present use, together with the environmental setting.

The location of specified receptors and potential sources of contamination will be required at this stage through desk-based research, incorporating the use of GIS. A walkover survey may be required at this stage, especially where information is

piecemeal; to confirm the location and conditions found at sites identified.

This stage will seek to eliminate any sites that are that deemed to no longer present a risk and thus, no further investigation will be performed.

If however, during the process of investigations, further information becomes available indicating that there might be a risk of contamination, harm or pollution, the site will be re-categorised.

Initial Prioritisation is an assessment of any plausible pollution linkages, i.e. a contaminant, pathway and receptor. If a significant pollution linkage exists, the potentially contaminated site is given a risk rating for further inspection. Each site is given a three letter rating = **Preliminary Grouping**.

Each site will be assessed under each of the following headings using the questions in **Appendix C**:

Development (humans, plants & built environment)

Surface Water

Groundwater

The result of this assessment is that each site will end up with a three-letter rating, (e.g. ABA). The letters are given a numerical value as follows:

A = 10

B = 4

C = 2

Preliminary Groupings are ranked in numerical order and split into groups. A site that is given a rating of AAA will be in a higher preliminary group than BBC. Sites will be categorised as follow:

Preliminary Group A – Value of 20 or more

Preliminary Group B – Value of between 11 – 19

Preliminary Group C – Value of 10 or less

This stage determines when the site is run through the second stage assessment. Indicative preliminary groups can be found in **Appendix B**.

Stage 2 – Hazard Assessment

This stage refines the conceptual model developed during the stage 1 assessment. It confirms the plausibility of a pollutant linkage and gives an indication of the site's current suitability for use, in terms of the timescale for when action will be required.

Stage 2 will require more detailed site characterisation and assessment on the basis of more comprehensive desk-based research and /or exploratory site investigation data. This includes looking at previous land use, assessing geological data and obtaining groundwater information. This stage takes into account the nature, likely location and behaviour of contaminants, together with their possible interactions with defined receptors.

A visual review of the site (if not already performed), will be required to ensure surface water features equate to the information previously obtained. In some cases intrusive investigation may be required to gather data not already available. The Council may be required to use statutory powers available and gather information itself, in some instances.

Each site is assessed under three of the following four headings using the questions in Appendix C (ie. the site is assessed under *either* Development, or Unoccupied Land and both Surface Water and Groundwater):

Development: Residential, allotments, agricultural land commercial or industrial use, public open space or amenity;

Unoccupied land;

Surface Water;

Ground Water;

As a result of this assessment, each site will end up with three-priority category rating scores (shown below). The site will be placed in the lowest number that decides which Priority Category the site is placed in. For example, if a site scores 1, 3, 4, it will be placed into Priority Category 1. A score of 3, 4, 2 will place the site in Priority Category 2.

For sites placed within the same Priority Category, the other scores generated will be taken into account when deciding the order for action within that Priority Category. A description of these Priority Categories is as follows;

Priority Category 1 - Site is probably or certainly not suitable for present use and environmental setting.

- Contaminants probably or certainly present and very likely to have an unacceptable impact on key receptors.
- Urgent action needed in the short term.

Priority Category 2 -Site may not be suitable for present use and environmental setting.

- Contaminants probably or certainly present and likely to have an acceptable impact on key receptors.
- Action may be needed in the medium term

Priority Category 3 - Site considered suitable for present use and environmental setting.

- Contaminants may be present but unlikely to have an unacceptable impact on key receptors
- Action unlikely to be needed whilst in present use or remains undisturbed.

Priority Category 4 - Site considered suitable for present use and setting.

- Contaminants may be present but very unlikely to have an unacceptable impact on key receptors.
- Action not needed whilst in present use or if site remains undisturbed.

Sites will be assessed using information relating to the presence of potential contaminants from the Department of Environment 'Industry Profiles.

Priority Category 3 & 4 sites will not need investigation until their use changes whereby the investigations will be through the Planning Service. It is the intention of the Environmental Health Service to notify the Planning Service of the determination of such sites.

Example Methodology

- i) Perform Initial prioritisation (Stage 1) of all sites;
- ii) Obtain results (ABC) and five numerical value to these;
- iii) Carry out walkover survey for sites in Preliminary Group A;
- iv) Carry out stage 2 assessment for these group A sites – Priority Category rating 1, 2, 3 or 4;
- v) Investigate / remediate sites from PC1;
- vi) Carry out walkover surveys for all sites in Preliminary Group B;
- vii) Carry out Stage 2 assessment for the Preliminary Group B sites – Priority Category rating 1, 2, 3 or 4;
- viii) Investigate / remediate sites from PC1;
- ix) Carry out walkover surveys for all sites in Preliminary Group C;
- x) Carry out Stage 2 assessment for the Preliminary Group C sites – Priority Category rating 1, 2, 3 or 4;
- xi) Investigate / remediate sites from PC1;
- xii) Investigate / remediate sites from PC2 of all Preliminary Groups A, B, C.

Stage 3 – Risk Assessment

Stage 3 of the risk assessment involves detailed analysis of each site. DEFRA has published guidelines – CLEA (Contaminated Land Exposure Assessment). CLEA has been developed to assess the risks from contaminants in the soil to human health and will aid the assessment of SPOSH (Significant Possibility of Significant Harm). At this stage Central Bedfordshire is likely to need to appoint Specialist Contaminated Land Consultants.

These Consultants will be expected to produce a conceptual site model (CSM), site specific assessment criteria (SSAC), a Detailed Quantitative Risk Assessment (DQRA) and to generally advise on the nature of remedial works, where necessary.

Inspecting the Council's own land

The Division responsible for the management of the Council's own land portfolio is the Central Bedfordshire Property & Asset Management Service

The Team is responsible for the management and operation of the corporate buildings and aims to ensure that:

- ⇒ The management of, and investment in property maximises value for money

This service will be consulted when a site owned by the Council is in need of investigation but no special treatment or prioritisation of Council-owned sites is envisaged and each will be treated in order and on its merits.

Cross-boundary considerations

Identifying and dealing with pollutant linkages may not be straightforward as they may exist across administrative boundaries – for example, a source in Central Bedfordshire may affect a receptor in a neighbouring local authority's area or vice versa.

To deal with such situations the Council will:

- ⇒ *liaise with the appropriate person from the affected local authority,*
- ⇒ *seek agreement on establishing the lead authority and ascertain delegation powers,*
- ⇒ *seek advice from the Environment Agency.*

Enforcement

In its approach to enforcement the Council abides by the principles of firm but fair and transparent regulation;

- ⇒ **Transparency** - we will aim to ensure that the nature of, and reasons for, enforcement action to be taken by the Council are explained in a clear manner.
- ⇒ **Fairness & objectivity** – we will treat everyone equally and fairly, and will ensure that decisions are not influenced by the colour, race, nationality, ethnic or national origin, gender, religion, marital status, age, sexual orientation or disability of the offender, complainant or witnesses.
- ⇒ **Proportionality** – we will aim to ensure that any action taken relates directly to the actual or potential risk to health, safety, welfare or the environment.
- ⇒ **Consistency** - we will take consistent action to ensure that similar issues are dealt with in a similar way.

Before resorting to formal enforcement action the Council Officers will endeavour to reach a satisfactory solution by positive intervention first – provision of guidance, support, advice, and issuing informal warnings.

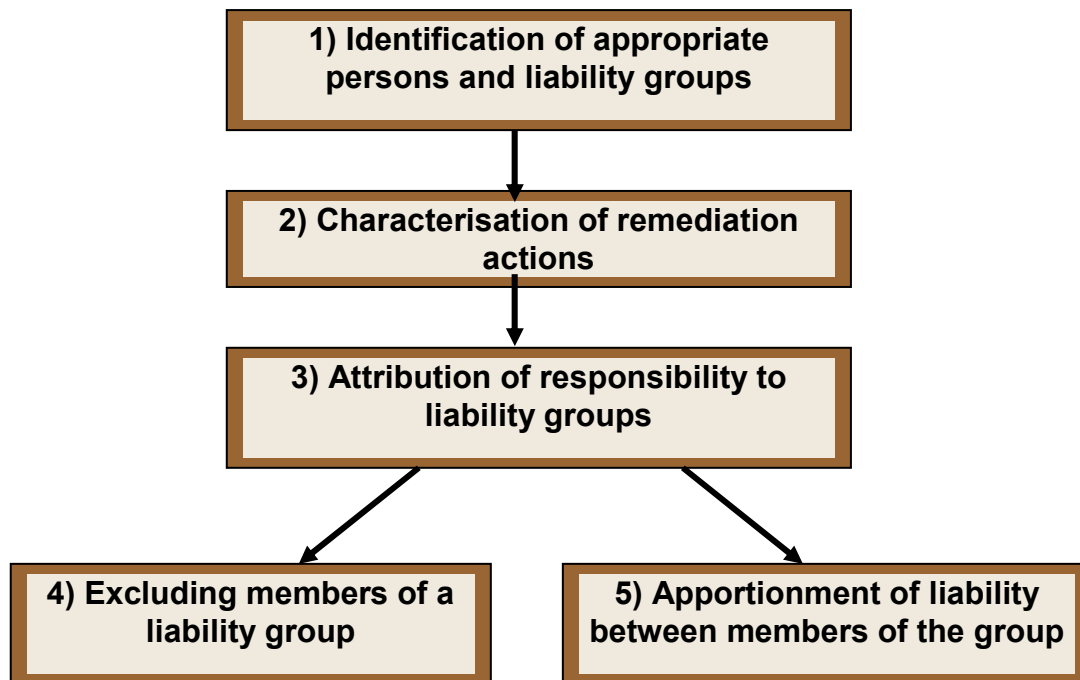
Where a positive outcome is not reached voluntarily, the Council will resort to enforcement action in accordance with the legislation, especially in relation to:

The Powers of Entry – to be granted with a warrant by a magistrate if the consent of site owner is not forthcoming in allowing Council Officers entry onto a site or residential premises for inspection purposes.

Remediation – the Council has a duty to serve a remediation notice on the appropriate person(s) where the clean up of a site is not agreed voluntarily or where no agreement is reached in relation to remediation action.

Liability

One of the aims of carrying out an intrusive site investigation is to identify all pollutant linkages that may be present on the site, and upon assessing the potential for significant harm being caused to receptors to declare the site as contaminated land. Once this has been achieved, the process of apportionment of liability commences. The process comprises of five distinct stages:



Class A – the polluter or the person who knowingly permitted the contamination,
and
Class B – where no Class A person can be found, liability reverts to the current owner or occupier of the site.

The Council will make all reasonable enquiries to identify Class A persons to ensure the “polluter pays” principle can be applied and the overall outcome is fair and equitable to all. Where more than one pollutant linkage is identified liability will have to be apportioned for each one.

A situation may arise, however, whereby no appropriate person can be identified (the “orphan linkage” scenario) and the current occupiers/ owners of the site cannot cover the remediation costs due to hardship. Under such circumstances the responsibility for site remediation will fall with the Council.

Exclusion from liability

In considering remediation requirements the Council will only require to take actions that it considers reasonable having regard to the costs involved.

The statutory guidance requires the Council prior to serving a remediation notice to consider whether any exclusions from liability are applicable to Class A or Class B persons.

In making this consideration the Council will take into account all relevant statutory guidance, existing case law, and **hardship** likely to result from meeting remediation requirements on a case-by-case basis (for example, the threat of insolvency to a commercial business).

Communication & consultation process

The Council recognises that consensus building and establishing a positive dialogue with the land-owners/ occupiers and all relevant agencies at the start will help facilitate information exchange, access local knowledge and will lead towards achieving a positive outcome.

When the Council has gathered sufficient information to enable the determination of a site as contaminated land internal consultation with the Director of Sustainable Communities and the relevant Portfolio Holder will take place. All other relevant divisions of the Council will be notified as required and dictated by each site. The following parties will be notified in writing:

- ⇒ *The Environment Agency*
- ⇒ *The owner of the land (7 days prior to formal designation)*
- ⇒ *The occupier of the land (7 days prior to formal designation)*
- ⇒ *Each appropriate person (7 days prior to formal designation).*

Following formal designation of a site as contaminated land the owner/ occupier/ appropriate person will be contacted again in writing to explain the designation and seek voluntary remediation. The Council will also inform in writing any other interested party (e.g. neighbour), within 7 days of designation.

Following this, a consultation on the remediation of the site will commence and take place over three months. The Council has the right to extend this period where it has obtained sufficient evidence to believe a satisfactory conclusion can be achieved or it can dispense with the consultation altogether where there is evidence of imminent danger of serious harm or pollution.

In all communication and consultation with all the relevant parties the Council will adhere to statutory guidance and the principles of open, fair and transparent communication.

Risk Communication strategy

Each site will warrant a specific tailored approach with its own remediation and consultation requirements. In drafting a site specific communication strategy the Council will follow the general risk communication principles and will involve all relevant key partners throughout the process allowing sufficient time for response.

The key risk communication principles the Council will aim to abide by:

- ⇒ ***When*** - timely communication to build trust and understanding during all key stages in the investigation/ remediation process;
- ⇒ ***Why*** - important to understand and explain clearly the reasons for communication and consultation as well as to provide a sufficient

- level of technical information to enable better understanding of the process and regime, build trust and confidence;
- ⇒ **Who** - identification of and communication with all the appropriate agencies and building a relationship in advance/ knowing who to approach;
 - ⇒ **What** - the message is vital – to be tailored specifically for each case factoring in and being sensitive to individual circumstances and maintaining an open and transparent approach;
 - ⇒ **How** - each communication strategy will require a different approach, format, a degree of flexibility and adequate resources.

Information management

The Council will store information on potential contamination in a simple, accessible and logical manner and this will be made available to the public upon request.

Public register

Under the Part IIA of the EPA 1990 the Council is required to keep a Public Register of all contaminated land sites that have been designated and remediated in its area. The Register is open to the public and includes:

- ⇒ *information about the location and condition of the land in question,*
- ⇒ *description of all pollutant linkages present,*
- ⇒ *the details of the appropriate person,*
- ⇒ *all regulatory action taken by the local authority (or any other appropriate person or agency) in respect of remediation of contaminated land,*
- ⇒ *the current use of the site, and other information.*

The Register will not contain information on previous contaminative land uses and other research documents used in the investigation of potentially contaminated land. The Council will ensure that no information relating to the affairs of an individual or business, matters of national security or commercially confidential information is included.

The Register is available to public inspection at the Council's Offices at Priory House.

Provision of information to the public

The Council propagates an open and transparent approach to dealing with contamination issues whilst maintaining a responsible approach when handling confidential or sensitive information. The public are increasingly aware of environmental issues and appreciate the opportunity to get involved. Establishing an open dialogue may assist all parties and lead to a positive solution. The Council has produced a short guide on how to access information on contaminated land that is available at the Council's Offices, on the website at www.centralbedfordshire.gov.uk or upon request.

Detailed information on potentially contaminated land sites will only be provided to individuals with a specific interest in a specified site, for example a potential owner. This is usually identified via a legal search undertaken by the purchaser's solicitor, to a private individual or developer with a specific interest in the site. There is a fee attached to the provision of this information set out in the Council's schedule of fees and charges.

Information evaluation

Incoming information on potential contamination will be evaluated by a designated Officer, who will consult environmental records to establish the validity of the information. The person will be contacted in accordance with the service standards.

Customer service standards

The Officers will respond to all requests for information both from members of the public and professional agencies in accordance with the Council's corporate customer services standards:

- ⇒ ***Urgent requests for service*** – Officers will aim to respond to urgent requests for service within 24 hours (for example, accumulation of hazardous material representing a risk to public health, on public or private land.), and non-urgent request for service within three days.
- ⇒ ***Written correspondence*** – Officers will aim to respond to all letters in writing within ten days and all e-mails – within three days.

More specifically, in relation to pollution incidents, we will investigate complaints of serious pollution, whether on land, in the air or in the water within 24 hours of being informed.

Complaints process

Officers will aim to respond to contaminated land enquiries in a satisfactory manner, however, a situation may arise where the customer feels their enquiry has not been handled appropriately. A complaints procedure has been put in place to deal with such situations.

If you need any help in making your complaint, please contact the Council's Corporate Complaints Officer. Anyone can make a complaint on your behalf, as long as they have your permission to do so.

- ⇒ *If you make a complaint, Officers will acknowledge it within 10 working days.*
- ⇒ *In most cases a full reply will be sent within the 10 working days. If not, an explanation will be provided as to when you can expect a full reply and who is the most appropriate Officer to speak to.*
- ⇒ *A complainant will be required to supply their name and address as well as the details of the land or property that caused the complaint.*
- ⇒ *The details of the complainant will be treated with confidentiality.*

⇒ *Anonymous complaints will not be dealt with unless this occurs in exceptional circumstances.*

MONITORING THE STRATEGY

The Equalities Impact Assessment

The Equalities Impact Assessment (EIA) systematically analyses strategies and policies to identify what effect, or likely effect, will follow from the implementation of the strategies for different community groups. It is concerned with anticipating and identifying the equality consequences of the policy documents and initiatives and ensuring that, as far as possible, any negative consequences for a particular group or sector of the community are eliminated, minimised or counterbalanced by other measures.

Following the initial Equalities Impact Assessment of the Strategy it was considered that no negative differential impact on any of the minority groups in the community would result from the delivery of the Strategy.

Resources

Team

The team responsible for carrying out duties in relation to contaminated land is the Pollution Control team within Public Protection (Sustainable Communities). The Public Protection Head of Service, Su Childerhouse is responsible for the overall delivery of the Strategy.

It is envisaged that, as several Environmental Health Practitioners (EHPs) within Public Protection are qualified and/or experienced in Contaminated Land they will be expected to deliver and monitor the Strategy alongside their day-to-day Environmental Health duties.

These roles entail:

- ⇒ *consultation with the Planning and Building Control colleagues on development applications,*
- ⇒ *provision of information and advice to Planning colleagues and developers to ensure any new development is suitable for any current use,*
- ⇒ *quality assurance of the development process,*
- ⇒ *inspection of potentially contaminated sites to gather additional information*
- ⇒ *inspection of sites post-development to determine whether it is fit for use,*
- ⇒ *interpretation of various types of data to gather information on contamination likely to be present on sites in Central Bedfordshire,*
- ⇒ *participation in Herts & Beds Contaminated Land Sub-group to ensure consistency of approach and sharing best practice,*
- ⇒ *handling requests for information from members of the public and professional agencies,*

⇒ *liaison with the EA in relation to water resources and special sites, and other duties.*

This work will include some time spent responding to customer enquiries in relation to a variety of contamination issues, and inspecting potentially contaminated land sites.

Several EHPs have received training to map contaminated land site data onto the GIS and deal with general data management issues so will contribute to Strategy work as timescales and workloads allow.

Budget

Budget details available for delivery Strategy are currently unknown although most pre-determination work will be delivered from normal Public Protection budgets and DEFRA grants where available (see below).

Staff

The estimated staff resources for contaminated land work are set out in the table below:

Staff	FTE
<i>Environmental Health Practitioners</i>	0.8

Capital Programme (DEFRA)

The Council will bid for funding through DEFRA where necessary.

Ultimately, liability for remediation rests with the polluter, landowner or occupier and these costs will be recovered in accordance with the statutory guidance.

The Way Forward

Following harmonisation of the legacy lists of sites of potential concern, progress will be made in investigating sites starting from the top of the unified list or as information comes in to the Council.

In parallel to this work will continue with our Planning partners to deliver remediation via the Development Management process in conjunction with developers.

All progress made in dealing with the remediation of contaminated land will be recorded via the current Environmental Management System and also as a layer on the Corporate GIS System.

A Public Register of sites remediated via Part 2a will also be made available and all remediation via Planning be available as normal through public documents and Land Searches.

In this way, Public Protection will deliver its objectives in an effective, orderly, fair and transparent manner.

APPENDIX A

Glossary of terms

Term	Definition
Appropriate person	Defined in section 78A(9) of the Part IIA, EPA 1990 as: "any person who is an appropriate person, determined in accordance with section 78F, to bear responsibility for anything which is to be done by way of remediation in any particular case.
Aquifer	Geological strata that contain groundwater.
Authorised installation	The definition of installation is: - (a) a stationary technical unit where one or more activities listed in Annex 1 (to the EC Directive on IPPC) are carried out; and (b) any other directly associated activities which have a technical connection with the activities carried out on that site and which could have an effect on emissions and pollution".
Borehole	A hole drilled in the ground in order to take samples and to allow gas and water monitoring.
Brownfield site	A brown-field development site is any land or premises which has previously been used or developed and is not currently fully in use, although it may be partially occupied or utilised. It may also be vacant, derelict or contaminated. Therefore a brown-field site is not necessarily available for immediate use without intervention.
Controlled waters	These include: a) Inland waters (rivers, streams, underground streams, canals lakes and reservoirs), b) Ground waters (any water contained in underground strata, wells or boreholes), c) Territorial waters (the sea within three miles of a baseline), d) Coastal waters (the sea within the baseline up to the line of highest tide, and tidal waters up to the fresh water limit).
The EA	The Environment Agency – agency responsible for the protection of the environment. Its role in relation to contaminated land regime involves the provision of site-specific advice to local authorities and acting as the principle regulator in relation to special sites, pollution of controlled waters and sites affected by radioactive contamination.
GIS	Geographical Information System - a data-handling and analysis computer system based on sets of data distributed spatially in two dimensions. The data sets may be map-oriented or image-oriented.
Groundwater	Any water contained in underground strata, wells or boreholes.
IPPC	Integrated Pollution Prevention Control
Harm	Defined in section 78A(4) of the Part IIA of the EPA 1990, 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."
Intrusive investigation	An investigation of land (for example by exploratory excavations) that involves actions going beyond simple visual inspection of the land, limited sampling or assessment of documentary information.
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.
Part A process	Under the IPPC regime, those processes with the greatest potential for pollution.
Part IIA, EPA 1990	Environmental protection Act 1990 – a primary piece of legislation designed to deal with contaminated land.

Term	Definition
Pathway	A pathway is one or more routes or means by, or through, which a receptor is being exposed to, or affected by, a contaminant, or could be so exposed or affected.
Pollutant linkage	The relationship between a contaminant, a pathway and a receptor.
Receptor	A living organism, group of organisms, an ecological system or a piece of property which is being affected by a contaminant or is likely to be affected.
Remediation	The taking of appropriate action as defined in section 78A(7) to prevent or minimise effects of contamination. In the case of this legislation the term also encompasses assessment of condition of land and the subsequent monitoring of the land.
Remediation notice	A legal document served to require land remediation and specifying the required works of remediation.
Significant harm	As defined in section 78A(5). It means any harm which is determined to be significant in accordance with the statutory guidance in Chapter A (that is, it meets one of the Descriptions of types of harm in the second column of Table A of that Chapter).
Source	A substance in, on, or under the ground with the ability to cause harm.
Special site	Land is required to be designated as a Special Site where: a) controlled waters are being affected to the extent they do not achieve the appropriate water quality standards; or b) controlled waters are being affected by the land and: (ii) any of the substances which is causing or is likely to cause the pollution is a member of the following group of substances: organohalogen compounds; organophosphorous compounds; organotin compounds; substances which possess carcinogenic, mutagenic or teratogenic properties in or via the aquatic environment; mercury and its compounds; cadmium and its compounds; mineral oil and other hydrocarbons; cyanides. (ii) the waters or any part of the waters are contained within underground strata which are considered to be major aquifers. 2. Waste acid tars are present in, on or under the land; 3. The purification or refining of crude petroleum or any other substances with the exception of coal has taken place; 4. The manufacture of explosives has taken place; 5. Prescribed processes under the Integrated Pollution and Control or Pollution Prevention and Control authorisations take place or have taken place; 6. The land is owned or occupied by defence organisations or is being used for defence purposes; 7. The land was used for the manufacture, production or disposal of various kinds of weapons: chemical, biological or nuclear etc.
Sustainable development	Development that ensures a better quality of life for everyone, now and in the future, and balances economic, environmental and social considerations.
Suitable for use	The current condition of the land is safe for its current or intended purpose.
WET	Work Environment Team in the Environmental and Planning Services Directorate

APPENDIX B

Stage 1 Risk Assessment Preliminary Groups

Preliminary Group A

A A A
A A B
A B A
A A C
A C A
B A A
C A A

Preliminary Group B

A C C
A B B
A B C
A C B
B B A
B A B
B B B
B C A
B A C
C A B
C B A
C C A
C A C

Preliminary Group C

B C C
C C C
C C B
C B C
B B C
B C B
C B B

These 3 groups are in order of priority and show which site codes would fall into each group.

Appendix C

Prioritisation Questions

Stage 1 Assessment – Development

1) Is there any residential development, school, playground or allotment on the site or within 50m of the site boundary?

Yes = Group A

No = Proceed to Q2

2) Is there any industrial or commercial development on the site or within 50m of the site boundary or is there any residential development within 250m of the site boundary?

Yes = Group B

No = Proceed to Q3

3) Is the site in agricultural use (inc. allotments, wild animals, shooting rights etc.) or amenity use including parks or playground? (Ecological systems)

Yes = Group B

No = Group C

Proceed to Surface Water

Stage 1 Assessment - Surface Water

1) Are there any surface water features including drains, streams, ponds, canals, lakes and rivers on the site or within 50m of the site boundary?

Yes = Group A

No = Proceed to Q2

2) Are there any significant surface water features within 500m of the site boundary?

Yes = Proceed to Q3

No = Group C

3) Will run off from the site drain to the surface water features?

Yes = Group B

No = Group C

Proceed to Groundwater

Stage 1 Assessment – Groundwater

1) Is the site located within either a Zone 1 or a Zone 2 Source Protection Zone?

Yes = Group A

No = Proceed to Q2

2) Is the site located within a Zone 3 Source Protection Zone?

Yes = Group B

No = Proceed to Q 3

3) Is the site located on a major aquifer?
Yes = Group B No = Group C

Stage 2 Assessment Questions

Stage 2 Assessment - Development; Residential, allotments, agricultural commercial or industrial use, public open space or amenity

1) Are there, or is it likely that there are, contaminants in the soil which are toxic by ingestion, inhalation or skin contact in concentrations which exceed relevant action values and/or present an unacceptable risk?

Yes = Proceed to Q2

No = Proceed to Q4

2) Are there any areas of exposed soil (e.g. gardens or landscaped areas)?

Yes = Priority Category 1

No = Proceed to Q3

3) Is there any suspected health effects as a result of the presence of the contamination?

Yes = Priority Category 1

No = Proceed to Q4

4) Are there, or is it likely that there are, toxic, asphyxiant or flammable gases or explosives present in or generated in the site in concentrations which exceed the relevant action values and/or present a risk?

Yes = Priority Category 1

No = Proceed to Q5

5) Is the site use agricultural?

Yes = Proceed to Q6

No = Proceed to Q7

6) Are there, or is likely that there are, any contaminants in the soil which can accumulate in edible plants in concentrations which exceed relevant action values and/or present an unacceptable risk?

Yes = Priority Category 2

No = Proceed to Q7

7) Are there, or is it likely that there are, contaminants in the soil in concentrations which present an unacceptable risk by permeation of water pipes?

Yes = Priority Category 2

No = Proceed to Q8

8) Are there, or is it likely that there are, phytotoxic contaminants in the soil in concentrations which present an unacceptable risk?

Yes = Priority Category 3

No = Proceed to Q9

9) Are there, or is likely that there are, contaminants in the soil in concentrations which present an unacceptable risk by attack of building materials?

Yes = Priority Category 3

No = Priority Category 4

Stage 2 Assessment - Unoccupied Land

1) Are there, or is likely that there are, contaminants in the soil which are toxic by ingestion, inhalation or skin contact in concentrations which exceed relevant action values and/or present an unacceptable risk?

Yes = Proceed to Q2

No = Proceed to Q4

2) Is there any suspected health effects as a result of the presence of contamination?

Yes = Priority Category 1

No = Proceed to Q3

3) Is the site unfenced or is access unrestricted?

Yes = Priority Category 1

No = Proceed to Q4

4) Are there, or is it likely that there are, toxic, asphyxiant or flammable gases or explosives present in or generated in the site in concentrations which exceed relevant action values and/or which present an unacceptable risk?

Yes = Proceed to Q5

No = Proceed to Q8

5) Are there any buildings or structures within 50m of the site?

Yes = Priority Category 1

No = Proceed to Q6

6) Are there any buildings or structures within 250m of the site boundary?

Yes = Priority Category 2

No = Proceed to Q7

7) Are there any buildings or structures within 1km of the site boundary?

Yes = Priority Category 3

No = Proceed to Q8

8) Are there, or is it likely that there are, phytotoxic contaminants in the soil in concentrations which present an unacceptable risk?

Yes = Priority Category 3

No = Proceed to Q9

9) Are there, or is it likely that there are, contaminants in the soil in concentrations which exceed relevant action values and/or present an unacceptable risk of permeation or attack of services which run through the site?

Yes = Priority Category 3

No = Priority Category 4

Stage 2 Assessment - Surface Water

1) Is there any evidence of surface water contamination at concentrations that exceed relevant quality criteria?

Yes = Proceed to Q2

No = Proceed to Q5

2) Is the surface water used for potable supply or other sensitive uses within 500m downstream of the site?

Yes = Proceed to Q3

No = Proceed to Q4

(‘Other sensitive uses’ include recreation, fisheries and SSSI designation)

3) Does the quality of the surface water, fall below water standards for the relevant uses?

Yes = Priority Category 1

No = Priority Category 2

4) Does the quality of the surface water, fall below any other relevant water quality objectives?

Yes = Priority Category 2

No = Priority Category 3

5) Is there, or is it likely that there is, contamination present in a form in which it can be mobilised?

Yes = Proceed to Q6

No = Priority Category 4

6) Is the surface water on site discharged directly to a water body?

Yes = Proceed to Q7

No = Proceed to Q8

7) Does the discharge exceed any current Consents to Discharge and/or contain contaminants in concentrations which exceed relevant quality criteria?

Yes = Proceed to Q2

No = Proceed to Q8

8) Is any surface water feature within 500m of the site boundary?

Yes = Proceed to Q9

No = Proceed to Q11

9) Can run-off from the site enter a surface water feature directly or is the site susceptible to flooding?

Yes = Proceed to Q10

No = Proceed to Q11

10) Does, or is it likely that, the run-off or leachate contain contaminants in concentrations which exceed relevant quality criteria?

Yes = Proceed to Q2

No = Priority Category 3

11) Can run-off or leachate enter a surface water feature via permeable strata
Yes = Proceed to Q10
No = Priority Category 4

Stage 2 Assessment – Groundwater

1) Is the type of contamination likely to be present regarded as, or likely to be regarded as, significant in relation to the water environment?

Yes = Proceed to Q2

No = Priority Category 4

2) Is the contamination in a form, which can be leached or mobilised?

Yes = Proceed to Q3

No = Priority Category 4

3) Does the site fall within a Zone 1 or Zone 2 Source Protection Zone for an abstraction?

Yes = Proceed to Q4

No = Proceed to Q5

4) Are there, or are there likely to be, contaminants in the groundwater which exceed the relevant quality objectives?

Yes = Priority Category 1

No = Proceed to Q8

5) Is there a direct discharge to groundwater (e.g. mineshaft, borehole or soakaway)?

Yes = Proceed to Q6

No = Proceed to Q7

6) Is the groundwater used for potable supply or other sensitive uses within 1km of the site if groundwater movement is predominantly intergranular, or 2km of the site if groundwater movement is predominantly fissure flow?

Yes = Proceed to Q4

No = Proceed to Q14

(‘Other sensitive uses’ of groundwater include use in food manufacture, mineral water bottling and brewing)

7) Is the contamination contained within the site (i.e. is the contamination unable to migrate from the site laterally or vertically due to the presence of a significant thickness of impermeable material)?

Yes = Priority Category 4

No = Proceed to Q6

(For the purposes of this assessment, material is defined as permeable if it has a vertical coefficient of permeability equal to or greater than 5mm/day)

8) Are there, or is it likely that there are, contaminants in the permeate at the site which exceed the relevant quality criteria?

Yes = Priority Category 2

No = Proceed to Q9

9) Is there surface water within 1km of the boundary of the site which is in continuity with the groundwater underlying the site?

Yes = Proceed to Q10

No = Proceed to Q13

10) Is the surface water used for potable supply or other sensitive uses?

Yes = Proceed to Q11

No = Proceed to Q12

(‘Other sensitive uses’ of surface water include recreation (bathing/canoeing), salmonfishery and SSSI designation)

11) Are there, or is it likely that there are, contaminants in the surface water which exceed the relevant water standards?

Yes = Priority Category 1

No = Proceed to Q12

12) Are there contaminants in the surface water which exceed other relevant surface water quality objectives?

Yes = Priority Category 2

No = Proceed to Q13

13) Is the site located on a minor aquifer?

Yes = Priority Category 3

No = Priority Category 4

14) Is the site located on a major aquifer?

Yes = Proceed to Q15

No = Proceed to Q17

15) Are there, or is it likely that there are, contaminants in the groundwater which exceed the relevant quality objectives?

Yes = Priority Category 2

No = Proceed to Q16

16) Are there, or is it likely that there are, contaminants in the permeate at the site which exceed the relevant quality criteria?

Yes = Priority Category 3

No = Proceed to Q9

17) Is there an abstraction for industrial supply (including agricultural) within 1km of the site if groundwater movement is predominantly intergranular or 2km of the site if groundwater movement is predominantly fissure flow?

Yes = Proceed to Q15

No = Proceed to Q9

NB: *The answer ‘No’ only applies where the data on contamination has been compared with a checklist for the contaminants expected on the site relevant to the particular target and has been evaluated to determine the statistical validity.*

Appendix D

Example Procedure for the Investigation of Individual Sites

- 1) Receive the initial notification of a possible contaminated land site.
Obtain as much information from the informant as possible – e.g.:
 - Site location;
 - The alleged contamination/nature of contamination;
 - What evidence they have for this;
 - Any details of land ownership/occupation etc.;
 - Persons involved.

- 3) Undertake an informal visit to the site to confirm details about location/current condition of site etc.

- 4) Send a letter to the site owner together with a section 16 notice

- 5) Check GIS system for evidence of possible pollutant linkages – check for:
Receptors – as specified in guidance
Pathways – geology/water features etc
Sources – any others potential sources nearby

- 5) Carry out a search of all Council files to try and obtain as much information regarding the site as possible – environmental health, planning dept, local plans, economic development, Source Protection Zone, etc.

- 6) Carry out stage 1 of the risk assessment procedure to obtain the initial grouping score for the site.

- 7) Contact site occupiers/owners etc using standard text letter – to include following:
 - Information has been received indicating that the site is potentially contaminated under Part IIA EPA90 – give reasons for this suspicion;
 - A review of the Council’s files has indicated the existence of a potential pollutant linkage;
 - At this stage are still interpreting/investigating the information received and no determination has been made yet as to the status of the site
 - Are therefore contacting them to see if they can add anything further to the information – request that they provide you with any information they think might be useful, such as:
 - a) COSHH records/data sheets for all chemicals etc used on site
 - b) Accident records
 - c) Details of any accidental spillages
 - d) Waste disposal methods
 - e) Storage details
 - f) Description of process
 - g) Site layout
 - h) Drainage plans
 - i) Existence of any licences (e.g. IPPC, Discharge consents etc)
 - j) Other relevant information

Create an appropriate timescale

8) Whilst waiting for the return of this information, carry out a detailed review for Specified Receptors, Contaminants and pathways within a 1000 meter radius of the site. The Council's GIS system will be used to facilitate this. This will also serve to flag up whether other agencies need to be contacted – e.g. EA, EN, EH etc – for their input. Carry out the, site visit.

9) Once information obtained, review it with view to proceeding to Stage 2 of the risk assessment – this will identify gaps in knowledge/information needed. Use checklist:

- What are the potential contaminants?
- What are the properties of these contaminants e.g. phytotoxic, attacks materials etc?
- What are their effects/actions?
- What are the likely concentrations of them?
- Is there any evidence of ill health due to possible existence of contamination?
- Are gases present (or likely to be)?
- What is the site's current use?
- Any water contamination issues?
- Are water supplies nearby used for any other purposes – e.g.: bathing, drinking water (private or public), abstraction licences – check water quality standards as necessary?
- Natural and manmade drainage plans?
- Do they have a discharge consent or waste disposal licence – is it being complied with?
- Geological and hydrogeological details?
- Aquifers?
- Is site within a source protection zone?

10) Identify gaps in knowledge and seek to fill them – approach relevant agencies (EN, EH etc.) Start checking out consultants with relevant experience.

11) Draw up a conceptual model of the site – ref: BS 10175:2001 (p15) – to give an indication of whether the site is potentially contaminated. If the site is not considered to present a risk – no further action will be taken.

12) Run site through the stage 2 assessment to identify its Priority Category for further action.

13) Fill in a *SOCL/LA/Form 1 – Standard Form for Exchange of Information Between Local Authorities & Environment Agency When a Site is Determined as Contaminated*. Liaise with Environment Agency at earliest opportunity for advice and exchange of site specific information.

14) Seek external consultant's advice where necessary & consider whether site is contaminated and what remedial action might be necessary; appropriate persons, etc.

This Strategy can be provided in an alternative format or language on request

- ◆ যদি অনুরোধ করেন তাহলে অন্য কোনও আকারে বা ভাষায় এই তথ্য আপনি পেতে পারেন।
(Bengali)
- ◆ 你可以要求以另一種格式或語言提供這些訊息 (Chinese)
- ◆ ਇਹ ਜਾਣਕਾਰੀ ਬੇਨਤੀ ਕੀਤੇ ਜਾਣ 'ਤੇ ਕਿਸੇ ਹੋਰ ਸ਼ਕਲ ਜਾਂ ਬੋਲੀ ਵਿਚ ਮਿਲ ਸਕਦੀ ਹੈ।
(Punjabi)
- ◆ یہ معلومات آپ کے درخواست کرنے پر متبادل ڈیزائن یا زبان میں مہیا کی جاسکتی ہیں۔
(Urdu)
- ◆ Questa informazione puo' essere fornita su richiesta in un altro formato o un'altra lingua telefonando al numero (Italian)
- ◆ Informację tą można uzyskać również w innym formacie lub innym języku dzwoniąc pod numer (Polish)

Please ring this number

08452 304040