



COTSWOLD
DISTRICT COUNCIL

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Contaminated Land Inspection Strategy for the Cotswolds



Update and Review

Cotswold District Council

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DRAFT for Approval

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1 Introduction

In the United Kingdom there is a substantial legacy of land that is affected by contamination arising from a diverse industrial history as well as mining and waste disposal activities. A number of government regimes now exist to prevent any ongoing contamination from such activities and to deal with the legacy of historical contamination through redevelopment opportunities. However, there remains a need for intervention where historical land contamination poses unacceptable risks to human health and the environment where no alternative solution to address the risk exists.

The Council has regulatory responsibility for carrying out duties and functions set out in Part 2a of the Environmental Protection Act 1990 in relation to contaminated land. The Council must inspect the district for land that could be contaminated and, if legally determined as contaminated land, the Council is duty-bound to require its remediation.

Legislation relating to contamination has existed in England since April 2000, when Part 2A of the Environmental Protection Act 1990 came into force. This required local authorities to publish a strategy that sets out how it will deal with contaminated land and keep this under periodic review. Following an amendment to the statutory guidance in 2012, local authorities are required to revise the content of their strategies to take account of the changes.

This strategy replaces the Council's previous strategy (November 2005) and explains how Cotswold District Council (the Council) will implement the contaminated land regime over the period 2019-2024 as required by Part 2A of the Environmental Protection Act 1990 (hereafter referred to as Part 2A) and in accordance with the revised statutory guidance.

Part 2A should only be used where no appropriate alternative to address land contamination is available. This includes dealing with land contamination as part of the development process (planning and building control), voluntary action, or other proactive regimes such as environmental permitting.

There is no formal approval process for local authority inspection strategies, however in preparing this strategy the following consultation process will be adopted:

- i. Preparation of a draft strategy with inputs from the Council's Technical Pollution Services, Planning and Sustainability Teams, and other Contaminated Land Officers from the Gloucestershire Contaminated Land Officer's Group;
- ii. Draft strategy considered by the Cabinet Member for the Environment;
- iii. Draft strategy released for external consultation, including the Environment Agency, Public Health England, other Local Authorities; and
- iv. Final version of strategy to be approved before issue to DEFRA and the Environment Agency and wider distribution.

1.1 General Policy of Cotswold District Council

The UK has established a policy and legal framework aimed at minimising the future incidence of contaminated land. This will ensure appropriate action is taken to deal with existing contamination where it poses unacceptable risks to health and the environment and encourages the reclamation and recycling of 'brownfield' land for beneficial use.

In the context of sustainable development, environmental and economic policy areas are key considerations in developing this Inspection Strategy because they:

- ensure unacceptable risks to human health and the environment are evaluated, thus ensuring a cleaner and healthier environment for local people and wildlife;
- encourage the prudent use of land and social resources; and
- ensure that the cost burdens of undertaking remediation are proportionate, manageable and economically sustainable.

Land contamination can take a number of forms and occur in a variety of places. Many different people and organisations are, therefore, likely to take an interest in a contaminated site, whether contamination has been proven or is suspected.

Cotswold District Council (The Council) recognises that decisions about contaminated land are not made on a purely technical basis. There will be a variety of regulatory, commercial, financial, legal and societal factors, which also affect how particular contaminated land issues should be addressed. The Council also recognises that, as with its approach to local government in general, it is important that decisions about contaminated land are defensible and transparent.

The Council is dealing with contaminated land on an ongoing daily basis to assist the general principle of bring land back into beneficial use in the most sustainable manner, whilst reducing risks associated with land contamination to an acceptable level.

Subsequent chapters of this document set out the legislative context in more detail, the characteristics of land within the District and the means by which it will be assessed.

This document was adopted on xxxx 2019 and is presented as the Council's Contaminated Land Inspection Strategy. It is available on the Council's website and is provided to all groups of people ("stakeholders") who have an interest in a contaminated land strategy for the district.

2 Legislative Background

The government's main policy statement on contaminated land is now contained within a DEFRA guidance document: Environmental Protection Act 1990, Part 2A: Contaminated Land Statutory Guidance, April 2012 ('the Statutory Guidance'). The principles of this have also been incorporated into the Communities and Local Government document "National Planning Policy Framework" as revised and published in February 2019.

UK policy on land contamination as set out in the Framework, as well as emphasising the government's commitment to the environmental principles of "sustainable development" and "the polluter pays", requires that existing contamination which poses a threat to health or to the environment is controlled and treated within the "suitable for use" approach.

The statutory basis of the regime is to be found in Part 2A of the Environmental Protection Act 1990 (which was inserted by the Environment Act 1995).

2.1 Part 2A objectives

The overarching objectives of the Government's revised policy on contaminated land are:

- (a) To identify and remove unacceptable risks to human health and the environment.
- (b) To seek to ensure that contaminated land is made suitable for its current use.
- (c) To ensure that the burdens faced by individuals, companies and society as a whole are proportionate, manageable and compatible with the principals of sustainable development.

2.2 The requirement for a strategic approach

All local authorities are required to take a strategic approach to the identification of land in their area that merits detailed individual inspection. The Statutory Guidance requires that the approach adopted should be rational, ordered and efficient and it should reflect local circumstances. The local authority should set out its approach as a written strategy, which it should formally adopt and publish and which should be reviewed periodically.

The Statutory Guidance details the elements which should be included in the strategy.

2.3 Definition of Contaminated Land

Section 78A(2) of the Environmental Protection Act defines contaminated land as follows:

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

-Significant harm is being caused or there is the significant possibility of such harm being caused; or

-Pollution of controlled waters is being, or is likely to be, caused.

With respect to controlled waters, the Water Act 2003 amended the second limb of the definition so that it applies only where:

"**significant** pollution of controlled waters is being caused, or there is a **significant possibility** of such pollution being caused"

This change in the legislation became effective as of 6th April 2012.

The presence of a contaminant in land does not of itself mean that it is contaminated land within the meaning of Part 2A. The Statutory Guidance refers to Contaminant Linkages where one or more **contaminant > pathway > receptor** linkages exist. Receptors are defined as, " ... *something that could be adversely affected by a contaminant, for example a person, an organism, an ecosystem, property, or controlled waters.*" Detailed definitions of the types of receptors are set out in Section 4 of the Statutory Guidance. The Statutory Guidance also refers to "*significant contaminant linkages*", referring to those that give rise to a level of risk sufficient to justify a piece of land being determined as contaminated land.

The local authority has the sole responsibility for determining whether any land appears to be contaminated land within its area.

Since the enactment of the contaminated land legislation, significant progress has been made in many technical areas of assessment and remediation of contaminated land.

2.4 Categorisation of Contaminated Land

The Council will follow the system of categorisation in the Statutory Guidance when considering whether a significant possibility of significant harm (SPOSH) exists at a site. For each receptor, the guidance details four categories.

Categories 1 and 2 would encompass land that is capable of being determined as contaminated land on grounds of significant possibility of significant harm to human health. Categories 3 and 4 would encompass land which is not capable of being determined on such grounds. A further description of the categories will be found in Table 2.1

Table 2.1 Categories that may be allocated to sites

Category 1	Site probably or certainly not suitable for present use and environmental setting. Contaminants probably or certainly present and likely to have unacceptable impact on key receptors. Urgent action needed in the short term.
Category 2	Site may not be suitable for present use and environmental setting. Contaminants probably or certainly present and likely to have unacceptable impact on key receptors. Action may be needed in the medium term.
Category 3	Site considered suitable for present use and environmental setting. Contaminants may be present but are unlikely to have unacceptable impact on key receptors. Action unlikely to be needed while the site remains in present use or otherwise remains undisturbed.
Category 4	Site considered suitable for present use and environmental setting. Contaminants may be present but are very unlikely to have unacceptable impact on key targets. No action likely to be needed while the site remains in present use or otherwise remains undisturbed.

Uncertainties arise in allocating land to Categories 2 and 3. The government recognised that regulatory authorities may have difficulties in assigning land to Categories 2 and 3 and has appointed, through Defra, a panel of experts from industry and local authorities to assist

local authorities in making decisions with regard to these uncertainties. That panel is now disbanded but detailed decisions made by the panel in cases submitted to it have been made available.

Category 4 Screening Levels (C4SLs) were published in 2014 which have been developed to help decide when land is suitable for use and definitely not statutory contaminated land. Current Soil Guideline Values (SGVs) and other Generic Assessment Criteria (GACs) are well within Category 4 and present minimal risk. The C4SLs are set at the top of Category 4 and although they would still be precautionary, their purpose is to speed up the decision making process for regulators. They are also very likely to act as a suitable remediation target for the development of brownfield land.

When considering whether significant harm is being caused, or there is a significant possibility of such harm being caused, to non-human receptors, Local Authorities should pay regard to Tables 1 and 2 of the Statutory Guidance.

2.5 Development of the Strategy

This strategy has been reviewed with particular reference to the 2012 Defra guidance and the Council has adopted the following approach:

Environmental & Regulatory Services has been identified as the lead service within the Council for the purpose of the Strategy. The designated officer responsible for Contaminated Land (Senior Officer - SO) will work with and consult other services including Development Management, Planning Strategy/Policy teams, Building Control, Land and Property and Legal Services, as appropriate. The SO also has responsibility for liaising with, and providing information to, the Environment Agency, Natural England, DEFRA, land owners, agents and members of the public in accordance with the Environmental Information Regulations and the Freedom of Information Regulations taking into consideration the General Data Protection Regulations.

The Council's previous review and update of the Strategy was undertaken November 2005. This revised strategy has been written in accordance with the 2012 DEFRA guidance and other amended legislation.

The SO will ensure that, as far as possible, land contamination is dealt with through the planning system or by voluntary remediation on the part of the current landowner. To date all sites have been dealt with in this way.

The SO will respond to requests for service and enquiries from members of the public regarding potentially contaminated land.

3 Characteristics of the Cotswold District

3.1 Geographical Location

The Cotswold District lies in the eastern half of Gloucestershire and is largely rural in character.

Figure 1: Cotswolds Area Plan

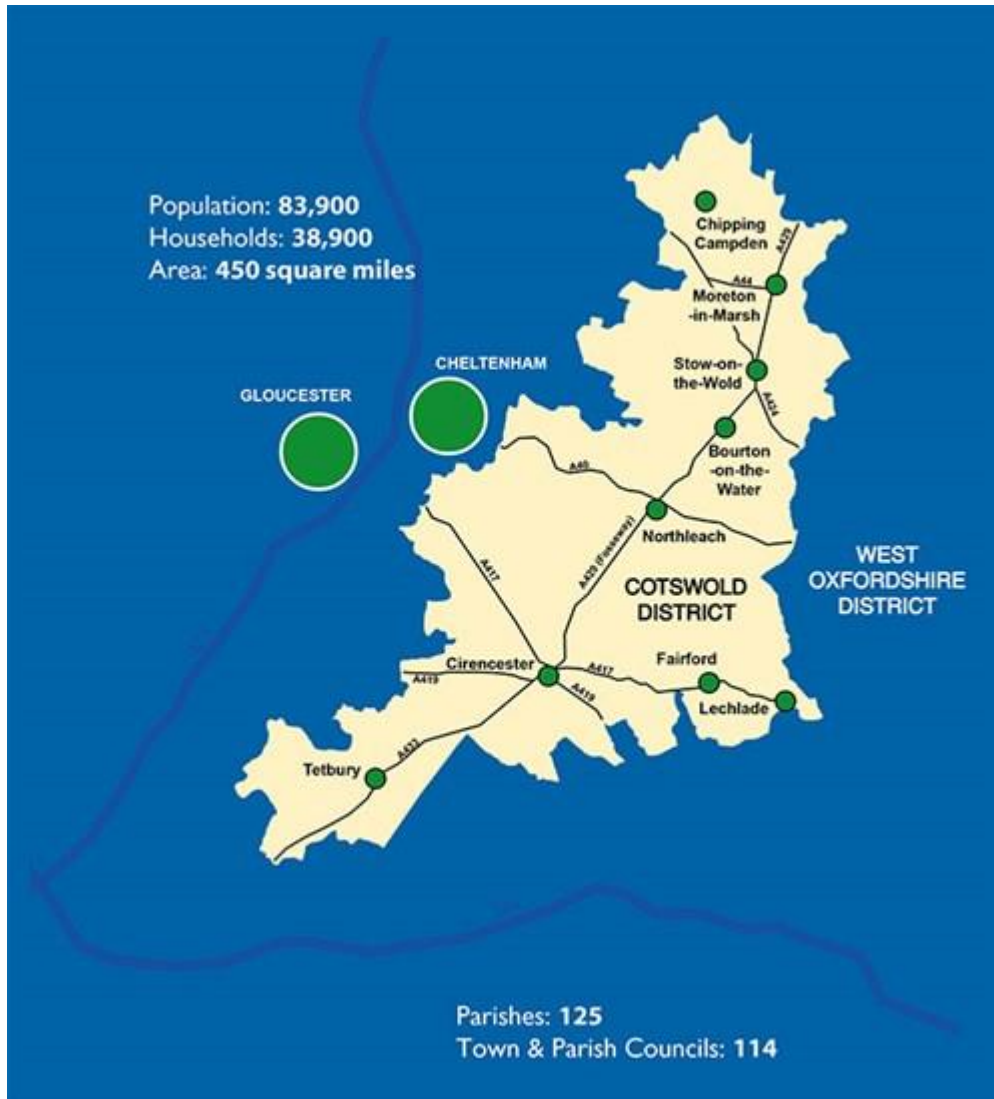


Figure 2: Cotswolds Area, showing ward boundaries



3.2 Brief Description/History

The region was designated as an Area of Outstanding Natural Beauty (AONB) in 1966 and is the largest in England and Wales. This is due to the rare limestone grassland habitats and ancient beech woodlands which are home to the some of the most endangered of British wildlife.

Throughout Medieval Europe, the Cotswolds were known as the source of some of the best wool available due to the rolling hills in the region which are perfect grazing for sheep. Market towns, such as Tetbury and Chipping Campden, thrived under the wool trade and the success of the age is still visible today through the grand architecture and fine houses which were built as a result.

In 2014, the largest employment sectors in Cotswold were:

- Wholesale & Retail Trade (7,600 jobs, 18.5 per cent of all jobs);
- Accommodation & Food Services (5,500, 13.4 per cent);
- Professional, Scientific & Technical Activities (4,200, 10.1 per cent);
- Education (3,800, 9.2 per cent);
- Manufacturing (3,400, 8.3 per cent);
- Human Health & Social Work Activities (3,100, 7.5 per cent).

3.3 Size and Layout

The District covers an area of 450 square miles (1165 square kilometres) and is one of the largest and most beautiful in England.

The district has 125 parishes (which are represented by 114 Town and Parish Councils) ranging from towns to hamlets. Some 80% of the District lies within the Cotswold Area of Outstanding Natural Beauty.

3.4 Population Distribution

The Cotswold district has a population of 84,367 (2016 figures) with one in every four residents being over the age of sixty. The District has one of the lowest population densities in England, although it is expanding and generally has a successful economy. Of the 114 parish councils, over half of them have a population of less than 300.

The district's population is spread out over a wide area; however it is mainly concentrated in the settlements of Andoversford, Bourton-on-the-Water, Cirencester, Chipping Campden, Fairford, Lechlade, Moreton-in-Marsh, Stow-on-the-Wold, and Tetbury. Population distribution is shown in Table 3.1.

Table 3.1: Population of the main towns and villages within the Cotswold District

	Population (2011 Census figures)	Population (estimate 2017)*
Cirencester	19,124	19,635
Tetbury	5,468	6,366
Moreton-in-Marsh	3,568	4,932
South Cerney	2,632	2,712
Bourton-on-the-Water	3,296	3,482
Fairford	3,236	3,721
Lechlade	2,502	2,583
Chipping Campden	2,285	2,340
Stow-on-the-Wold	2,315	2,505
Northleach	1,854	1,907

*Source: UK Office for National Statistics - population figures from 2012 to 2016 released by the ONS Summer & Autumn 2018

3.5 Land owned by the District Council

The District Council has limited land holdings in the District, managed by the Council's Estates team. In specific instances, the Council may actively pursue the purchase of derelict land and redevelop this to improve the overall quality of an area in accordance with its 'Land and Property Acquisition and Disposal Policy'.

At the time of writing, the Council's Estates team is responsible for approximately 167 individual units of land and property.

3.6 Current Land Use Characteristics

Agriculture, tourism and small manufacturing units are the main employers today, with the main manufacturing employers being located in the Southern half of the district. These include technology designers and providers.

Many villages and heritage features are key tourist destinations in the Cotswolds, also the area has numerous public walking trails and footpaths that attract visitors, including the 93-mile Cotswold Way from Bath to Chipping Camden.

The Cotswolds district, being underlain in many areas with Oolitic Limestones, contains a number of quarries still extracting and working the stone for repairs of existing buildings and the construction of new buildings. Sand and gravel quarrying is particularly a feature of the southern end of the district, especially in the vicinity of South Cerney and the area known as Cotswold Water Park. Modern quarrying for gravels involves excavation and washing of the gravels before export for use in construction of roadways and buildings. After completion of extraction, the resulting voids tend to become water filled because of the high groundwater table. Subsequently, after restoration, these have formed the basis for the Water Park, an area of 40 square miles partly overlapping into Wiltshire and West Oxfordshire, with more than 150 lakes. These provide tourism, recreation and conservation opportunities.

There are many airfields in the Cotswolds area which mostly date from 1940s wartime Britain. These are mentioned as they were originally created out of large areas of agricultural land and some still contain runways, buildings and other related structures. A handful of them, such as Fairford and Kemble, are still in use, but most fell into disuse after World War II.

3.7 Regional Geology and Hydrogeology

Cirencester area is underlain by Forest Marble of the Middle Jurassic, being approximately 30m thick and predominantly brown and grey sandy, shelly, flaggy limestone layers together with clays. Groundwater that is present in these Marble Layers has been designated as a Major Aquifer.

The Bourton-on-the-Water area is underlain with a great thickness of Lower Lias of the Lower Jurassic Period, which is generally dark coloured clays, shelly in places with occasional limestone bands. At about 300m north west of Bourton-on-the-Water, there is a ribbon of Alluvium, which is associated with the formation of the River Windrush.

The Fairford area has been identified as a minor aquifer and has River Terrace Gravels in addition to the Forest Marble. The gravels are generally permeable and highly variable (between 5m to 9m in thickness) and are imbedded with silty sands and gravels. Impervious Oxford Clay can be found below the gravel deposits and is around 20m in thickness. Kellaway Beds occur below the clay and consist of around 10 – 15m of silty clays with sand lenses and layers.

In some areas a Cornbrash Sandstone of approximately 5m can be found as well as perched groundwater in the River Terrace Gravels.

The regional geology is detailed in the British Geological Survey Solid and Drift 1:50,000 scale maps 'Cirencester, Sheet 235', 'Malmesbury, Sheet 251', 'Moreton-in-Marsh, Sheet 217' and 'Swindon, Sheet 252'.

Groundwater provides a third of the drinking water in England and Wales and is especially important in the Cotswolds. The majority of the District falls within designated Source Protection Zones. These zones are defined boundaries around large and public potable groundwater abstraction sites (wells, boreholes and springs used for public drinking water) within which groundwater must be protected from contamination from any activities that might cause pollution in the area, to safeguard the public drinking water supply.

3.8 Hydrology

There are several rivers and tributaries within the boundaries of the Cotswold district, as follows:

- River Thames
- River Coln
- River Churn
- River Leach
- River Windrush
- River Evenlode
- River Avon
- Ampney Brook

3.9 Protected Locations

The District has two Environmentally Sensitive Areas (ESAs); the Cotswold Hills and the Upper Thames Tributaries (The Environmentally Sensitive Areas (Cotswold Hills))

Designation Order 1994). These schemes provide financial incentives to farmers for maintaining or adopting agricultural methods which promote the conservation and enhancement of the countryside by attracting funding for agri-environmental schemes. Part of the Upper Thames Tributaries ESA lies within the Cotswold Water Park, the largest collection of man-made lakes and the South West's largest sand and gravel reserve. Extraction has taken place over many years and as a result, this area has also been used for waste disposal operations. The water park is nationally important for nature conservation and is a source of recreation for many.

Cotswold District has 43 Sites of Special Scientific Interest (SSSI's), which have been designated by English Nature under the Wildlife and Countryside Act 1981. These sites are protected for their nature conservation and/or geological value and represent a wide range of habitats from disused quarries to semi natural limestone grasslands and include several lakes in the Cotswold Water Park for water quality reasons.

Additionally, the District also contains a network of Key Wildlife Sites which are locally important sites identified by Gloucestershire Wildlife Trust.

Before any SSSI or adjacent land can be subject to any intrusive investigation, Natural England must be consulted as required under the Wildlife and Countryside Act 1981, (now incorporated under the Countryside and Rights of Way Act 2000).

There are also a significant number of historic buildings, Scheduled Ancient Monuments, Regionally Important Geological Sites, Sites of Special Historic Interest and Conservation Areas that are located around the District.

3.10 Key Water Resource/Protection Issues

The water company that supplies the majority of the District's drinking water is Thames Water.

The District Council is required to regularly inspect the quality of approximately 254 private drinking water supplies in its area.

3.11 Known Information on Contamination

The Council holds some information on contamination in the District, primarily submitted as part of the planning application process. If development is proposed on an area of land where past site use may have resulted in contamination, the Council will often request a site investigation as part of a planning condition. If development proceeds on these sites, remedial works will be required where necessary to improve the site conditions to an acceptable level. Planning records form a valuable resource during the investigation process.

The Council currently holds hundreds of site investigation and remediation reports on file. Many of these are in hardcopy form only. However, in recent years the Council has made electronic copies of all reports submitted to it. Those submitted to support planning applications are available for viewing via the Council's planning pages on its website.

The majority of information relating to the location of suspected land contamination is stored on a dedicated land condition database that is linked to the Council's mapping system.

Hence, sites that are subject to planning and building control applications are now screened for potential land contamination issues.

In March 2000, the Council purchased a set of ordnance survey maps, in a digital format, along with a database of historic land uses from Landmark Information Group Ltd. These are also installed as part of the Council's mapping system.

Since then, additional appropriate GIS layers have been purchased or downloaded from various sources.

All available information has been considered during development of the Inspection Strategy and has proved significant when compiling the list of sites for prioritisation.

A public register of all regulatory action taken by the Council, in respect of remediation of contaminated land, has been set up. At the time of writing, there are no sites that have been formally determined to be statutory contaminated land.

When the public register has entries, it will be made available to view at the Council's main office in Cirencester, or online on the Council's website.

3.12 Current and Past Industrial History

As the Cotswolds is a rural district, its industrial history is associated with the wool, textile and associated industries, some of an engineering nature. To support a number of growing towns, brickworks, mines and quarries for building stone and gas works were developed in the early 20th century, with a number of the quarries still in operation today.

Agriculture, tourism and small manufacturing units are the main employers today, with the main manufacturing employers being located in the southern half of the District.

3.12.1 The Wool Industry

In the Middle Ages, Cotswolds wool was well known throughout Europe for its quality. Vast flocks of Cotswold sheep became the foundation of the English wool trade with Europe. Known as 'Cotswold Lions', because of their long, shaggy coats, with a faintly golden hue, they are still bred in small numbers but have been largely superseded by faster-growing breeds with higher resistance to disease. The wealth from this trade is present throughout the District in the form of churches and cottages.

3.12.2 The Weaving Trade

The wool trade became the weaving trade and in the 18th century, cloth manufacture was concentrated in the southern Cotswolds where there was plenty of water power. There were approximately 150 mills in the southern Cotswolds and the Stroud Valleys producing cloth, with over 1000 hand-loom weavers in such factories.

3.12.3 The Stone

The Cotswolds is rich in Oolitic Limestone which was used in the Middle Ages for building. In much of the northern part of the Cotswolds the stone is a rich honey colour, however, it becomes creamier and greyer towards the south. There are still some active quarries in the region extracting and working the stone for repairs and the construction of new buildings. The old limestone houses and cottages are invariably 'listed' buildings, which means they

are tightly protected by the authorities from alteration from the original and any new buildings invariably have to be built of limestone.

The Cotswold village of Naunton also used to be a centre for the production of stone roofing slates. At one time 30,000 slates a week were dug from the thin stone seams in nearby mines.

3.12.4 Garages and Fuel Filling Stations

By the mid 20th century, most villages and towns had at least one vehicle repair garage which supplied fuel. At the turn of this century it was estimated there were around 13,000 filling stations in the UK, whereas at the end of 2018 the figure was 8394. The majority of those that have closed since 2000 are thought to be rural filling stations. Many of these redundant forecourts have been redeveloped because their central setting in existing communities makes them sought after for housing.

3.13 Known Local Conditions

From assessment of submitted investigation reports, the Cotswold district can be seen to have elevated heavy metal concentrations in various areas, notably arsenic.

Arsenic is considered to be naturally occurring in the area and although arsenic compounds are generally considered to be toxic, naturally occurring arsenic is likely to have limited bioavailability, which is the fraction of the substance that can be absorbed by the body. Therefore, in most areas, naturally occurring arsenic is unlikely to pose significant health concerns.

The Cotswolds' industrial heritage has resulted in localised areas of contamination. In particular, lead and Polycyclic Aromatic Hydrocarbons (PAHs) may be elevated compared to non-industrial areas, however, they are frequently below the UK Soil Guideline Values (SGVs) or Generic Assessment Criteria (GACs).

3.14 Radioactive Contamination

The Radioactive Contaminated Land (Enabling Powers) (England) Regulations 2005 (SI 2005/3467), the Radioactive Contaminated Land (modification of Enactments) (England) Regulations 2006 (S.I. 2006/1379) as amended by The Radioactive Contaminated Land (Enabling Powers and Modification of Enactments) (England) (Amendment) Regulations 2018 make provision for Part 2A to be extended for the purpose of identification and remediation of radioactively contaminated land where this is causing harm to human health only.

The regime for radioactive sites has changed, with an amendment that redefines the term "substance" for radioactive contaminated land, removing the exclusion for radon and its decay products. This came into force on 30 September 2010. The change allows the regulator to take action where land is contaminated by radon or its decay products as a result of the after-effects of a radiological emergency or a past activity e.g. radium luminised paint remnants. Naturally occurring radon gas continues to remain outside the scope of the regime.

4 The Cotswold District Council Strategy: Overall Aims

This section sets out the Council's future aims and objectives.

4.1 Aims of the Strategy

In accordance with the requirements of a strategic approach set out in Section 2.2, a prioritised list of the Council's aims has been devised to aid decision-making in a cost effective manner.

The Council's priorities in dealing with contaminated land will be to:

- protect human health;
- protect controlled waters;
- protect designated ecosystems;
- prevent damage to property; livestock and crops, etc.;
- prevent further contamination of land;
- encourage voluntary remediation; and
- encourage the re-use of brownfield land.

Wherever possible, the strategy will look to achieve these priorities through voluntary remediation and the redevelopment or regeneration of sites.

4.2 Objectives, Milestones and Inspections

The Council has considered the following factors in determining its approach to complying with its obligations within the Contaminated Land Regime:

- Some of the most likely polluting sites (based on information provided within the DOE Industry Profiles) have already been remediated or redeveloped, or are still in active industrial use. Others of the remaining brownfield sites have been, or are due to be, coming forward for development and are included in the Local Plan.
- Currently the number of sites to be investigated estimated to be at 1680. The vast majority of these are probable low risk sites where small to medium areas of ground have been in-filled with inert or unknown material over time. The information in the database is regularly updated as new information becomes available or sites are redeveloped and remediated e.g. through the planning system. It is likely that most of the sites on the priority list will ultimately NOT be considered as 'Contaminated Land'.
- No land has been identified or reported where the Authority considers that there is a reasonable possibility that a significant contamination linkage exists (as defined in the 2012 DEFRA guidance).

If the Council becomes aware of land which should be inspected, the following procedures will be followed. The inspection strategy will use the contaminant-pathway-receptor model as an indication of significant contaminant linkages.

A land categorisation and prioritisation method using a risk model has been used to enable the identification of minimum information requirements. These requirements are:

- current land use plans;
- locations of current and former landfills and other areas of filled ground;

- locations of groundwater abstraction wells, both public and private;
- current surface water classification under the Environment Agency's General Quality Assessment Chemical Grading for Rivers and Canals Scheme and the river ecosystem classification under the Surface Waters (River Ecosystem Classification) Regulations 1994;
- current processes authorised by the Environment Agency or Local Authority under the Environmental Permitting regulations.
- location of statutory and non-statutory sites of ecological importance;
- potential sources of contamination based on the industries listed in the DOE Industry Profiles; and
- the current and historical locations of these industries.

The detailed procedures contained in the Statutory Guidance will be followed in all respects.

4.3 Part 2A inspections

Detailed inspection by intrusive site investigation works have occurred on two sites to date.

- Bridges Garage, Cirencester (Council-led inspection with the Environment Agency)
- Former petrol filling station, now three residential properties.

Bridges Garage

The land at Bridges Garage was investigated because of reports that fuels were migrating into adjoining land. The former petrol filling station and vehicle repair workshop was disused at the time of investigation. Comprehensive site investigations were undertaken in phases from 2007 to 2012. A joint agency sampling exercise found free phase hydrocarbons had contaminated the groundwater within the successive layers of Cornbrash and Forest Marble underlying the site so that pollution of an aquifer appeared to have occurred.

Subsequently the site was redeveloped and a comprehensive remedial scheme was completed that addressed the fuel contamination. Reassessment concluded that as a result there was no significant residual risk posed to human health or groundwater.

Although this site was first examined under Part 2a, the land was subsequently cleaned-up under the planning system when the site was redeveloped for offices and car parking. This is an increasingly common situation nationwide as demand grows for well-located brownfield and contaminated sites, whose challenges are subsequently dealt with via the planning process.

Former Filling Station, Private Dwellings, Fairford

Prioritisation studies showed that three dwellings built in the 1980s, prior to current contaminated land legislation coming into force, may have been constructed on a former petrol filling station. Site investigation was carried out by a third party in 2010 at one of the three residences which identified hydrocarbon contamination and elevated soil lead concentrations. The Council has received information which suggested that groundwater in the sand and gravel beneath the site was impacted with hydrocarbon contamination. This in turn generated concern that these hydrocarbons might migrate and pollute surface water bodies. Another concern was that volatile vapours and soil gases generated from the

hydrocarbons might affect the residences. It was unclear whether the former filling station underground fuel tanks were removed prior to the houses being built.

The Council was successful in applying for and being awarded a grant from central Government in 2013 which allowed it to carry out exploratory investigation on this land. This was carried out in 2013 and 2014 and included sampling of soils from the gardens of the properties, groundwater, water from domestic taps and subsequent monitoring of soil gases in specially constructed monitoring boreholes. Some hydrocarbon contamination of soils noted, but the hydrocarbons found had limited potential for mobility. Low amounts of fuel-derived soil gases were found.

As a result of these investigations the Council was able to conclude that, based on the available information and in consultation with the Environment Agency, the site does not appear to pose a significant possibility of significant harm to human health receptors and is unlikely to pose a significant pollution risk to local controlled waters.

The site is considered as a Category 3 site whereby despite the presence of local environmental impact these are not considered to be significant for the prevailing land use. No further investigation is considered necessary.

4.4 Overlapping Regulatory Functions

Part 2A should only be used to secure remediation of contaminated land where no appropriate alternative solution exists. There are several regulatory functions that provide local authorities with legislative powers to deal with land contamination including planning, building control and Environmental Damage Regulations. Action under Part 2A may be precluded where action under these regimes results in a desirable outcome, however, these should be assessed on a case by case basis. In the commercial site example given in the previous section, the planning process took over dealing with land contamination excluding action under Part 2a.

4.4.1 Inspection and remediation via the Planning Process

In February 2019 the Government published its revised National Planning Policy Framework (NPPF) replacing the earlier version introduced in March 2012 and the revised version published in July 2018. The latest planning policy makes some reference to brownfield and contaminated land:

“Planning policies and decisions should:

....give substantial weight to the value of using suitable brownfield land within settlements for homes and other identified needs, and support appropriate opportunities to remediate despoiled, degraded, derelict, contaminated or unstable land...

Paragraph 118 of the NPPF

....contribute to and enhance the natural and local environment by:..... remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Paragraph 170 of the NPPF

...ensure that:

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

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

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

Paragraph 178 of the NPPF

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

Paragraph 179 of the NPPF

It is important therefore that the SO maintains close liaison with the planning department to ensure that, where land affected by contamination is to be developed, site investigation and, where necessary, remediation is carried out to the appropriate standard. The Contaminated Land Officer would provide technical assistance to the planning department in assessing planning applications and site investigation reports presented by developers.

The Council seeks to use the planning process to bring previously developed land into use as part of its sustainable development objectives.

At the time of writing, a number of sites which had the potential to be contaminated land under the Part 2A legislation have been or are being dealt with by the action of developers through the Planning process, including the following:

- Residential development of the former gas works at Bourton-on-the-Water
- Residential development of a former garage site in the centre of Bourton-on-the-Water
- Commercial development of the former Bridges Garage site in Cirencester
- Commercial development of a filling station site in Lechlade
- Development of several former railway land sites for residential and commercial use; and
- Development of several dwellings in garden areas.

Over 800 site investigation and remediation reports have been received and reviewed by the Council in connection with planning and building control applications within the last five years.

4.4.2 Building Control

Part C1 of Schedule 1 of the Building Regulations (2010, updated 2013) introduced the requirement for reasonable precautions to be taken to avoid danger to health and safety caused by contaminants on or in the ground covered, or to be covered by the building and any land associated with the building.

Technical guidance issued by the HM Government in the form of The Building Regulations 2010 Approved Document C – Site preparation and resistance to contaminants and moisture (2010, updated 2013), provides advice on site preparation and resistance to contaminants in order to mitigate the effects of contaminants, whilst recognising the connection between building control, planning and environmental protection.

The responsibility for securing a safe development rests with the developer and/or landowner, who should be made aware that actions or omissions on their part could lead to liability being incurred under Part 2A.

The building control function has an increasingly important role in securing a safe development with the rising number of developments being constructed using permitted development rights that do not require planning permission. Where contamination potential exists, restrictions on building approvals should be used to ensure developers undertake appropriate site assessments and address any unacceptable risk to human health and safety as part of the development.

4.4.3 Environmental Damage Regulations

The Environmental Damage (Prevention and Remediation) Regulations 2009 ('EDR Regulations') (S.I. 2009/153) as amended in 2015 and 2017 provide a mechanism to deal with environmental damage to land, water or ecosystems where this occurs to businesses after March 2009. They rely on the polluter pays principle requiring operators of commercial activity to have in place measures to prevent environmental damage and take remedial action if it does occur.

The term 'environmental damage' has a specific meaning in the regulations and is damage that adversely affects land, surface or groundwater, marine waters, protected species or natural habitats or a site of special scientific interest. The Local Authority has enforcement responsibilities in relation to damage to land where this results in a significant risk of adverse effects on human health. Enforcement responsibility for damage to water is held by the Environment Agency, whilst damage to natural habitats or protected species or sites of special scientific interest is enforced by Natural England.

4.4.4 Environmental Permitting

The Environmental Permitting Regulations (England and Wales) 2016 were introduced on 11th December 2016 replacing the 2010 regulations. These regulations cover industrial processes, waste operations, water discharges, groundwater activities and radioactive substances and give the enforcing authority the ability to apply conditions to permits to control activities and discharges to land, air and water.

Operators holding an environmental permit are liable for the prevention and remediation of environmental damage under the EDR Regulations.

4.4.5 Other regulatory functions

The examples of overlapping regulatory functions provided above may not be exhaustive. Furthermore, environmental legislation and regulatory responsibilities do not remain static. The Council will ensure the impact of any new legislation implemented following publication of this strategy is taken into consideration when implementing the contaminated land regime.

4.5 Other contaminated land activities

Regular external liaison takes place with a number of other bodies including the EA, Public Health England (PHE) and Health and Safety Executive (HSE).

A close working relationship is maintained with other Council Departments, including Planning, Building Control, Land and Property, Legal Services and IT/GIS.

A large number of land quality enquiries have been received since the original Strategy was produced, mainly by land search consultants and conveyancing solicitors. Many of these required a detailed written response. Furthermore, enquiries from the general public and local businesses were also regularly received, requesting advice and information. Work was undertaken in response to several urgent incident reports including:

- Several oil spills in the District including at Ampney Crucis, Bibury and Tetbury; and
- Complaints about excavations in old landfill material at Lower Slaughter;

Guidance relating to general contaminated land matters has also been produced as follows:

- “Development of Potentially Contaminated Land – Guidance on Land Condition Reporting for Developers, Agents and Consultants”

This is available for public download on the Council’s website.

5 Inspection Process

The inspection process thus far carried out by the Council has identified sites for urgent action. These sites have been researched, and where appropriate inspected, with funding through the DEFRA Capital Grants allocation. A number of potentially contaminated sites have been and are being inspected and remediated through the planning process. In many cases, this has been carried out by site developers where the use of the site has been changed to introduce a more sensitive receptor, as in the case of a change of use of land from industrial to residential dwellings with gardens, for example.

The inspection process must reflect the requirements of primary legislation and relevant statutory guidance and be capable of identifying contaminated land.

5.1 Inspection Stages

The Council has adopted a strategic approach to inspection as required by Government. This is broken down into five process steps:

Stage 1 – Strategic Inspection

The inspection strategy has two distinct stages. Firstly, a survey of the district during which information regarding potential contaminants, receptors and pathways is gathered. This is followed by prioritisation to identify firstly sites where a complete contaminant linkage exists and secondly to rank these sites to identify sites with the most pressing and serious risk so that these can be investigated first.

Stage 1a – District Survey

The purpose of this stage of the strategy is to gather information on potentially contaminative land uses, receptors and pathways from a variety of sources, including historical maps and records, data sets published from authoritative sources including the Environment Agency, British Geological Survey and information held on public record.

Whilst there is an ongoing need to maintain and update information for the district, this stage of the inspection process is effectively complete, allowing progression to Stage 1b.

Stage 1b – Prioritisation of sites for detailed inspection

There is a statutory requirement for a risk based approach in prioritising sites with the greatest potential to cause significant harm, although a methodology to achieve this has not been defined by Government. The Council has produced bespoke prioritisation methodology in line with systems used by other authorities but which makes use of existing corporate systems and data and is customisable to reflect local circumstances. This is shown in Appendix B.

Stage 2 – Detailed Inspection

Before proceeding to detailed inspection, a verification process must be completed to ensure the factors influencing the prioritisation of a site are accurate. Once this has been established and a potentially significant contaminant linkage has been identified, a detailed inspection is required to quantify the level of risk. A desk-based study may be sufficient for

this purpose or it may be necessary to undertake an intrusive investigation to assess ground conditions and associated contaminant concentrations. The output from this inspection stage should provide sufficient information to categorise the site as required by statutory guidance.

Stage 3 – Determination

The local authority is responsible for determining whether land is contaminated land and has a duty to do so where:

- Significant harm is being caused to a human or relevant non-human receptor;
- There is a significant possibility of significant harm being caused to a human or relevant non-human receptor;
- Significant pollution of controlled waters is being caused; or
- There is a significant possibility of significant pollution of controlled waters being caused.

In fulfilling this role, the Council will act in accordance with relevant statutory guidance, seeking expert advice, if required.

For sites that are determined as contaminated land, following a thorough risk assessment, the Council will produce a risk summary, in a simple and easy to understand format, and this will form part of the record.

Stage 4 – Remediation

When land is determined as contaminated land, the local authority must secure the remediation of that land. The Statutory Guidance will be followed to ensure the significant pollutant linkages identified by the inspection process are removed or disrupted to such a level that they no longer present a significant risk.

Further information including a detailed outline of the processes to be completed in each stage is provided in the following sections.

5.2 Inspection Programme

The legislation and statutory guidance is not prescriptive in terms of how quickly the work on contaminated land needs to be completed, however, each local authority is required to set out in its strategy the timescales for the inspection process. **Table 5.1** sets out the anticipated timetable for completion of each stage of the inspection process.

Table 5.1 Timetable for inspection process

Stage	Task summary	Target Completion Date
1	District survey	Completed
	Initial prioritisation	Completed
2	Detailed Inspection	Unknown, as urgent inspections arise
3	Determination	As required following detailed inspection
4	Remediation	Within 12 months of determination

Prioritisation is reviewed and updated from time to time as new information arises.

5.3 Reactive investigation

If the council is made aware of any site not already listed on the database of potentially contaminated land that has the potential to be contaminated land under the Part 2A definition, then a process of investigation will be carried out in the same way as those sites already on the council's database of potentially contaminated land. The site would be subjected to the same process of prioritisation as sites already listed. If the risk based assessment of the site, based on available information, indicates urgent action should be taken, a detailed inspection would follow.

If the status of a known site should change, as in the case of the introduction of a new receptor for whatever reasons, then the site would be reassessed in terms of risk to those receptors. If it seems to the Council that the risks now posed by the site are such that a detailed inspection should be carried out by the Council then this will be done with due regard to current best practice and published guidance.

Once a detailed inspection of the land in question has been completed and sufficient information has been gathered to indicate that regulatory action is necessary, land likely to be in Category 1: *Human Health or Water* in the Statutory Guidance, a risk summary will be produced as required under Section 3 of the Statutory Guidance. This summary will be communicated to all identified stake holders.

5.4 Information requests and the Public Register.

The Council receives a steady flow of requests for information on contaminated land from consultants undertaking environmental assessments to property vendors and purchasers and their solicitors. It is important, therefore, to maintain the database of sites so that responses can be made to these queries on the basis of up to date information.

The council is required under Section 78R of Part 2A to maintain a register containing prescribed particulars of actions taken by the Council in relation to the determination of contaminated land. The register will be available, at all reasonable times, for inspection by the public, free of charge. At the present time there are no entries on the Council's public register.

5.5 Strategy Review.

This strategy will be reviewed in 5 years unless changes in legislation, statutory guidance or other factors dictate that the strategy should be reviewed at an earlier date.

6 Determining Liability

6.1 Principles of Assigning Liability

Land may be declared contaminated upon the identification of one significant contaminant linkage. Full liability therefore, cannot be decided until all significant contaminant linkages have been identified. Only then can the procedure relating to the apportionment of liability commence. The apportionment of liability has five distinct stages as follows:

- Identifying potential appropriate persons and liability groups
- Characterising remediation actions
- Attributing responsibility to liability groups
- Excluding members of liability groups
- Apportioning liability between members of liability group

These procedures are complex and cumbersome and will be undertaken in accordance with the statutory guidance.

6.2 Identifying Liable Parties

The Council will carry out inspections and assessments as detailed in the previous Chapter. It will then decide whether the land is statutory contaminated land and decide whose responsibility it is for managing the contamination. The Council is responsible for identifying relevant parties who are obligated to undertake remedial works.

The legal liability for remediating contaminated land follows a hierarchy: in the first instance the person caused the contamination would be liable, for example the original operator of the site or a subsequent developer who built houses on the land. If these parties cannot be found or no longer exist then liability passes to the current landowner. In some cases this might be the owner-resident of the site.

All appropriate persons for any one linkage are a 'liability group'. These may be Class A or Class B persons.

Appropriate persons – Class A

These are generally the polluters who caused the contamination in the first place but also include persons who 'knowingly permitted' the contamination. This includes developers who leave contamination on a site which subsequently results in the land being determined as contaminated.

Appropriate persons – Class B

Where no Class A person has been identified, liability reverts to the owner or occupier of the land.

The Council will make all reasonable enquiries to identify the Class A persons before liability reverts to the current owner or occupier.

The matter of appropriate persons must be considered for each significant pollutant linkage. Therefore, where a site has had a series of contaminative uses over the years, each significant contaminant linkage will be identified separately and liability considered for each.

6.3 Orphan Sites and Orphan Linkages

A situation may arise where there is at least one significant contaminant linkage at a site and there is no Class A or Class B person found. This site would be considered as an orphan site and the enforcing authority would bear responsibility for that site in carrying out remediation and bearing the cost of remediation. Similarly, if there are a number of significant contaminant linkages at a site and if there is no Class A or Class B appropriate person for at least one of the linkages, such a linkage would be considered an orphan linkage and the enforcing authority would bear the responsibility of remediating that linkage.

6.4 Apportionment of costs

Usually the members of a liability group will have the total costs falling on the group as a whole apportioned between them. It may also be necessary to apportion the costs between liability groups. The Council will have regard to the Statutory Guidance in the application of the exclusion and apportionment tests.

6.5 Special Sites

The Council and the Environment Agency can both identify potential 'Special Sites' but a site cannot be designated a Special Site until the Council determines it as 'Contaminated Land'.

If the Council requests an inspection of a potential Special Site, the Environment Agency will prioritise this site alongside its other potential Special Site inspection requests. In recent years central Government funding has been directed towards Environment Agency-led potential Special Sites and not local authority-led inspections.

Once the Council is satisfied that a site has been determined as Contaminated Land and designated a Special Site, the Council will notify the Environment Agency of this fact in writing. If the Agency disagrees on the designation, it must notify the Council of that fact in writing within 21 days. If the Agency agrees or fails to inform the Council within 21 days, then the land will be designated a Special Site. The responsibility of securing remediation then passes to the Environment Agency although the Council must complete the formal notification process. This will involve the Council also notifying the owner, occupier and appropriate person with respect to that site or land.

7 Remediation

Once the land has been identified as contaminated land and the relevant persons have been notified, a process of consultation begins to determine what remediation is required on that land.

The aim of remediation is to remove or take measures to remedy the identified significant contaminant linkages, or permanently to disrupt them to ensure they are no longer significant and that risks are reduced to an acceptable level, where the land would no longer qualify as contaminated land. Where this is not achievable, consideration should be given to remediation to a lesser standard to minimise risks as far as possible.

7.1 Definition of remediation

Remediation is defined in s78A of the Environmental Protection Act 1990 as:

- a) The doing of anything for the purpose of assessing the condition of –
 - (i) The contaminated land in question;
 - (ii) Any controlled waters affected by that land; or
 - (iii) Any land adjoining or adjacent to that land;

- b) The doing of any works, the carrying out of any operations or the taking of any steps in relation to any such land or waters for the purpose-
 - (i) Of preventing, or minimising, or remedying or mitigating the effects of, any significant harm, or any pollution of controlled waters, by reason of which the contaminated land is such land; or
 - (ii) Of restoring the land or waters to their former state; or

- c) The making of subsequent inspections from time to time for the purpose of keeping under review the condition of the land or waters.

and cognate expressions shall be construed accordingly.

7.2 Remediation notices

Following determination of contaminated land in its area, THE COUNCIL has a duty to serve a remediation notice on the appropriate person(s) following a three month consultation period unless there are no viable remedial options, voluntary remediation is being or will be undertaken without the need for a notice, or there is a need for urgent action where there is imminent risk of serious harm.

In considering whether the requirement to undertake the remediation is reasonable, the Council will consider:

- a) The practicability, effectiveness and durability of remediation including whether it is feasible for the appropriate person to complete the remediation specified within the timescale given, and whether this will remain a robust and effective solution for a sufficient length of time;
- b) The health and environmental impacts of the chosen remedial options including whether there are any direct or indirect health effects to workers or people affected

by the works, or potential for damage to the countryside, protected building and other sites of importance caused by the work;

- c) The financial cost which is likely to be involved at all stages of the process including preparation, remediation, monitoring, maintenance and value of the land; and
- d) The benefits of remediation with regard to the seriousness of the harm or pollution of controlled waters in question including increased land value following remediation and the likelihood of an occurrence or recurrence of pollution.

A remediation notice must specify what remediation is required and the timescales in which this must be done. When considering what remedial action is required, the Council will consult other regulatory bodies and have due regard for relevant technical guidance provided by regulatory, professional or technical organisations or act on the advice of a suitably qualified practitioner employed for that purpose.

A remediation declaration must be prepared in situations where the Council itself has caused or knowingly permitted the land to become contaminated land and is responsible for its remediation.

In accordance with the requirements of s78R of the Environmental Protection Act 1990, a copy of any remediation notices or remediation declarations prepared will be placed on the public register.

In the event that new information comes to light that alters the extent of remediation required or an alternative remediation scheme is proposed by the responsible person, it is possible to revise or revoke all or part of the notice.

7.3 Voluntary Remediation

The Council actively encourages voluntary remediation and will work with the appropriate person(s) during the consultation period to secure the informal remediation of contaminated land without the need for a formal notice.

Where voluntary remediation is considered appropriate, a remediation statement will be used in place of a notice to record the nature and extent of remediation required, the person responsible for the remediation and the delivery timescales. In accordance with the requirements of s78R of the Environmental Protection Act 1990, a copy of the remediation statement will be placed on a public register.

7.4 Financial Considerations

The cost of remediation of contaminated land can be considerable. The cost of remediation must be reasonable and proportionate to the seriousness of the harm or pollution to controlled waters. When considering the reasonableness of costs, the Council will take into consideration:

- a) Preparation costs including feasibility studies, remedial design and management
- b) Remediation costs including making good afterwards
- c) Land management costs including on-going monitoring and maintenance
- d) Relevant disruption costs
- e) Financial value and utility of the land as a result of remediation and who this affects.

The identity or financial standing of the appropriate person is not relevant when considering the remediation actions, although they may be relevant in deciding whether the cost of remediation can be imposed on such persons.

In making any cost recovery decision, the Council will have regard to the following principles:

- The authority should aim for an overall result which is fair and equitable as possible to all who may have to meet the costs of remediation, including national and local taxpayers; and
- The 'polluter pays' principle, by virtue of which the costs of remediating pollution are to be borne by the polluter. The local authority should therefore consider the degree and nature of responsibility of the Appropriate Person for creation, or continued existence, of the circumstances, which lead to the land in question being identified as contaminated land.

In general, this will mean that the Council will seek to recover, in full, its reasonable costs unless it waives or reduces the recovery of costs to:

- Avoid any hardship which the recovery may cause to the appropriate person; or
- To reflect one or more of the specific considerations set out in the Statutory Guidance.

7.5 Appeal Procedure

Remediation notices served by the Council will contain information on the right to appeal. The appeal period is twenty one days from service of the notice and any appeals must be made to the Secretary of State who could quash the notice or confirm it with or without modification.

7.6 Offences

Any person failing to comply with the requirements of a remediation notice is guilty of an offence and may be fined following successful prosecution.

7.7 Remediation by the Local Authority

If the Council considers that serving a remediation notice would not result in the remediation happening soon enough, it may decide to carry out the remediation itself. This may happen where:

- urgent action is required
- no appropriate person can be found ("orphan sites")
- where persons are excluded on the grounds of hardship
- where persons responsible are in default of a remediation notice
- where an arrangement has been made whereby the council carries out the remediation on behalf of appropriate persons.

Urgent remediation will occur where the Council is satisfied that there is imminent danger of serious harm or serious pollution of controlled waters or serious harm attributable to radioactivity being caused as a result a significant pollutant linkage that has been identified. In all appropriate cases the Council will seek to recover costs of remediation works it has completed.

8 Liaison and Communication

8.1 Internal communication

Before any site is determined as contaminated land, relevant departments within the Council will be consulted for their views and a brief will be produced to inform senior management and Legal Services. Elected members, in whose area the site is located, will also be informed of the statutory determination.

Members of the Cabinet will also be informed at the earliest opportunity of any plans to determine Council owned land where the Council might be considered the Appropriate Person and liable for remediation costs.

8.2 Communication with other statutory bodies

A *Memorandum of Understanding* has been drawn up between the Environment Agency and the Local Government Association to identify how information will be exchanged between the Environment Agency offices and Local Authorities. Cotswold District Council will provide information to the Environment Agency in accordance with these agreed guidelines.

The Council will also contact the Environment Agency on designation of a site as contaminated land and whenever a remediation notice, statement or declaration is issued or agreed.

The Environment Agency is also required to report annually to the Secretary of State on the state of contaminated land in England and Wales. This includes:

- A summary of local authority inspection strategies, including progress and effectiveness;
- The amount of identified contaminated land and the nature of contamination; and
- Measures taken to remediate contaminated land.

The Council will provide information, upon request, to the Environment Agency to allow it to fulfil its reporting obligations to the Secretary of State.

When considering determination of a potentially contaminated site, the Council will engage in consultation with any other organisations that might have an interest in the site or that might be able to provide help and assistance. Such organisations include other affected Local Authorities, Public Health England, the Foods Standards Agency (FSA), the HSE and DEFRA.

8.3 Communication with Stakeholders

The Council aims to proceed with the process of investigating sites in a transparent and open manner. It will act to keep interested parties informed and updated regarding progress with the site inspection, as required by the statutory guidance.

The Council is required to follow the procedures detailed in the statutory guidance when considering determination of a site as contaminated land. When requiring remediation of a contaminated site, the regulations provide an incentive for voluntary action. Voluntary remediation is also often more likely to achieve a higher level of improvement in comparison to the minimum that can be statutorily required.

The Council will, therefore, seek voluntary action wherever possible, only considering subsequent enforcement action if voluntary action is refused or considered unlikely to satisfactorily remediate the site.

8.4 Risk communication

Reference should be made to the publication *Communicating Understanding of Contaminated Land Risks - SNIFFER (May 2010)*. The Council will be involved in the assessment of risks associated with contaminated land and ensuring that unacceptable risks from contamination are appropriately managed.

Hence, there is a need to carefully assess how to anticipate and respond to the concerns, anxieties and expectations that may arise in response to land contamination. It is not possible or practical to eliminate each and every risk, i.e. it is not practical or financially viable to remove all risks from contamination, and in some cases it is not technically possible to do so. However, public perception and concerns are very real and should be addressed seriously and with sensitivity as part of the risk management programme.

Managing the potential conflict around the risk issues requires attention to the content of risk information, and to the appropriate procedures at relevant stages in the decision making process. The procedures should address the following:

- The need for two-way communication;
- Transparency to create trust in the regulatory role; and
- Openness to enhance the legitimacy of the overall process to the stakeholder.

Risk communication should include the overall rationale and methods behind the assessment and management process. Risk communication for a site should be flexible in terms of procedures and reflect the content and history around a particular contaminated site.

8.5 Consultation on the Inspection Strategy

Consultation on the original 'Strategy for Identification of Contaminated Land (2002)' occurred with Council members, the Parish Councils, other Council departments, relevant organisations and the public. This included the Contaminated Land Officers from the County of Gloucestershire, DEFRA, Environment Agency, English Heritage, English Nature, Food Standards Agency, Gloucestershire County Council, Gloucestershire Health Protection Agency and Ministry of Agriculture, Fisheries and Foods.

This revised strategy has also been circulated for consultation and the revised list of consultees for this strategy is listed in Appendix A.

8.6 Information Management

8.6.1 Maintaining a Public Register of Contaminated Land

The Council maintains a Public Register of Contaminated Land. This is a written record of any determination that particular land is contaminated. The public register will include information set out in Chapter 8 after determination of the land as Contaminated Land.

8.6.2 Data Storage and Requests for Access to Information

Information obtained and collated under this strategy is stored in both spreadsheet and GIS-based software.

An important development is that the information has been linked to the Council's information database (Idox-Uniform) so that the location of potentially contaminated sites can be accessed in relation to Development Control and Building Control, Environmental Health and forward planning activities.

The Council regularly receives requests for information on contaminated land. Most of these requests are in relation to land/property purchase and transfer and the Council's records may be inspected by other agencies, commercial concerns and private individuals in this respect.

The Council is subject to the requirements of the Environmental Information Regulations 2004, the Freedom of Information Act 2000, the General Data Protection Regulations and several other pieces of legislation governing the storing and provision of information, such as the requirements of Town and Country Planning. The Council will make the majority of information held by it relating to potentially contaminated land available in the public domain unless there is a good and legally valid reason not to.

Note that while records will be made freely available for inspection, it may not always be possible to provide or allow copies of this information as a result of copyright restrictions, or further copyright restrictions might apply to documents made available. There are occasional circumstances where information pertaining to land condition may be deemed commercially confidential (such as under the regulations governing environmental permitting (Environmental Permitting Regulations (England and Wales) Regulations 2016) and thus not made generally available. Information that if available would be prejudicial to national security or where disclosure might prejudice future legal proceedings will also be restricted.

The Council is aware that information on land contamination is a sensitive issue, as it can often contain terms and descriptions that are emotive, which if incorrectly handled would give rise to concern and blight. The Contaminated Land Officer can be contacted to provide advice and assistance with information of contamination.

The Council may make a reasonable charge for the supply of information, and for significant efforts to retrieve data.

8.6.3 Access to the Public Register

The public register will be made available free of charge at the Regulatory Service offices of The Council during office hours. Whilst it is not a requirement that an appointment is made, the availability of staff competent to answer any matters that may arise from inspection of the register cannot be guaranteed without prior notification.

8.6.4 Information to be withheld from the Public Register

Under certain circumstances the Council may not or cannot place information on the public register (or release in response to other requests). Circumstances where information is withheld include:

- a) where it is in the interests of national security; and
- b) where this is commercially confidential, or
- c) where data is subject to the Data Protection Act 2018 and the General Data Protection Regulations.

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

Glossary

Appropriate Person	Defined in Section 78A(9) as ‘Any person who is an appropriate person, determined in accordance with Section 78F, to bear responsibility for any thing which is to be done by way of remediation in any particular case’.
Agency (The Agency)	Environment Agency
Aquifer	Rock and sediment that stores groundwater.
Brownfield Site/Land	A site that has been generally abandoned or underused where redevelopment is complicated by actual or perceived environmental contamination. Only a small proportion of brownfield sites will meet the definition of ‘Contaminated Land’.
Contaminated Land	Any land which appears to the Local Authority in whose area it is situated to be in such a condition, by reasons of substances in, on or under the land that: (a) significant harm is being caused or there is a significant possibility of significant harm being caused; or (b) pollution of controlled waters is being or is likely to be caused.
Contaminant linkage	A contaminant-pathway-receptor linkage by which a relevant receptor might be affected by the contaminants in question.
Controlled Waters	These include (a) inland waters (rivers, streams, underground streams, canals, lakes, reservoirs); (b) groundwaters (any water contained in underground strata, wells or boreholes); (c) territorial waters (the sea within three miles of a baseline); and (d) coastal waters (the sea within the baseline up to the line of highest tide, and tidal waters up to the fresh water limit).
Council (The Council)	Cotswold District Council (CDC)
Ecological system	A biological system of interacting organisms and their physical environment.
EPA 1990	Environmental Protection Act 1990.
GIS	Geographic Information Systems. A system of hardware and software used for storage, retrieval, mapping, and analysis of geographic data.
Owner	defined in section 78A(9) as: “a person (other than a mortgagee not in possession) who, whether in his own right or as a trustee for any other person, who is entitled to

receive the rack rent of the land, or where the land is not let at a rack rate, would be so entitled if it were so let.”

Pathway	One or more routes by which a receptor can be exposed to a contaminant.
Part 2A	Part 2A of the Environmental Protection Act 1990.
Pollutant Linkage	The relationship between a contaminant, a pathway and a receptor.
Public Register	The register is kept by the enforcing Authority relating to contaminated land and details contaminated land that has been remediated as well as any enforcement action undertaken by the Authority.
Radioactive Contaminated Land	Elevated concentrations of radio-nuclides resulting in elevated levels of radiation above a certain level.
Remediation Notice	Defined by Section 78E(1) of the EPA 1990 as a notice specifying what an appropriate person is to do by way of remediation and the periods within which he is required to do each of the things specified.
Risk Assessment	The study of (a) the probability, or frequency, of a hazard occurring; and (b) the magnitude of the consequences.
Site investigation	The process of undertaking investigation on land to determine the condition of that land. The staged approach usually includes a desk study including a review of historical data and a site reconnaissance, and an intrusive investigation which includes trial pitting or drilling works, soil sampling, risk assessment and remediation works.
SGV	Soil Guideline Values (SGVs) are published by DEFRA and the EA and represent a minimal level of risk and depend on the current use of the land. They do not represent significant possibility of significant harm).
Special Site	Contaminated Land which meets one of the criteria laid out in the guidance for regulation by the EA.

Appendix A Consultees

List of Consultees

The following consultees were consulted on the draft of this Strategy.

Cheltenham Borough Council

Environmental Protection Team
Municipal Offices
Promenade
Cheltenham
Glos
GL50 1PP

Environment Agency (Lower Severn) – Contaminated Land and Groundwater

Helen Pickering
Riversmeet House
Newtown Industrial Estate
Northway Lane
Tewkesbury
Glos
GL20 8JG

Forest of Dean District Council

Karen Toomer
High Street
Coleford
GL16 8HG

Gloucestershire Trading Standards

Rob Cardew
Petroleum Officer
The Tri-Service Centre
Waterwells Drive
Quedgeley
Gloucester
GL2 2AX

Tel: 01452 887655
Email: rob.cardew@gloucestershire.gov.uk
Web: www.gloucestershire.gov.uk

Gloucestershire Public Health England – Consultant in Communicable Disease Control

Charlotte Landeg-Cox
Public Health England
2 Rivergate
Temple Quay
Bristol
BS1 6EH

South Gloucestershire Council

Dinah Woolley
Department for Environment and Community Services
PO Box 299
Environmental Health
Civic Centre
High St
Kingswood
Bristol
BS15 0DR

Stratford-on-Avon District Council

Elizabeth House
Church Street
Stratford-upon-Avon
Warwickshire
CV37 6HX

Stroud District Council

Katie Larner
Ebley Mill
Westward Road
Stroud
Glos
GL5 4UB

Swindon Borough Council

David Rudland
Wat Tyler House West
Beckhampton Street
Swindon
SN1 2JH

Tewkesbury Borough Council

Gordon Buchanan
Environmental Health
Council Offices
Gloucester Road
Tewkesbury
Glos
GL20 5TT

Wiltshire Council

Steve Manning
Bythesea Road
Trowbridge
Wiltshire
BA14 8JN

Appendix B Prioritisation Methodology

Prioritisation Methodology

Preliminary prioritisation was undertaken to assess sites for future inspection and was achieved through the use of a scoring system. The purpose is to apply the system to all identified sites to provide a hierarchy for more detailed assessment (where practicable). The site categorisation methodology is based upon an assessment of the *Source-Pathway-Receptor* linkage and takes account of the following factors:

- Source Severity
- Pathway Efficiency
- Receptor Sensitivity

The initial step is to assign a site to a contaminative use under the DOE classification such as “gas manufacture and distribution” for a gas works site. If a site has been under multiple uses, it is assigned to the highest risk class for which it qualifies. A generic score according to the risk class of the contaminative use (i.e. High, Medium or Low) is appointed. A further step in Source Severity assessment is allocating a landfill gas potential dependent on whether any filling has occurred on-site.

The next step is assessment of Pathway Efficiency. Here the site’s artificial, drift and solid geology is considered and scored. The final element of the pathway assessment is against mine shaft entries, boreholes and wells acting as pathways through the geological strata.

The following step considers receptor sensitivity. As with Source Severity assessment, a site will be assigned against the criteria that it tallies to with the highest score. For example where a site is within 50m of allotment gardens and agricultural or amenity uses, the site is assigned to the allotment gardens group with a score of 12 points.

Table B.1 below sets out the complete criteria and scores against which Source, Pathway and Receptor Severity will be assessed.

Table B.1 Site Categorisation - Criteria and Scoring

SOURCE SEVERITY (SS)		Risk Ranking Score
SS1	DOE contaminative use classification of feature	
High Risk Classes		10
C2A	Mining of coal/lignite, coal storage, petroleum and gas refining	
C3A	Gas manufacture and distribution	
C3E	Electricity production and distribution	
C4B	Metal casting/foundries	
C7B	Chemical manufacturing (general)	
C8A	Engineering and manufacturing processes	
C8B	Military land	
C11A	Timber treatment	
C14C	Dismantling of vehicles, scrapyards	
C14Ci	Retail sales of fuel	
C15A	Sewage treatment, outfalls	
C15C	Waste Disposal: Treating, keeping, depositing or disposing of waste, including scrap	
C15Ci	Unknown filled ground (eg pit, quarry etc)	
Medium risk classes		
C3Ei	Electricity production and distribution (inc substations)	7
C8Ai	Transport manufacture and repair	
Moderate risk classes		5
C2B	General quarrying, heaps, mineral railways	
C5C	Clay bricks and tiles manufacture, cement	
C8	Factory/works (unspecified use)	
C12B	Natural/man-made textile manufacture and products	
C14A	Railways	
C14B	Transport support and cargo handling	
C14C	Road haulage	
Low risk classes		2
C9	Food processing, meat processing, animal slaughtering	
C11A	Sawmills	
C16	Air shafts, cemeteries, hospitals	
C16B	Environmental testing and analysis, laboratories	
SS2	Landfill gas potential (of contaminative feature)	
	Filled ground – landfill (i.e. C15C)	4
	No filled ground	0

PATHWAY EFFICIENCY (PE)

PE1	Artificial geology composition	
	Made Ground (known fill)	8
	Made Ground (unknown fill)	4
PE2	Drift geology composition	
	No drift	10
	Granular	8
	Mixed granular/ cohesive	4
	Cohesive	2
PE3	Solid geology composition	
	Coarse grained rock e.g. Granite or permeable fine grained rocks e.g. Chalk	8
	Mixed sequences or unknown lithology	4
	Fine grained rock excl. Chalk e.g. Basalt	2
PE4	Mine entries, Boreholes and Wells	
	Within feature or 50m of boundary	8
	50-250m of boundary	4
	250m-1km	2

RECEPTOR SENSITIVITY (RS)

RS1	Human receptors (on or within 50m of contaminative feature)	
	Residential (with and without gardens) Allotment gardens	10
	Allotment gardens	8
	Schools/nurseries	8
	Agricultural/amenity	4
	Commercial/industrial	2
	Other	1
RS2	Groundwater vulnerability	
	SPZ1/SPZ2	10
	SPZ3/Principal (Major aquifer)	8
	Secondary A (Minor aquifer, High)	6
	Secondary B (Minor aquifer, Intermediate)	4
	Secondary undifferentiated (Minor aquifer, Low)	2
	Unproductive (Non-aquifer)	1
RS3	Highest chemical surface water quality (of any controlled waters on or within 50m of feature)	
	A	10
	B	8
	C	7
	D	6
	E	5
	F	4
	Unclassified	3
RS4	Ecological receptors (spatially coincident with contaminative feature)	
	Ramsar/SAC/SPA/NNR/MNR	8
	SSSI (NB – geological SSSI's may be less vulnerable)	6
	SNCI/LNR	4
	Site of Local Conservation Importance (SLCI)	2
	SLCI (proposed)	1
RS5	Heritage receptors (spatially coincident with contaminative feature)	
	Ancient Monument	4
	None	0

Calculation of Risk Ranking Score

On completion of the assessment against the Source, Pathway and Receptor criteria, a Risk Ranking Score for the site is totalled.

There is a maximum score for each section and overall as a site can only be attributed to one criteria within each segment such as 'Human Receptors'. e.g.:

$$SS_{\max} = 14$$

$$PE_{\max} = 34$$

$$RS_{\max} = 44$$

$$\mathbf{Total}_{\max} = 92$$

Normalised Scores

The score of each section must be normalised using the maximum score of that section to provide even weighting of each of the three sections. The methodology for this calculation is set out below:

$$SS_n = (SS1 + SS2) \times (92/3)/14 \quad \text{i.e. multiplying factor of 2.19}$$

$$PE_n = (PE1 + PE2 + PE3 + PE4) \times (92/3)/34 \quad \text{i.e. multiplying factor of 0.90}$$

$$RS_n = (RS1 + RS2 + RS3 + RS4 + RS5) \times (92/3)/44 \quad \text{i.e. multiplying factor of 0.70}$$

Appendix C Definitions of Harm

Table A – Categories of Significant Harm

	Type of Receptor	Description of Harm to that Type of Receptor that is to be Regarded as Significant Harm
1	Human beings	<p>Death, disease, serious injury, genetic mutation, birth defects or the impairment of reproductive functions.</p> <p>For these purposes, disease is to be taken to mean an unhealthy condition of the body or a part of it and can include, for example, cancer, liver dysfunction or extensive skin ailments. Mental dysfunction is included only insofar as it is attributable to the effects of a pollutant on the body of the person concerned.</p> <p>In this Chapter, this description of significant harm is referred to as a "human health effect".</p>
2	<p>Any ecological system, or living organism forming part of such a system, within a location which is:</p> <ul style="list-style-type: none"> • an area notified as an area of special scientific interest (commonly called a Site of Special Scientific Interest - SSSI) under section 28 of the Wildlife and Countryside Act 1981; • any land declared a national nature reserve under section 35 of that Act; • any area designated as a marine nature reserve under section 36 of that Act; • an Area of Special Protection for Birds, established under section 3 of that Act; • any European Site within the meaning of regulation 10 of the Conservation (Natural Habitats etc) Regulations 1994 (ie Special Areas of Conservation and Special Protection Areas); • any candidate Special Areas of Conservation (see Scottish Office Circular 6/1995) or potential Special Protection Areas given equivalent protection; • any habitat or site afforded policy protection (ie candidate Special Areas of Conservation, potential Special Protection Areas and listed Ramsar sites); • any nature reserve established under section 21 of the National Parks and Access to the Countryside Act 1949; or • any National Park designated under the National Parks (Scotland) Act 2000. 	<p>For any protected location:</p> <ul style="list-style-type: none"> • harm which results in an irreversible adverse change, or in some other substantial adverse change, in the functioning of the ecological system within any substantial part of that location; or • harm which affects any species of special interest within that location and which endangers the long-term maintenance of the population of that species at that location. <p>In addition, in the case of a protected location which is a European Site (or a candidate Special Area of Conservation or a potential Special Protection Area), harm which is incompatible with the favourable conservation status of natural habitats at that location or species typically found there.</p> <p>In determining what constitutes such harm, the local authority should have regard to the advice of Scottish Natural Heritage and to the requirements of the Conservation (Natural Habitats etc) Regulations 1994.</p> <p>In this Chapter, this description of significant harm is referred to as an "ecological system effect".</p>

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

Table B - Significant Possibility of Significant Harm

	Descriptions of Significant Harm (as Defined in Table A)	Conditions for there Being a Significant Possibility of Significant Harm
1	<p>Human health effects arising from</p> <ul style="list-style-type: none"> • the intake of a contaminant, or • other direct bodily contact with a contaminant (exposure). 	<p>If the amount of the pollutant in the pollutant linkage in question:</p> <ul style="list-style-type: none"> • which a human receptor in that linkage might take in, <p>or</p> <ul style="list-style-type: none"> • to which such a human might otherwise be exposed, as a result of the pathway in that linkage, would represent an unacceptable intake or exposure, assessed on the basis of relevant information on the toxicological properties of that pollutant. <p>Such an assessment should take into account:</p> <ul style="list-style-type: none"> • the likely total intake of, or exposure to, the substance or substances which form the pollutant, from all sources including that from the pollutant linkage in question; • the relative contribution of the pollutant linkage in question to the likely aggregate intake of, or exposure to, the relevant substance or substances; and • the duration of intake or exposure resulting from the pollutant linkage in question. • The question of whether an intake or exposure is unacceptable is independent of the number of people who might experience or be affected by that intake or exposure. <p>Toxicological properties should be taken to include carcinogenic, mutagenic, teratogenic, pathogenic, endocrine-disrupting and other similar properties.</p>
2	<p>All other human health effects (particularly by way of explosion or fire).</p>	<p>If the probability, or frequency, of occurrence of significant harm of that description is unacceptable, assessed on the basis of relevant information concerning:</p> <ul style="list-style-type: none"> • that type of pollutant linkage, or • that type of significant harm arising from other causes. <p>Such an assessment should take into account the levels of risk which have been judged unacceptable in other similar contexts.</p>
3	<p>All ecological system effects.</p>	<p>If significant harm of that description is more likely than not to result from the pollutant linkage in question, taking into account relevant information for that type of pollutant linkage, particularly in relation to the ecotoxicological effects of the pollutant.</p>
4	<p>All animal and crop effects.</p>	<p>If significant harm of that description is more likely than not to result from the pollutant linkage in question, taking into account relevant information for that type of pollutant linkage, particularly in relation to the ecotoxicological effects of the pollutant.</p>
5	<p>All building effects</p>	<p>If significant harm of that description is more likely than not to result from the pollutant linkage in question during the expected economic life of the building (or, in the case of a scheduled Ancient Monument, the foreseeable future), taking into account relevant information for that type of pollutant linkage.</p>