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Contaminated Land Strategy for Gedling Borough Council

In fulfillment of Part 2A of the Environmental Protection Act 1990

Jan 2014

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Executive Summary

This Strategy document details how Gedling Borough Council, under regulations inserted into the Environmental Protection Act 1990, will inspect the land in its Borough for contamination. After consultation, the Strategy was published July 1st 2001. It details how the Council will take a rational, ordered and efficient approach to this inspection.

This revision of the document has been produced following the major revision of statutory guidance (April 2012) and also refers to changes to other legislation and guidance since 2001; therefore, any reference throughout this document to the statutory guidance is the guidance issued in April 2012 under s.78 of the EPA 1990.

The Council has used all available information and a risk based approach during the initial screening process and will continue to do so in the detailed inspection of sites to identify Contaminated Land. A rolling inspection programme will be undertaken, running until July 2020, with the Council producing a public register of any land designated as Contaminated.

The process of investigating and remediating land will ensure that all land in the Borough is suitable for use and does not pose unacceptable risks to people, the environment, water and property.

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1 Introduction

This section outlines the background to the context by which the Council has written this Strategy document and outlining the Council's duties under Part 2A of the Environmental Protection Act 1990. It also introduces some of the terms and principles used within the Strategy.

1.1 The Problem of Land Contamination

1.1.1 The National Context

The UK has a legacy of land contamination arising from past industrial development. Various industrial practices have led to substances being in, on or under land such as tars, heavy metals, organic compounds and mining materials. In addition, landfilling of waste sometimes took place without adequate precautions against the escape of landfill gases and leaching of materials.

In response to this, the UK Government, through the establishment of various policies and the introduction of legislation, has provided a framework, which will endeavour to: -



The Government regards the implementation of the Part 2A regime as an essential tool in providing an effective framework to deal with the regulation of contaminated land. It is based upon a set of principles which include *'suitable for use'* standards of remediation, the *'polluter pays'* principle for allocating liability, a *'risk based'* approach to the assessment of contamination and ensuring *'sustainable development'*.

National Objectives

The regime provides a means of dealing with unacceptable risks posed by land contamination to human health and the environment, and enforcing authorities should seek to find and deal with such land. Under Part 2A the starting point should be that land is not contaminated land unless there is reason to consider otherwise. Only land where unacceptable risks are clearly identified, after a risk assessment has been undertaken in accordance with Statutory Guidance, should be considered as meeting the Part 2A definition of contaminated land.

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

to identify and remove unacceptable risks to human health and the environment;

to seek to ensure that contaminated land is made suitable for its current use; and

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

Enforcing authorities should seek to use Part 2A only where no appropriate alternative solution exists. The Part 2A regime is one of several ways in which land contamination can be addressed.

For example, land contamination can be addressed when land is developed (or redeveloped) under the planning system, during the building control process, or where action is taken independently by landowners. Other legislative regimes may also provide a means of dealing with land contamination issues, such as building regulations; the regimes for waste, water, and environmental permitting; and the Environmental Damage (Prevention and Remediation) Regulations 2009.

Under Part 2A, the enforcing authority may need to decide whether and how to act in situations where such decisions are not straightforward and where there may be unavoidable uncertainty underlying some of the facts of each case.

In so doing, the authority should use its judgement to strike a reasonable balance between:

- a) dealing with risks raised by contaminants in land and the benefits of remediating land to remove or reduce those risks; and
- b) the potential impacts of regulatory intervention including financial costs to whoever will pay for remediation (including the taxpayer where relevant), health and environmental impacts of taking action, property blight, and burdens on affected people.

The aim should be to consider the various benefits and costs of taking action, with a view to ensuring that the regime produces net benefits, taking account of local circumstances.

1.1.2 The Local Context

Under the contaminated land regime each local authority has to 'cause its areas to be inspected from time to time for the purpose of identifying contaminated land' (Section 78B). When contaminated land is identified, the local authority must ensure that it is managed in an appropriate manner. Statutory Guidance has been issued to local authorities to take a 'strategic approach' to inspecting their areas.

This Strategy outlines how Gedling Borough Council plans to approach the issue of contaminated land and implement its inspection duties under Part 2A. The aim of the inspection strategy will be to ensure that all those affected by and involved in contaminated land inspection have a clear understanding of the rationale behind the inspection, how it will be carried out and over what timescale.

The strategy will detail:

inspection arrangements and procedures which ensure compliance with and enforcement of statute;

justification for and transparency in all local authority decisions in relation to the inspection of the local area for contaminated land.

Historically, Gedling, like many other areas of the UK, has been associated with various types of industrial activity that have the potential to have caused land contamination and for this reason the Council has a need to focus on the identification and remediation of contaminated land within the Borough.

Enforcement Principles

Much of the Borough's land contamination has been present for long periods of time. However, not all contamination poses problems and may only be of concern when or if the land is used for a particular purpose. Therefore, it may only be necessary to deal with contamination when land is used for a new purpose, such as developing a former industrial site for housing.

However, in some circumstances regulatory action may be needed to make sure that necessary remediation on a site is carried out. The 'suitable for use' approach will ensure that remediation requirements are reasonable and tailored to the needs of individual sites.

Gedling Borough Council's approach to enforcement reflects the responsibilities laid upon it by the various legislation it enforces. In particular the Council has adopted the Enforcement Concordat (see Appendix V). Depending on particular circumstances, the Council may use a variety of means to ensure that employers, employees, self-employed, landlords and individuals meet their responsibilities, including education, advice, guidance, warning letters, statutory notices or prosecutions.

1.2 Regulatory Context

1.2.1 Regulatory role of the Council under Part 2A

Part 2A of the Environmental Protection Act 1990, (inserted into the Act by Section 57 of the Environment Act 1995) provides the regulatory framework for the identification and remediation of contaminated land by Local Authorities.

The regime is based on the following basic principles: -

Identify the problem	
Assess the risks	
Determine the appropriate remediation requirements	
Consider all the costs and establish who should pay	
Implement and remediate	

The Council was required to produce this strategy document, which details how the Council plans to implement its inspection duties under Part 2A of the Act. See Appendix I for more details.

The legal requirement to produce an inspection strategy for contaminated land allows the Council to consider: -

- how best to prepare and implement the strategy through the joint working of individual departments, and;
- the practical working arrangements with external agencies that will have to be in place to effectively implement the new regime.

Revised Statutory Guidance (2012) specifies the Council's duty with regard to inspection of its area, and also lays down fundamental principles to be followed throughout the inspection process.

In carrying out its inspection duty under Section 78B(1), the Council will take a strategic approach to the identification of land, which merits detailed individual inspection.

This approach will:



The Part 2A regime requires that the Council and the Environment Agency work together and share the regulatory duties under this regime. Although the Council have the sole responsibility for the identification of land that meets the statutory definition, the Environment Agency has a duty to provide information and advice, in addition to carrying out inspection at potential 'special sites' on behalf of the Council.

1.2.2 Regulatory role of the Environment Agency

The principal roles of the Environment Agency with respect to contaminated land can be summarised as follows: -

- The regulation of 'special sites' under Part 2A, including the production and maintenance of a public register of special sites remediation.
- The inspection of land that if found to be contaminated, would be a special site under the Contaminated Land Regulations (England) 2006 [as amended] (at the request of and on behalf of the Council).
- The provision of information to the Council on land contamination.
- The provision of advice to the Council on identifying and dealing with the pollution of controlled waters. Where the Environment Agency considers it appropriate, it shall provide site-specific advice on the remediation of sites, which have not been identified as special sites.
- Preparation of a national report on the state of the environment and contaminated land in England and Wales.

1.3 Principles and Definitions

1.3.1 General Principles of risk assessment

The statutory guidance promotes a risk-based approach to dealing with potentially contaminated land in the UK; based on the approach set out in *'Guidelines for Environmental Risk Assessment and Management – Green Leaves III'.* (See Figure 1)

The aim of this type of approach is to protect human health and the environment without unnecessarily wasting finances on the clean-up of all contamination. The need for and extent of any remediation is determined from an assessment of the risks posed to human health and the environment, whilst taking into account the current use of the site.

This 'suitable for use' approach acknowledges that the risk which is presented by a level of contamination will largely be dependent upon the use of the land in addition to other site specific factors. Accordingly, risks need to be assessed on a site-by-site basis.



Source- Guidelines for Environmental Risk Assessment and Management – Green Leaves III; Cranfield University; Defra, 2011

Figure 1 - A framework for environmental risk assessment and management

The Three Tiers of Assessment

The principles of risk assessment used in land contamination fit within a tiered assessment structure set out in *Green Leaves III*. The tiers are applied to the circumstances of the site under consideration with an increasing level of detail required by the assessor in progressing through the tiers.

The three tiers used in the specific context of land contamination are:

- 1. Preliminary risk assessment;
- 2. Generic quantitative risk assessment;
- 3. Detailed quantitative risk assessment.

Once the need for risk assessment has been identified, it will always be necessary to carry out a preliminary risk assessment. However, depending on the circumstances and the outcome, it may not be necessary to carry out further risk assessment, or it may be appropriate to use only one of the two approaches to quantitative risk assessment rather than both.

The Contaminant Linkage

For contaminated land to be so designated there must exist one or more 'contaminant linkage(s)' by which a relevant receptor might be affected by the contaminants in question; this linkage consists of:



The term "contaminant linkage" therefore refers to the relationship between a contaminant, a pathway and a receptor. All three elements of a contaminant linkage must exist in relation to particular land before the land can be considered potentially to be contaminated land under Part2A, including evidence of the actual presence of contaminants.

The term "significant contaminant linkage", as used in the Statutory Guidance, means a contaminant linkage which gives rise to a level of risk sufficient to justify a piece of land being determined as contaminated land.

The Conceptual Site Model

The process of risk assessment involves understanding the risks presented by land, and the associated uncertainties. In practice, this understanding is usually developed and communicated in the form of a "*conceptual site model*" (CSM) which indicates all the contaminant linkages and uncertainties associated with each.



Source- Guidance for the Safe Development of Housing on Land Affected by Contamination; Environment Agency and the NHBC; R&D Publication 66; 2000.

Figure 2 - Simple Conceptual Model of the Contaminant Linkage(s)

1.3.2 The Part 2A Risk Assessment Process

The Statutory Guidance recognises that there are two broad types of "inspection" likely to be carried out by local authorities:

- (a) strategic inspection, for example collecting information to make a broad assessment of land within an authority's area and then identifying priority land for more detailed consideration (also known as prioritisation); and
- (b) carrying out the detailed inspection of particular land to obtain information on ground conditions and carrying out the risk assessments which support decisions under the Part 2A regime relevant to that land.

This document refers to the former as "strategic inspection" (Section 5) and the latter as "detailed inspection" (Section 6).

The inspection process is carried out through a staged process of understanding of the risks starting with the strategic inspection, and then moving onto detailed inspection; involving a preliminary risk assessment informed by desk-based study; a site visit and walkover; a generic quantitative risk assessment; and various stages of more detailed quantitative risk assessment.

The process should normally continue until it is possible for the local authority to decide:

- (a) that there is insufficient evidence that the land might be contaminated land to justify further inspection and assessment; and/or
- (b) Whether or not the land is contaminated land.

For land to proceed to the next stage of risk assessment there should be evidence that an unacceptable risk could reasonably exist. If the authority considers there is little reason to consider that the land might pose an unacceptable risk, inspection activities should stop at that point.

1.3.3 Definition of Contaminated Land under Part 2A

The definition of contaminated land is given in section 78A(2) of Part 2A 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

- a) SIGNIFICANT HARM is being caused or there is a SIGNIFICANT POSSIBILITY of such harm being caused; or
- b) SIGNIFICANT POLLUTION OF CONTROLLED WATERS is being caused or there is a SIGNIFICANT POSSIBILITY of such pollution being caused.¹

¹ Changes to the definition for Controlled Waters were brought in via the Water Act 2003 section 86. The Water Act 2003 (Commencement No. 11) Order 2012 (SI 2012/264).

Where harm is attributable to radioactivity, the definition of Contaminated Land has been modified by regulation 4(a) of the Modification Regulations² as:

any land which appears to the LOCAL AUTHORITY in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that

- a) HARM is being caused, or
- b) there is a SIGNIFICANT POSSIBILITY of such harm being caused

These definitions aim to enable the identification and remediation of land on which contamination is causing unacceptable risks to human health or the wider environment. Accordingly, the definition does not include all land where contamination may be present.

Significant Harm to Human Health

Section 78A(4) defines 'harm' as 'harm to the health of living organisms or other interference with the ecological systems of which they form part and, in the case of man, includes harm to his property'.

Harm in the context of radiation is defined in section 78A(4) (as modified) as:

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

Conditions for determining that land is contaminated land on the basis that significant harm is being caused would exist where:

- (a) the local authority has carried out an appropriate, scientific and technical assessment of all the relevant and available evidence; and
- (b) on the basis of that assessment, the authority is satisfied on the balance of probabilities that significant harm is being caused by a significant contaminant(s).

The following health effects should always be considered to constitute significant harm to human health:

- death;
- life threatening diseases (e.g. cancers);
- other diseases likely to have serious impacts on health;
- serious injury³;
- birth defects;
- and impairment of reproductive functions.

² Radioactive Contaminated Land (Modification of Enactments)(England) Regulations 2006

³ Physical injury in relation to significant harm would include injury caused by chemical and biochemical properties of substances, such as injury resulting from explosive or asphyxiating properties of gases. It would not extend to injury caused by only physical properties of substances, such as injury caused by falling onto sharp or hard objects made of relevant substances.

Other health effects may be considered by the local authority to constitute significant harm. For example, a wide range of conditions may or may not constitute significant harm (alone or in combination) including:

- physical injury;
- gastrointestinal disturbances;
- central nervous system effects;
- skin ailments;
- respiratory tract effects;
- cardio-vascular effects;
- effects on organs such as the liver or kidneys;
- or a wide range of other health impacts.

In deciding whether or not a particular form of harm is significant harm, the local authority should consider the seriousness of the harm in question: including the impact on the health, and quality of life, of any person suffering the harm; and the scale of the harm.

The authority should only conclude that harm is significant if it considers that treating the land as contaminated land would be in accordance with the broad national objectives of the regime as described in Section 1.1.1.

Significant Possibility of Significant Harm (SPOSH)

In deciding whether or not a significant possibility of significant harm to human health exists, the local authority should first understand the *possibility of significant harm* (POSH) from the relevant contaminant linkage(s) and the levels of uncertainty attached to that understanding; before it goes on to decide whether or not the possibility of significant harm is significant.

The Statutory Guidance defines the term "possibility of significant harm" as it applies to human health, as being the risk posed by one or more relevant contaminant linkage(s) relating to the land. It comprises:

- (a) The estimated likelihood that significant harm might occur to an identified receptor, taking account of the current use of the land in question.
- (b) The estimated impact if the significant harm did occur i.e. the nature of the harm, the seriousness of the harm to any person who might suffer it, and (where relevant) the extent of the harm in terms of how many people might suffer it.

In estimating the likelihood that a specific form of significant harm might occur the local authority should, among other things, consider:

(a) The estimated probability that the significant harm might occur:

- i. if the land continues to be used as it is currently being used; and
- ii. where relevant, if the land were to be used in a different way (or ways) in the future having regard to the guidance on "current use".

(b) The strength of evidence underlying the risk estimate. It should also consider the key assumptions on which the estimate of likelihood is based, and the level of uncertainty underlying the estimate.

When does POSH become SPOSH?

In deciding whether the possibility of significant harm being caused is significant, the local authority is deciding whether the possibility of significant harm posed by contamination in, on or under the land is sufficiently high that regulatory action should be taken to reduce it, with all that would entail. In taking such decisions, the local authority should take account of the broad national aims of the regime set out in Section 1.1.1.

Coming to the decision that SPOSH is being caused is a complex one which will require multiple lines of evidence to assist the Local Authority in making the determination. Starting from the position that the land is not 'contaminated' the Local Authority should build a case based on robust scientific evidence and the principles found in the Statutory Guidance.

The Statutory Guidance indicates that the local authority should use the following categorisations in their assessments:

Categories 1 and 2: would encompass land which 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.



Figure 3 - Schematic of the Human Health Categorisation

Table 1 - Human Health Categorisation (after: Sections 4.19 – 4.25 of Statutory Guidance 2012)

Category 1	Category 2	Category 3	Category 4
 Land should be deemed to be a Category 1: Human Health case where: (a) the authority is aware that similar land or situations are known, or are strongly suspected on the basis of robust evidence, to have caused such harm before in the United Kingdom or elsewhere; or (b) the authority is aware that similar degrees of exposure (via any medium) to the contaminant(s) in question are known, or strongly suspected on the basis of robust evidence, to have caused such harm before in the United Kingdom or elsewhere; (c) the authority considers that significant harm may already have been caused by contaminants in, on or under the land, and that there is an unacceptable risk that it might continue or occur again if no action is taken. Among other things, the authority may decide to determine the land on these grounds if it considers that it is likely that significant harm is being caused, but it considers either: (i) that there is insufficient evidence to be sure of meeting the "balance of probability" test for demonstrating that significant harm is being caused; or (ii) that the time needed to demonstrate such a level of probability would cause unreasonable delay, cost, or disruption and stress to affected people particularly in cases involving residential properties. 	Land should be placed into Category 2 if the authority concludes, on the basis that there is a strong case for considering that the risks from the land are of sufficient concern, that the land poses a significant possibility of significant harm, with all that this might involve and having regard to Section 1 of the Statutory Guidance. Category 2 may include land where there is little or no direct evidence that similar land, situations or levels of exposure have caused harm before, but nonetheless the authority considers on the basis of the available evidence, including expert opinion, that there is a strong case for taking action under Part 2A on a precautionary basis.	Land should be placed into Category 3 if the authority concludes that the strong case described in Section 4.25(a) of the Statutory Guidance does not exist, and therefore the legal test for significant possibility of significant harm is not met. Category 3 may include land where the risks are not low, but nonetheless the authority considers that regulatory intervention under Part 2A is not warranted. This recognises that placing land in Category 3 would not stop others, such as the owner or occupier of the land, from taking action to reduce risks outside of the Part 2A regime if they choose. The authority should consider making available the results of its inspection and risk assessment to the owners/occupiers of Category 3 land.	 Land should be deemed to be a Category 4: Human Health case where: (a) Land where no relevant contaminant linkage has been established. (b) Land where there are only normal levels of contaminants in soil, as explained in Section 3 of the Guidance. (c) Land that has been excluded from the need for further inspection and assessment because contaminant levels do not exceed relevant generic assessment criteria in accordance with Section 3 of the Guidance, or relevant technical tools or advice that may be developed in accordance with paragraph 3.30 of the Guidance. (d) Land where estimated levels of exposure to contaminants in soil are likely to form only a small proportion of what a receptor might be exposed to anyway through other sources of environmental exposure (e.g. in relation to average estimated national levels of exposure to substances commonly found in the environment, to which receptors are likely to be exposed in the normal course of their lives).

In making its decision on whether land falls into Category 2 or Category 3, the local authority should first consider its assessment of the possibility of significant harm to human health, including:

- the estimated likelihood of such harm,
- the estimated impact if it did occur,
- the timescale over which it might occur,
- and the levels of certainty attached to these estimates.

If the authority considers, on the basis of this consideration alone, that the strong case described in Table 1 *'Category 2'* does or does not exist, the authority should make its decision on whether the land falls into Category 2 or Category 3 on this basis regardless of the other factors discussed below.

If the authority considers that it cannot make a decision based on the above, it should consider other factors which it considers are relevant to achieving the national objectives set out in Section 1.1.1. This should include consideration of:

- (a) The likely direct and indirect health benefits and impacts of regulatory intervention. This would include:
 - i. benefits of reducing or removing the risk posed by contamination.
 - ii. any risks from contaminants being mobilised during remediation;
 - iii. and any indirect impacts such as stress-related health effects that may be experienced by affected people, particularly local residents.

If it is not clear to the authority that the health benefits of remediation would outweigh the health impacts, the authority should presume the land falls into Category 3 unless there is strong reason to consider otherwise.

- (b) The authority's initial estimate of what remediation would involve;
 - i. how long it would take;
 - ii. what benefit it would be likely to bring;
 - iii. whether the benefits would outweigh the financial and economic costs;
 - iv. any impacts on local society or the environment from taking action that the authority considers to be relevant.

If, having taken the above factors into account, the local authority still cannot decide whether or not a significant possibility of significant harm exists, it should conclude that the legal test has not been met and the land should be placed in Category 3.

Significant Harm to other Receptors

In considering non-human receptors, the local authority should only regard receptors described in Statutory Guidance Tables 1 and 2 (Appendix IV) as being relevant for the purposes of Part 2A (e.g. harm to an ecological system outside the description in Table 1 should not be considered to be significant harm).

Similarly, in considering whether significant harm is being caused or there is a significant possibility of such harm, the authority should only regard the forms of harm described in Tables 1 and 2 as being relevant.

Pollution of Controlled Waters

The Council will also act in accordance with statutory guidance in determining whether pollution of controlled waters is being, or is likely to be caused. Section 78A(9) defines the pollution of controlled waters as: 'the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter'.

Section 78A(9) was amended by section 86 of the Water Act 2003 so that for Part 2A purposes "ground waters" does not include waters contained in underground strata but above the saturation zone (often known as the "unsaturated zone")⁴.

The definition of Contaminated Land where attributable to radioactivity does not currently cover any pollution of controlled waters. This approach reflects the Government's wish to assess the implications of the Water Framework Directive (2000/60/EC) before considering how a significance test might be applied.

Significant Pollution of Controlled Waters

The following types of pollution should be considered to constitute significant pollution of controlled waters:

- (a) Pollution equivalent to "environmental damage" to surface water or groundwater as defined by The Environmental Damage (Prevention and Remediation) Regulations 2009, but which cannot be dealt with under those Regulations.
- (b) Inputs resulting in deterioration of the quality of water abstracted, or intended to be used in the future, for human consumption such that additional treatment would be required to enable that use.
- (c) A breach of a statutory surface water Environment Quality Standard, either directly or via a groundwater pathway.
- (d) Input of a substance into groundwater resulting in a significant and sustained upward trend in concentration of contaminants (as defined in Article 2(3) of the Groundwater Daughter Directive (2006/118/EC)).

The local authority may consider that the following types of pollution may constitute significant pollution:

(a) Significant concentrations of hazardous substances or non-hazardous pollutants in groundwater; or

⁴ This change was brought into force on 1 October 2004 by the Water Act 2003 (Commencement Order No.2, Transitional Provisions and Savings) Order 2004 (S.I. 2004/2528 (C.106).

(b) Significant concentrations of priority hazardous substances, priority substances or other specific polluting substances in surface water; at an appropriate, risk-based compliance point.

The local authority should only conclude that pollution is significant if it considers that treating the land as contaminated land would be in accordance with the broad national objectives of the regime as described in Section 1.1.1.

This would normally mean that the authority should conclude that less serious forms of pollution are not significant. In such cases the authority should consult the Environment Agency.

Significant Possibility of Significant Harm to Controlled Waters

The local authority should first understand the possibility of significant pollution of controlled waters posed by the land, and the levels of certainty/uncertainty attached to that understanding, before it goes on to decide whether or not that possibility is significant.

The term "possibility of significant pollution of controlled waters" means the estimated likelihood that significant pollution of controlled waters might occur.

Before making its decision on whether a given possibility of significant pollution of controlled waters is significant, the local authority should consider:

- (a) The estimated likelihood that the potential significant pollution of controlled waters would become manifest; the strength of evidence underlying the estimate; and the level of uncertainty underlying the estimate.
- (b) The estimated impact of the potential significant pollution if it did occur. This should include consideration of whether the pollution would be likely to cause a breach of European water legislation, or make a major contribution to such a breach.
- (c) The estimated timescale over which the significant pollution might become manifest.
- (d) The authority's initial estimate of whether remediation is feasible, and if so what it would involve and the extent to which it might provide a solution to the problem; how long it would take; what benefit it would be likely to bring; and whether the benefits would outweigh the costs and any impacts on local society or the environment from taking action.

The authority should then decide which of the following categories the land falls into. Categories 1 and 2 would comprise cases where the authority considers that a significant possibility of significant pollution of controlled waters exists. Categories 3 and 4 would comprise cases where the authority considers that a significant possibility of such pollution does not exist.

Table 2 - Water Categorisation (after: Section 4.46 of Statutory Guidance 2012)

Category 1	Category 2	Category 3	Category 4
This covers land where the authority considers that there is a strong and compelling case for considering that a significant possibility of significant pollution of controlled waters exists. In particular this would include cases where there is robust science-based evidence for considering that it is likely that high impact pollution (such as the pollution described in paragraph 4.38 of the Statutory Guidance) would occur if nothing were done to stop it.	 This covers land where: a. the authority considers that the strength of evidence to put the land into Category 1 does not exist; but b. nonetheless, on the basis of the available scientific evidence and expert opinion, the authority considers that the risks posed by the land are of sufficient concern that the land should be considered to pose a significant possibility of significant pollution of controlled waters on a precautionary basis, with all that this might involve (e.g. likely remediation requirements, and the benefits, costs and other impacts of regulatory intervention). Among other things, this category might include land where there is a relatively low likelihood that the most serious types of significant pollution might occur. 	This covers land where the authority concludes that the risks are such that (whilst the authority and others might prefer they did not exist) the tests set out in Categories 1 and 2 above are not met and therefore regulatory intervention under Part 2A is not warranted. This category should include land where the authority considers that it is very unlikely that serious pollution would occur; or where there is a low likelihood that less serious types of significant pollution might occur.	 This covers land where the authority concludes that there is no risk, or that the level of risk posed is low. In particular, the authority should consider that this is the case where: a. no contaminant linkage has been established in which controlled waters are the receptor in the linkage; or b. the possibility only relates to types of pollution described in paragraph 4.40 of the Statutory Guidance; or c. the possibility of water pollution similar to that which might be caused by "background" contamination as explained in Section 3 of the Statutory Guidance.

1.4 Situations in which the regime does not apply

The first priority for the Government's policy on land contamination is to prevent the creation of new contamination and as a result a range of regimes have been developed to prevent new contamination of land.

Environmental Damage Regulations

The Environmental Damage (Prevention and Remediation) Regulations 2009 are a result of the implementation of the European Directive on Environmental Liability (2004/35).

They are based on the principle of 'the polluter pays', where those responsible for a pollution incident are required to prevent and, where necessary, remedy any environmental damage caused. The emphasis is on the 'operator' identifying where or when there is imminent threat or actual damage to the environment, and taking immediate action.

Environmental damage is considered to be:

- Serious damage to surface or ground water.
- Serious damage to EU-protected natural habitats or species.
- Contamination of land with a significant risk of harm to human health.

The regulations are not retrospective and will only be applied to damage caused after their implementation.

Integrated Pollution Control (IPC)

Part I of the Environmental Protection Act 1990 ("the 1990 Act") placed a requirement on operators of prescribed industrial processes to operate within the terms of permits to control harmful environmental discharges.

Pollution Prevention and Control (PPC) Act

This regime has been introduced to replace IPC, and includes the specific requirement that permits (Environmental Permit Regulations) for industrial plants and installations must include conditions to prevent the pollution of soil; and there are also requirements in relation to the land filling of waste.

Waste Management Licensing

Part 2 of the 1990 Act places controls over the handling, treatment and disposal of wastes; in the past, much land contamination has been the result of unregulated, or badly-managed, waste disposal activities. Now falls under the Environmental Permit Regulations (see above).

Planning and Building Control

The National Planning Policy Framework (2012) states that: Planning policies and decisions should ensure that:

- the site is suitable for its new use taking account of ground conditions and land instability, including from natural hazards or former activities such as mining, pollution arising from previous uses and any proposals for mitigation including land remediation or impacts on the natural environment arising from that remediation;
- 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
- adequate site investigation information, prepared by a competent person, is presented.

The Building Regulations (made under the Building Act 1984) requires measures to be taken to protect new buildings, and their future occupants, from the effects of contamination. "*Approved Document Part C (Site Preparation and Resistance to Moisture)*" published in 2004 gives guidance on these requirements.

2 Characteristics of the Borough

This section gives background information about Gedling Borough and highlights some of the factors, in relation to contaminant linkages, that will influence the Councils approach to the inspection of contaminated land.

2.1 Geographical Characteristics

The Borough of Gedling is home to approximately 113,600 people and covers an area of 11,998 hectares (46.3 square miles). It borders Sherwood Forest to the north, the River Trent to the south-east and the City of Nottingham to the south-west.

The local authorities bordering Gedling are Ashfield District Council, Newark and Sherwood District Council, Nottingham City Council and Rushcliffe Borough Council



Figure 4 - Location of Gedling Borough

2.1.1 Geological Characteristics

Geology can be the key influence on contaminant linkages, as the geological conditions may allow a pathway to exist i.e. whether the contaminant remains close to the source or migrates. Certain formations, such as aquifers, are potential receptors for contamination, and some formations may even present a source of contamination, i.e. radon emissions from granite.

Gedling Borough can be split into three broad geological bands. (See Appendix II)

To the north-west of the Borough, rocks of Late Permian age comprising the Edlington and Cadeby Formations (Zechstein Group) occur, characterised by mudstones and dolostones. The Cadeby Formation was formerly called the Lower Magnesian Limestone, and is locally known as "Bulwell Stone".

The north of the Borough is characterised by predominantly sandstone and pebbly sandstone rocks of Permo-Triassic age, comprising the Lenton Sandstone and Nottingham Castle Sandstone Formations (Sherwood Sandstone Group)

A band running south-west to the north-east comprises rocks of the Mercia Mudstone Group, of Triassic age, which includes the Tarporley Siltstone and Sidmouth Mudstone Formations (formerly termed the Sneinton, Radcliffe and Gunthorpe Formations). As the names suggest, these are predominantly siltstones and mudstones, but there are some indurated beds of green dolomitic siltstone known as skerries.

Rocks of the Pennine Middle Coal Measures Formation, of Upper Carboniferous age, underlie most of the Borough, and were mined at Gedling, Calverton, Newstead and Bestwood Collieries, but they are not exposed at the surface.

To the south of the Borough lies the flood plain area of the River Trent. Associated with this the geology is made up of alluvium, sand and gravels of the Quarternary period; Alluvium and Holme Pierrepont Sand and Gravels overlying Gunthorpe and Sneinton Formations.

This section of the Borough also has large areas of Made Ground which comprises man-made deposits lying on the natural ground surface.

2.1.2 Hydrogeological Characteristics

Approximately half of the Borough, (north of Arnold), is considered by the Environment Agency to be a Principal Aquifer. The remainder of the Borough is largely classified as a Secondary B with bands of Secondary A particularly in the middle of the Borough. (Appendix II) Within the Major Aquifer are found several water abstraction points: -

• Blidworth

• Salterford

• Papplewick

- Bestwood
- The parts of aquifers which, according to the EA, are considered to form the catchments to public water supplies and certain other private supplies have been defined as Source Protection Zones.

2.2 Current Land Use

Gedling Borough Council was established in 1974, following the local government reorganisation, from Arnold Urban, Carlton Urban and parts of Basford Rural District Councils.

2.2.1 **Population Distribution**

The main urban areas of Arnold, Carlton, Gedling, Netherfield and Mapperley form part of the Nottingham conurbation and contain the largest proportion of population and industry. The other major villages are Ravenshead, Calverton and Burton Joyce.

2.2.2 Agriculture

Approximately 16.5% (2,000 ha) of the Borough is urban area, the remaining 9,998 ha being rural green belt land, where agriculture is the main land use.

2.2.3 Protected locations

The Borough currently has: -

- 9 Ancient Monuments
- 188 Listed Buildings
- 179 Local Interest Buildings
- 6 Conservation Areas (123 ha)
- 1 Site of Special Scientific Interest (SSSI)
- 3 Local Nature Reserves (LNR's)
- 85 Sites of Importance for Nature Conservation (SINC's)⁵
- 4 Registered Historic Parks

In addition to the above the Borough has areas designated as: -

- **Special Character Areas** areas designated by the Council that are deemed to have significant character worthy of protection.
- Mature Landscape Areas areas designated by Nottinghamshire County Council to "protect those parts of the Nottinghamshire landscape, which have been least affected by adverse change."

⁵ Including those SINC's which are directly adjacent the Borough Boundary.

2.2.4 Key water bodies and River network

The Borough is largely dominated by the River Trent, which forms part of the southern boundary, and its tributaries; principally Dover Beck, Ouse Dyke and Cocker Beck. The River Leen and its associated tributaries run through the north west of the Borough.

The largest bodies of water, the Upper Lake and Lower Lake lie to the north in Newstead Park. There are also many smaller lakes and ponds throughout the Borough.

2.2.5 Industrial Use

Currently the major industrial area is to the south in the Colwick Industrial Estate. The estate houses a variety of light and heavy industries including petroleum storage facilities.

The sites of the former Calverton, Bestwood and Newstead Collieries have undergone some industrial regeneration, generally with light engineering.

Within the urban areas of the Borough other smaller industries are found; further afield the main industrial sites are: -

- Brickworks Dorket Head, near Arnold
- Rendering Plant Stoke Bardolph
- Landfill Dorket Head, near Arnold
- Sewage Works Stoke Bardolph

2.3 Historical Land Use

2.3.1 Industrial history

Past industry tended to concentrate around key areas such as the River Trent and the four collieries. The Colwick and Netherfield areas have seen the majority of industrial activity: -

- British Sugar factory
- Dye works
- Colwick Railway sidings
- Furniture Manufacture

- Printing works
- Textile works
- Various Heavy Engineering works
- Petroleum storage

Further industrial uses in other areas around the Borough include: -

- Brewery
- Textile manufacture
- Abattoirs
- Scrap yards
- Stonemasons

- Landfilling
- Flour mill
- Brick works
- Quarrying
- Associated works to the collieries.

3 Overall Aims and Objectives of the Strategy

Land contamination has significant impacts on both the environment and the economy of the Borough. It is important therefore, that the processes involved in this Strategy document are open and transparent.

3.1 Aims of the Strategy

The Council's priorities when dealing with contaminated land will be: -



3.2 Objectives

- To follow the overarching objectives of the *Contaminated Land Statutory Guidance (April 2012)* Section 1.
- To follow the approach, with regard to inspection, contained within Section 2 of the *Contaminated Land Statutory Guidance (April 2012)*.
- To ensure that where redevelopment of land takes place within the Borough that the planning process deals effectively with any land contamination such that the land is suitable for its intended use.
- To ensure that the Strategy is compatible with the Borough Council's Sustainability Objectives, Development Objectives and Corporate Plans.
- To make information freely available to all relevant services of the Council to enable consideration to be given about land contamination during the policy making process.
- To avoid any unnecessary blight of land within the Borough.
- To provide information to the Environment Agency for its report on Contaminated Land.

4 Gedling Borough Council's Priority Actions and Timescales

This section sets out the specific approach the Council will be taking to meet the Aims and Objectives outlined in Section 3. It sets out priorities for actions and activities to meet the regulatory requirements.

4.1 Timescales

The timescales involved in completing the above stages are given in the work programme found in Appendix VI.

4.2 **Priority Actions**

The 5 stage process outlined below follows the principals found in Section 2 of the Statutory Guidance; produce the Strategy document, deal with urgent sites, strategic inspection and detailed inspection.

Stage 1 - Production of the Strategy Document

This Strategy document was produced and adopted in July 2001. It was further revised in 2006 and again in 2013 to take into account revisions in the Statutory Guidance. Details of this documents original production can be found in Appendix I.

Stage 2 – Dealing with urgent sites

Throughout the process of Strategy production, strategic inspection and detailed inspection, if any sites are strongly suspected of causing significant harm, or if any site is referred by the Environment Agency for determination as a "Special Site", then these will need to take priority. All sites will be investigated using procedures laid out in Section 6 of this document.

Strategic Inspection

Stage 3 – Acquisition and input of data into Geographical Information System (GIS)

In order to identify and prioritise sites the Council purchased and acquired data for this purpose. A list of the main datasets collated is given in Section 5.1, the majority of this data was in a digital form, easily entered into the GIS, (see Section 5.2.1); however, some information obtained was in a paper format which, required digitising.

Stage 4 – Prioritisation of sites for detailed inspection

To ensure that the most pressing and serious problems were located first, those sites which have been subject to the most heavily contaminative industries and which therefore presented the greatest risk were assessed first.

The list in Appendix III outlines potentially contaminative industries given by the then Department of the Environment "Industrial Profiles".

The Council's receptor priorities are, in order: -



Appendix IV lists the potentially sensitive receptors for each of the above categories.

The Council used a computerised screening package which used a numeric 'risk assessment' based approach to prioritise sites. Some limited walkover survey work will be necessary in order to fill in gaps in the data in relation to pathways and receptors.

Detailed Inspection

Stage 5 - Detailed Inspection of Sites

Once the ranking process has been completed, the detailed inspection of sites will commence. Sites will be inspected in order of priority, based on the outcome of Stage 4.

Where contaminated land sites are identified, they will be determined in accordance with statutory requirements. The sites which are in a contaminative state, but which do not constitute contaminated land, will only be inspected further if the status of the land changes, for example, if a new receptor is introduced through the planning process.

5 Strategic Inspection

This section gives more detail to Stage 3 and 4 of the work programme, regarding the information collected and the process of prioritisation.

5.1 Information Collection

In order to assess the potential for land to be classed as contaminated a large amount of information is required on potential sources, pathways and receptors. The table below outlines the resources required: -

Resource	Description	Use
Historic Maps	1880,1900,1915,1940,1960, 1975 1985 Digital maps	To identify sources
OS Mapping	Digital present day mapping	To identify sources
Achar Hotography	photography	To lucifility sources
Geological Maps	Solid & Drift, Made Ground and	To characterise sources and nathways
Water Abstractions	Details of public and private water	To identify pathways and
Water Courses	Rivers, streams, ponds and lakes.	To identify pathways and
Groundwater Vulnerability Zones	River quality data all from the EA Aquifer vulnerability digital maps.	receptors (controlled waters) To identify receptors (controlled
,		waters)
Groundwater Source Protection	Zones around water abstraction	To identify receptors (controlled
Radon areas	Areas effected by natural radiation	To identify sources
Nitrate Vulnerable Zones	DEFRA information on sensitive areas	To identify potential receptors
Sites of Special Scientific Interest	English Nature information	To identify potential receptors
Sites of Importance for Nature	Nottinghamshire Biological and	To identify potential receptors
Conservation	Geological Records Centre lists.	51 1
Local Nature Reserves	Councils own records of sites	To identify potential receptors
Sites containing Protected Species	Nottinghamshire Biological and	To identify potential receptors
	Geological Records Centre lists.	
Sites and Monuments Record	Nottinghamshire County Council	To identify potential receptors
Areas of Industrial Archaeological	Nottinghamshire County Council	To identify potential receptors
Interest		
Listed Buildings	Councils own records	To identify potential receptors
Tree Preservation Orders	Councils own records	To identify potential receptors
Ancient Woodlands	Councils own records	To identify potential receptors
Part B Processes	Councils own records	To identify sources
Current Landfill Sites	Councils own records	To identify sources
Local Plan	Gedling Borough Councils plan	To identify potential receptors
	snowing new development	
Geoling Landill and Quarrying	Information from EA and Councils	To identify sources
Records Detroloum Decordo	Own records	To identify courses
Flootrical Sub Stationa	Past and present sub stations	To identify sources
Soran Varda	Past and present soran varia	To identify sources
Trade Directories Information	Kelly Directories and Vellow Pages to	To identify sources
	identify potential contaminative uses	TO IDENTITY SOURCES
Schools/Colleges	Councils own records	To identify potential receptors
Recreation Grounds/Park Land	Councils own records	To identify potential receptors
Allotments	Councils own records	To identify potential receptors

Table 3 - Resources needed to determine potential contaminant linkages

5.2 Information Storage Systems

5.2.1 Geographical Information System (GIS)

A GIS is a digital system for the storage, manipulation, analysis and visualisation of spatial data. At the heart of a GIS is a database that allows the spatial data (information for which a grid reference can be given e.g. maps) to be linked to attribute data (information about what is at a particular point or area).

Datasets containing both spatial and attribute data can be brought together into a common system, simplifying their analysis. This integration between databases and maps means that a GIS is a powerful tool for the analysis of environmental data. The Council has and will continue to use ArcMap GIS software to enter information about land as it is investigated. The following methods of data ratification and quality control will be employed.

5.2.2 Data Management

Environmental datasets, in both paper and digital form, are an important and valuable resource. They are often unique and irreplaceable and may be expensive to collect. Appropriate data management is therefore, essential to protect this resource.

5.2.3 Quality Assurance of data

Datasets will very rarely be error free. In order to obtain valid conclusions from data it is important to be able to quantify and assess errors. Documentation outlining the quality and reliability of all data, 'metadata', is required where possible.

5.3 Information Evaluation (Prioritisation)

A risk-based approach has and will continue to be taken throughout the evaluation process, from initial risk screening, to detailed inspection of sites.

5.3.1 Risk Screening Exercise

The Council has decided that any potentially contaminated land shall, prior to detailed investigation, be listed and categorised using a risk screening methodology; computer software, in conjunction with the GIS. The software utilises the available data regarding:

- potential sources (from historical mapping and local knowledge)
- potential pathways (from environmental, hydrologic and geologic/hydrogeologic data sources)
- potential receptors (from land use and features mapping sources)

The software determines individual scores for the potential source and for the various pathway/receptor linkages.
Five receptor types were assessed (i.e. human beings, ecological systems, property in the form of buildings, property in a form other than buildings, and controlled waters). The individual scores determined through the assignment of numerical values using a standard set of questions/answers.

After the individual scores were determined for the potential source and each of the various pathway/receptors linkages, scores were then calculated for each source-pathway-receptor group (based on the five-receptor types identified above). In addition an overall score was calculated using weighting factors selected to reflect the relative importance of each of the receptor types.

For example, the human receptor category may be assigned a higher weighting than the property categories. The scoring methodology reflects the concept that a low (or zero) score value will result from a situation where one or more of the three elements of the contaminant linkage does not exist.

These scores were then used to determine a relative ranking of sites. A lower relative score signifies a lower potential for a source, or a pathway and receptor linkage. Conversely a higher relative score signifies greater potential. This ranking has been used to assist in identifying those sites of higher priority for further Detailed Inspection.

6 Detailed Inspection

This section details the priorities and programme for the detailed inspection: preliminary risk assessment informed by desk-based study; a site visit and walkover; a generic quantitative risk assessment; and various stages of more detailed quantitative risk assessment.

For land to proceed to the next stage of risk assessment there should be evidence that an unacceptable risk could reasonably exist. If the authority considers there is little reason to consider that the land might pose an unacceptable risk, inspection activities should stop at that point.

6.1 Guidance and Technical Tools

The Department of Environment, Food and Rural Affairs (Defra) and the Environment Agency have released a series of guidance documents and tools to assist in the collation and interpretation of information in order to determine land under Part 2A.

6.1.1 Model Procedures

The Model Procedures for the Management of Land Contamination (CLR11) have been developed to provide the technical framework for applying a risk management process when dealing with land affected by contamination. The process involves identifying, making decisions on, and taking appropriate action to deal with land contamination in a way that is consistent with government policies and legislation within the UK.

6.1.2 CLEA Model and Generic Soil Screening Values

Soil Guideline Values (SGVs)

A set of generic soil guideline values (SGV's), and a risk assessment model – the Contaminated Land Exposure Assessment (CLEAUK) model has been produced by the Defra and the Environment Agency. These SGV's have been derived using a set of generic base site information and so they should <u>only</u> be used for the Tier 2 risk assessment.⁶

⁶ See Section 1.3.1 for details of the three tiers of risk assessment.

Generic Assessment Criteria (GACs)

Risk assessment may also be required for substances not covered by SGV's; where there is an information gap the Authority may use other available generic assessment criteria (GACs) values <u>only</u> for Tier 2 assessments⁷ provided:

- (i) they understand how they were derived and how they can be used appropriately;
- (ii) they have been produced in an objective, scientifically robust and expert manner by reputable organisations; and
- (iii) they are only used in a manner that is in accordance with Part 2A and the Statutory Guidance.

Category 4 Screening Levels (C4SLs)

As we have seen in Section 1.3.3 (p12) the revised statutory guidance (2012) has introduced the concept of classification of land (Classes 1 - 4). Part of the implementation of the guidance has seen the creation of Category 4 Screening Levels (C4SLs) which will provide a higher simple test for deciding that land is suitable for use and definitely <u>not</u> contaminated land.

The Use of Screening Values

Whilst generic guidelines (SGV, GAC or C4SL) can be used in the second tier of assessment, they should not be used as direct indicators of whether a significant possibility of significant harm to human health may exist.

The level of risk raised by land contamination will depend on more than simply the amount of contaminants in the soil; i.e. the amount a screening value is exceeded by. For example, it may also depend on:

- what form the contaminants take,
- where they are in the soil,
- the efficiency of the pathway by which receptors may be exposed,
- the sensitivity of receptors,
- the likely degree and duration of exposure,
- the dose-response relationship,
- natural background levels; etc.

These factors will vary from case to case, sometimes very substantially.

To further define the risks and help remove any uncertainties, a site specific 'detailed quantitative risk assessment' may be conducted (third tier assessment). The CLEA UK model will be used as a preferred option when appropriate, however, other risk assessment models may be considered, should they be required.

⁷ See Section 1.3.1 for details of the three tiers of risk assessment.

6.1.3 Background levels

The revised statutory guidance (2012) has introduced the concept of "normal" levels of contaminants in the soil. Normal levels of contaminants in soil should not be considered to cause land to qualify as contaminated land, unless there is a particular reason to consider otherwise. Therefore, if it is established that land is at or close to normal levels of particular contaminants, it should usually not be considered further in relation to the Part 2A regime

Normal levels of contaminants in soil are considered to result from:

- (a) The natural presence of contaminants (e.g. caused by soil formation processes and underlying geology) at levels that might reasonably be considered typical in a given area and have not been shown to pose an unacceptable risk to health or the environment.
- (b) The presence of contaminants caused by low level diffuse pollution and common human activity other than specific industrial processes. For example, this would include diffuse pollution caused by historic use of leaded petrol and the presence of benzo(a)pyrene from vehicle exhausts, and the spreading of domestic ash in gardens at levels that might reasonably be considered typical.

The statutory guidance gives further advice to Local Authorities on taking "normal" levels into consideration when making Part 2A decisions.

6.1.4 Risk Assessment for Controlled Waters

Advice will be sought from the Environment Agency on the risk assessment if controlled waters are the receptor in a particular contaminant linkage. It is anticipated that risk assessments and remediation will be carried out in accordance with Environment Agency guidance.

6.2 Arrangements for carrying out Detailed Inspection

The process of Detailed Inspection of a given site is to confirm that the contaminant linkage(s) identified is/are:

- resulting in significant harm (or the significant possibility of such harm) being caused to the receptor(s), or
- harm (where attributable to radioactivity)

If either of these is confirmed then the land becomes contaminated land by definition and the contaminant linkage becomes, 'significant'.

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Note: The process may apply to one or more pollutant linkages each of which may follow a different route. For some linkages, it may be possible to stop at an early stage – others will progress all the way through the process. The level of complexity of each stage may also vary and in some cases may be very simple.

Source: Model Procedures for the Management of Land Contamination CLR11

Figure 5 - Flow Diagram showing Detailed Inspection Stages

The detailed inspection of contaminated land is invariably a very time consuming and expensive process, therefore it must be emphasised that all investigations will be carried out on an incremental basis and terminated immediately it is clear that no significant contaminant linkage exists.

Each phase of the risk assessment process (See Figure 5) will conclude by assessing whether any contaminant linkage(s) exists, and if so whether it is considered to be 'significant'. If it is considered that any such linkage exists then the inspection process will move onto the next phase of risk assessment ultimately reaching a proposal for remediation, if required.

In cases where imminent risk of serious harm or serious pollution of controlled waters has been confirmed, the Council will authorise urgent action

6.2.1 Obtaining Desk Top Information (Phase I Assessment)

The suggestion that land may be contaminated can have a significant impact on the way others view it, and in particular, its perceived value. The Council will therefore seek to obtain as much information as possible about a potential site without causing unnecessary alarm. This may involve detailed inspection of historical data in its possession such as Planning and Building Control files.

Also the consultation of others who may possess information such as:

- The Environment Agency
- Department of Environment, Food and Rural Affairs
- English Heritage
- Nottinghamshire County Council
- Food Standards Agency
- The Health & Safety Executive
- Developers
- Previous occupiers
- and others

Once sufficient information has been obtained which confirms a contaminant linkage does not exist, or, if it does, it is not significant, then the investigation will cease and no further action will be taken. A Written Statement (see Section 8.2.1) will be produced and kept on file, should a request for information (see Section 8.6) be made.

It may be, however, that circumstances will be identified whereby a significant contaminant linkage could occur at some time in the future, and in this case arrangements will be made to keep the situation under review.

6.2.2 Inspection of Land (Phase II Assessment)

Where evaluation of all available data suggests a significant contaminant linkage may exist, it may be necessary to visit the site and carry out some form of on site testing, or take away samples for analysis.

In every case this will be carried out by a, "suitable person", adequately qualified to undertake the work. The Council may, from time to time, employ external consultants to carry out site investigation works. The appointment of external consultants will be carried out in accordance with the Councils procedures.

Intrusive investigations will be carried out in accordance with appropriate health and safety and technical guidance to ensure:

- a) they are effective;
- b) do not cause any unnecessary damage or harm; and
- c) do not cause pollution of controlled waters.

To ensure the most appropriate technical procedures are employed the Council will have regard to the most up to date Government guidance available.

6.2.3 Risk Communication

Communicating about land contamination and proposed remediation solutions is exceedingly complex and often emotionally charged because of the potentially serious implications of the problem, the diverse range of people involved and competing priorities.

Effective risk communication is not just about convincing people about what you perceive as the 'real' risk following a technical risk assessment, but must be based on an understanding that people will have different perceptions of the risk as a result of their own situation and values.

In communicating with affected parties the Council will ensure that the methods used: -

- are relevant to the group requesting the information.
- are clear, consistent and concise.
- are not overly technical.
- allow equal access to all information.
- officers are available for discussions, meetings, etc.
- that all relevant partners are included.
- that feed back will be invited.
- that risk based information will be communicated objectively and the sources of those assessments are identified.
- that the information and decision linking process is timely, transparent, objective and consistent.

6.2.4 Powers of Entry

Statutory powers of entry are conferred on the Council to enable it to carry out its functions under Part 2A. There are no circumstances in which the Council will use these powers to obtain information about the condition of land, where:

- It can obtain the information from third parties without the need for entering the site; or
- A person offers to provide all the information required by the Council within a reasonable and specified time, and does so.

6.2.5 Land which may be a Special Site

Where the Council is aware that land it intends to investigate would, if declared contaminated land, be a special site, it will notify the Environment Agency in writing requesting any information it may have on the land and the likelihood of contaminant linkages. According to the wishes of the Environment Agency, it may be that a joint investigation will be undertaken.

Where the Environment Agency (or their agents) wish to carry out formal investigation on behalf of the Council their officers will need to be appointed as, "suitable persons". The Environment Agency do not have the power under Part 2A to investigate land which may be contaminated land without the authorisation of the Council.

6.3 Determining that land is Contaminated Land

There are six possible grounds for determining if land is contaminated:

- a) Significant harm is being caused;
- b) There is a significant possibility of significant harm being caused;
- c) Significant pollution of controlled waters is being caused;
- d) There is a significant possibility of significant pollution of controlled waters being caused;
- e) Harm is being caused, or;
- f) The possibility of harm being caused is "significant" (in relation to radioactivity).

Before making any determination, the local authority should have identified one or more significant contaminant linkage(s), and carried out a robust, appropriate, scientific and technical assessment of all the relevant and available evidence.

If the authority considers that conditions for considering land to be contaminated land do not exist it should not decide that the land is contaminated land.

6.3.1 Deciding that land is not Contaminated Land

In implementing the Part 2A regime, the Council is likely to inspect land that it then considers is not contaminated land. For example, this will be the case where the authority has ceased its inspection and assessment of land on grounds that there is little or no evidence to suggest that it is contaminated land. In such cases, the authority should issue a Written Statement to that effect (rather than coming to no formal conclusion) to minimise unwarranted blight. (See section 8.2.1)

Situations may arise where, it is not possible to determine whether a pollutant linkage is significant in accordance with the statutory guidance; i.e. that the nature of soil contamination means it is never possible to know the exact contamination status of any land with absolute certainty, and that scientific understanding of risks may evolve over time.

Such a lack of certainty should not stop the Council from deciding that land is not contaminated land. The starting assumption of Part 2A is that land is not contaminated land unless there is reason to consider otherwise.

Inspection may identify contamination that would form a significant pollutant linkage should new receptors be introduced. In such circumstances this information will be carefully recorded and the site monitored where the introduction of relevant new receptors seems likely. Should such a site be identified for future development the information obtained during the investigation will be made available to the planning officer and the developer.

6.4 The Written Record of Determination and Formal Notification

6.4.1 Record of Determination

Once an area of land has been declared contaminated by statutory definition, the Council will prepare a written record to include:

- location, boundaries and area of the land in question (inc. OS grid ref);
- a Risk Summary (See Section 8.2.2)
- a summary of why the Council considers that the requirements of the Statutory Guidance have been satisfied.

The Council will then formally notify in writing all relevant parties that the land has been declared contaminated, these to include:

- the owner(s)
- the occupier(s)
- those liable for remediation ('appropriate persons' in the guidance)
- the Environment Agency

6.4.2 Notification

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

Special Sites

In the case of any land which, following determination as contaminated land, would be likely to meet one or more of the descriptions of a "Special Site" set out in the Contaminated Land Regulations 2006, the Council should consult the Environment Agency before deciding whether or not to determine the land, providing the Agency with a draft record of the determination.

The Council should take the Agency's views into full consideration and it should strive to ensure it has the Agency's agreement to its decision (although the decision is for the Council to make subject to the provisions of Part 2A).

Voluntary Remediation

The legislation and statutory guidance has been designed to try to encourage *voluntary remediation* (without the need for enforcement action). The formal notification procedure commences the process of consultation on what remediation might be most appropriate. To aid this process the Council will therefore provide as much information to the relevant parties as possible:

- a copy of the written record of determination;
- copies of site investigation reports (or details of their availability)
- an explanation of why the appropriate persons have been chosen
- details of all other parties notified

The appropriate persons will also be provided with written explanations of the test for exclusion and apportionment.

It may be at this stage that the Council will need further information on the condition of the site to identify whether any additional significant contaminant linkages exist. If that is the case an informal attempt will be made to obtain this information from the appropriate persons already identified.

6.5 Liability & Enforcement

For some land, the process of determining liabilities will consist simply of identifying either a single person (either an individual or a corporation such as a limited company) who has caused or knowingly permitted the presence of a single significant contaminant, or the owner of the land. The history of other land may be more complex.

A succession of different occupiers or of different industries, or a variety of substances may all have contributed to the problems which have made the land "contaminated land" as defined for the purposes of Part 2A. Numerous separate remediation actions may be required, which may not correlate neatly with those who are to bear responsibility for the costs.

The degree of responsibility for the state of the land may vary widely. Determining liability for the costs of each remediation action can be correspondingly complex. The main provisions for the establishment of liability are set out in Part 2A legislation itself and the 1990 Act should always be the primary reference.

6.5.1 The Five Step Procedure

The procedure for determining liabilities has five distinct steps as follows:



6.5.2 Liability Groups

The process commences with the establishment of liability groups. All appropriate persons for any one contaminant linkage are a, 'liability group'.

These may be class 'A' or class 'B' persons.

APPROPRIATE PERSONS - Class 'A' - These are, generally speaking the polluters, but also included are persons who, "knowingly permit". This includes developers who leave contamination on a site which subsequently results in the land being declared contaminated.

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

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

The matter of appropriate persons must be considered for each significant contaminant 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.

6.5.3 Attribution and Apportionment of Liabilities

The Council must then follow a process found in the 1990 Act and supplemented by the Statutory Guidance, whereby the Council:



Reference is made back to the 1990 Act and Statutory Guidance for further details of Attribution, Exclusion tests and Apportionment of liabilities.

6.5.4 The Enforcement Process

Before remediation notices are served the extensive consultation process will be completed and ample encouragement given to arrive at an informal solution. The Council will do all in its power to consult the appropriate person(s), owners, occupiers etc about their views on the state of the land.

Remediation notices are served only as a last resort (not withstanding urgent cases), and then only after this lengthy consultation process has been exhausted. Notices will be authorised after two tests are satisfied:

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

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

6.5.5 Cost Recovery

The Council has produced a Cost Recovery Policy 2013 which outlines its policies regarding recovery of the costs of remediation.

6.6 Remediation of Contaminated Land

Once land has been determined as contaminated land, the enforcing authority must consider how it should be remediated and, where appropriate, it must issue a remediation notice to require such remediation.

The enforcing authority for the purposes of remediation may be the local authority which determined the land, or the Environment Agency, which takes on responsibility once land has been determined if the land is deemed to be a "special site". The rules on what land is to be regarded as special sites, and various rules on the issuing of remediation notices, are set out in the Contaminated Land (England) Regulations 2006.

The broad aim of remediation should be:

- (a) to remove identified significant contaminant linkages, or permanently to disrupt them to ensure they are no longer significant and that risks are reduced to below an unacceptable level; and/or
- (b) to take reasonable measures to remedy harm or pollution that has been caused by a significant contaminant linkage.

In cases where the aim of remediation is to remove or permanently disrupt significant contaminant linkages, remediation treatment should involve demonstrable disruption or removal of the significant contaminant linkage(s) that led to land being determined as contaminated land, in order to reduce or remove unacceptable risks to receptors.

This might involve one or more of the following:

- (a) Reducing or treating the contaminant part of the linkage
- (b) Breaking, removing or disrupting the pathway parts of the linkage.
- (c) Protecting or removing the receptor.

7 Inspection Review Mechanisms

This section describes instances when inspections will occur outside the general strategic framework, circumstances under which previous inspection decisions should be reviewed and measures to be taken to ensure the Strategy remains effective and current.

7.1 Triggers for undertaking non-routine inspections

The Strategy recognises that there may be occasions where inspections have to be undertaken outside of the general strategic framework. Triggers for undertaking non-routine inspection will include: -

- unplanned events for example, where an incident, such as a spill, has occurred.
- introduction of new receptors for example, where a new protected ecosystem is designated, or there is persistent trespass on a site which otherwise does not have a sensitive receptor.
- identification of localised health effects which appear to relate to a particular area of land.
- responding to information from other statutory bodies, stakeholders, or other interested parties, which reveal that the site requires urgent action.

While these occurrences may trigger non-routine inspections, they will not be allowed to significantly interfere with the milestones laid down in the general strategic framework.

7.2 Triggers for Reviewing Inspection Decisions

There may also be occasions when the findings of previous inspection decisions should be reviewed. This might occur, for example, if there were: -

- Significant changes in legislation
- Establishment of significant case law or other precedent
- Revision of guideline values for exposure assessment.

It is important that all decisions are made and recorded in a consistent manner that will allow efficient review.

7.3 Reviewing the Strategy

Once the Strategy has been formally adopted and published, the Council has a duty to keep it under periodic review. The Council feels that it will be appropriate to review the stages and timescales, outlined in Section 4, in light of progress made.

If significant changes to the Strategy are required, it may be appropriate to carry out further annual reviews. If no major changes are necessary the Strategy will remain in place for the period of the five-year work plan, in which case the next full review date will be 2017.

8 Information Management

8.1 General Principles

A large amount of information, in the form of reports, maps, letters and documents will be required to enable the Council to undertake its inspection duties. This data will come from a variety of sources and many different formats. The management of data concerning the environment is covered under The Environmental Information Regulations 2004, whilst Part 2A of the Environmental Protection Act1990 covers the information required for the register of contaminated land. The revision to the Statutory Guidance introduces the Written Statement and Risk Summary.

8.2 Detailed Inspection Outputs

8.2.1 Written Statements

Where detailed inspection ceases, on the grounds that there is little or no evidence to suggest that the land would be contaminated land, the Council will issue a Written Statement detailing its decision.

The statement should make clear that on the basis of its assessment, the authority has concluded that the land does not meet the definition of contaminated land under Part 2A. The authority may choose to qualify its statement (e.g. given that its Part 2A risk assessment may only be relevant to the current use of the land, or based on the information held at the time).

The Written Statement will be issued to all effected parties where the Council has carried out a Phase II assessment; as part of the ongoing communications strategy for the project. Where the Council has ceased investigations at the Phase I stage (desk-top study), and no communication with land-owners has occurred, the Written Statement will be put on the project file and used in response to any requests for information.

8.2.2 Risk Summaries

The Council should produce a risk summary for any land where, on the basis of its risk assessment, the authority considers it is likely that the land in question may be determined as contaminated land.

The risk summary should explain the Council's understanding of the risks and other factors the authority considers to be relevant. The Council should seek to ensure that the risk summary is understandable to the layperson, including the owners of the land and members of the public who may be affected by the decision. The Risk Summary forms the major part of the Record of Determination (See Section 6.4)

Risk summaries should as a minimum include:

- (a) A summary of the authority's understanding of the risks, including a description of:
 - i. the contaminants involved;
 - ii. the identified contaminant linkage(s) (Conceptual Site Model);
 - iii. the potential impact(s);
 - iv. the estimated possibility that the impact(s) may occur; and
 - v. the timescale over which the risk may become manifest.
- (b) A description of the Council's understanding of the uncertainties behind its assessment.
- (c) A description of the risks in context, for example by setting the risk in local or national context, or describing the risk from land contamination relative to other risks that receptors might be expected to be exposed to in any case.

This need not involve a detailed comparison of relative risks, but the Council should aim to explain the risks in a way which is understandable and relevant to the layperson.

- (d) A description of the authority's initial views on possible remediation. This need not be a detailed appraisal, but it should include:
 - i. a description of broadly what remediation might entail;
 - ii. how long it might take;
 - iii. likely effects of remediation works on local people and businesses;
 - iv. how much difference it might be expected to make to the risks posed by the land; and
 - v. the authority's initial assessment of whether remediation would be likely to produce a net benefit.

In the case of land which would be likely to be a special site, the Council should seek the views of the Environment Agency, and take any views provided into account in producing this description.

Local authorities are not required to produce risk summaries:

- (a) For land which will not be determined as contaminated land following Detailed Inspection (e.g. land that would be in Categories 3 and 4). In such cases the authority should produce a Written Statement.
- (b) For land which has been prioritised for detailed inspection (See Section 5) but which has not yet been subject to risk assessment (See Section 6).
- (c) For land determined as contaminated land before the 2012 revision of the Statutory Guidance came into force.

Gedling Borough Council – Contaminated Land Strategy

8.3 The Public Register

The public register will be located in: -

Public Protection Service, Gedling Borough Council, Civic Centre, Arnot Hill Park, Arnold, Nottingham NG5 6LU.

It will be available for inspection within normal office hours Monday to Friday.

The public register is intended to act as a full and permanent record, open for public inspection, of all regulatory action taken by the Council in respect of the remediation of contaminated land, and will include information about the condition of that land.

The register maintained by the Council will contain full particulars of the following matters, in a readily accessible paper format. All information is to be added to the register as soon as it is reasonably practical to do so: -

- Remediation notices served
- Appeals against remediation notices
- Remediation declarations
- Remediation statements
- Appeals against charging notices
- Designation of special sites
- Notification of claimed remediation
- Convictions for failure to comply with a remediation notice.
- Guidance issued by Environment Agency concerning contaminated land
- Other environmental controls
- Information on Contaminated Land that the Council is responsible for.

8.3.1 Confidentiality of Register Information

Issues relating to information being excluded from the public register on the grounds of:

- (a) National Security; or
- (b) Commercial Confidentiality

will be considered in detail by the Council's Solicitor and Data Protection Administrator.

8.4 Information and Liaison with other Council Departments

8.4.1 Development Control and Planning Policy

As Section 1.4 refers land contamination, or the possibility of it, is a material consideration for the purposes of town and country planning⁸. This means that the Council has to consider the potential implications of contamination both when it is developing its local plans and when it is considering individual applications for planning permission.

The local planning authority should satisfy itself that under the "suitable for use" approach, risks should be assessed, and remediation requirements set, on the basis of both the current use and circumstances of the land and its proposed new use.

Procedures will be introduced to ensure that: -

- When a planning application is received, that has the potential to alter a sites status as regards contaminated land, a consultation will be sent to the Environmental Protection Section;
- if it is known or strongly suspected that a site is contaminated to an extent which would adversely affect the proposed development or infringe statutory requirements, an investigation of the hazards by the developer and proposals for remedial action will normally be required before the application can be determined by the planning authority. Any subsequent planning permission may need to include planning conditions requiring certain remedial measures to be carried out;
- in cases where there is only a suspicion that the site might be contaminated, or where the evidence suggests that there may be only slight contamination, planning permission may be granted subject to conditions that development will not be permitted to start until a site investigation and assessment have been carried out and that the development itself will incorporate any remedial measures shown to be necessary.

(Ref: Circular 11/95 'The use of conditions in Planning Permission' – Development of Contaminated Sites; Sections 74 and 75)

8.4.2 Building Control

In addition to the planning system, the Building Regulations (made under the Building Act 1984) requires measures to be taken to protect new buildings, and their future occupants, from the effects of contamination. "*Approved Document Part C (Site Preparation and Resistance to Moisture)*".

8.4.3 Other Departments

From time to time other departments such as Estates and Valuation, Leisure Services may require information regarding land owned by the Council.

⁸ National Planning Policy Framework 2012

8.5 **Provision of Information to the Environment Agency**

8.5.1 Council Inspection Strategy

The Council is required to provide the Environment Agency with a copy of its Inspection Strategy to identify contaminated land in its area.

8.5.2 Determination, Remediation and Regulatory Activity

The Council is also required to notify the Environment Agency when a site is determined to be contaminated land. This information is required to firstly enable the Environment Agency to compile reports and, also to assist in deciding whether or not it should provide site-specific advice on the site.

The Council has adopted the Environment Agency/Local Government Association contaminated land protocol, which sets out the relationship between local government and the Agency with regard to the enforcement of Part 2A.

8.6 Dealing with requests for Environmental Information

As a consequence of the investigation of many areas of land the Council will hold environmental information that is not released through the public register. Requests for this information may arise from landowners, developers, consultants and members of the public.

8.6.1 Environmental Information Regulations (EIR)

There have been Environmental Information Regulations in the UK since 1992, based on European Legislation. These regulations were subsequently revised in 2004 to form the *Environmental Information Regulations 2004*. Under these regulations members of the public can request information from public bodies, like local authorities, about the following aspects of the environment and any policies, decisions or activities that could affect them:

- Air
- Water
- Soil
- Land

- Plants and animals
- Energy
- Noise
- Waste and emissions

Charging for EIR Requests

Responses to requests for information will be dealt with as soon as possible and at the latest within 20 working days. Responses will take the form of either the information requested or, a refusal with the reasons for refusal detailed.

There is provision within the regulations for the Council to charge for the supply of information other than that that is on the register. This charge will reflect the resource costs; staff time spent searching, retrieving, reviewing, processing and preparing the information plus fixed costs such as royalty charges and postage.

For requests from commercial organisations it will be in the region of £60 unless additional information over and above a 250m radius of the site boundary are requested.

8.6.2 Exemptions to EIR disclosure

The EIR give the general public a right to environmental information held by a public authority. There is a presumption under the regulations that environmental information must be released, unless there are reasons to withhold it.

Regulation 12 lists the exceptions under which a public authority can refuse to disclose information. All the exceptions are subject to a public interest test. Those weighing the public interest of whether to release or withhold information should interpret the exceptions very carefully, seeking legal advice where appropriate.

A request for information can be refused (or part of the information withheld) if:

- Information is not held (then there is a duty to refer the request on)
- The request is manifestly unreasonable
- The request is too general (after fulfilling duty to advise and assist)
- The request is for unfinished documents or data (in which case estimated time for completion must be given)
- The request is for internal communications

A public authority may also refuse to disclose information or withhold part of it in order to protect the following:

- Confidentiality of proceedings
- International relations / public security / defence
- The course of justice and right to fair trial
- Commercial confidentiality
- Intellectual property rights
- Personal / voluntary data
- Environmental protection

If information relates to emissions, a public authority cannot refuse to disclose it on grounds of confidentiality of proceedings, commercial confidentiality, personal/ voluntary data or environmental protection.

8.6.3 Data Protection Act

The Data Protection Act applies to all personal data that is processed manually and automatically, it should be noted that just about all information held on computers is considered as being, 'processed automatically', for the purposes of the Act.

The Act seeks to give some protection to persons (known as data subjects) in respect of three potential dangers:

- The use of personal information that is inaccurate, incomplete or irrelevant
- The possibility of access to personal information by unauthorised persons
- The use of personal information in a context or for a purpose other than that for which the information was collected

Personal data is defined as data consisting of information which, relates to a data subject who can be identified from the information, or from that and other information in the possession of the data user (the Council). Every individual member of the public can be considered a data subject, there is no age limit.

The implications of holding information relating to the condition of potentially polluted property, and the persons associated with that property and pollution, could be significant. The matter will therefore be considered in detail with the Council's Solicitor and Data Protection Administrator before records begin to be compiled.

9 References

Contaminated Land Statutory Guidance, DEFRA, 2012

Contaminated Land Inspection Strategies, Technical Advice for Local Authorities, DETR (Draft for comments April 2000)

The Environmental Protection Act 1990

The Environment Act 1995

The Environmental Information Regulations 2004

National Planning Policy Framework, DCLG, 2012

The Data Protection Act, 1988

Model Procedures for the Management of Land Contamination, CLR11, Environment Agency, 2004.

Communicating Understanding of Contaminated Land Risks, SNIFFER (2010)

A Better Quality of Life: A strategy for Sustainable Development for the UK

Some Guidance on the use of Digital Environmental Data; BGS Technical Report WE/99/14; March 2000; British Geological Survey and the Environment Agency.

Nottingham, England and Wales Sheet 126; Solid and Drift Edition; 1:50,000 Map; 1996; British Geological Survey.

Appendix I

Original 2001 Strategy Development

Development of the Original Strategy (2001)

Overall approach

The first version of this Strategy was written to meet the requirements of the Statutory Guidance (2000), and with particular reference to "Contaminated Land Inspection Strategies – Technical Advice for Local Authorities" issued by the then Department of the Environment, Transport and the Regions (DETR) in May 2001.

Internal team responsible

This strategy impacts on potentially all departments of the Council, in particular:

Development Control / Planning Policy

The inspection of the Borough will identify areas of potentially contaminated land, which may be developed, awaiting development, derelict, protected or green belt. This may result in the need to re-examine past development control files or identify development routes for contaminated sites, which may subsequently impact on the Local Development Framework.

Building Control

Have the duty to enforce protection measures in new build projects to mitigate the impact of contamination on property "*Approved Document Part C (Site Preparation and Resistance to Moisture)*"2004. Information they hold will be essential to quantify risks.

Legal

This is a highly complex piece of legislation, which could have significant implications for the Council, landowners and occupiers. The Solicitor's advice may be required on many aspects including those relating to enforcement, liability, powers of entry, data protection and access to information etc.

Engineering & Property / Leisure

The Estates & Valuation Manager will be responsible for the remediation of any contaminated sites, owned by the Council, it is found to be responsible for. Areas owned by the Council and controlled by Leisure; such as allotments, parks and recreation grounds may be found to require remediation works.

Information Technology

Significant volumes of data will need to be held both on database and geographical information systems (GIS). Support will be required on the use of these systems and data protection.

Finance

This legislation can have significant resource implications for the Council, both as an Enforcing Authority and landowner. The finance department has also been key in identifying and securing bids for the resources necessary to implement the Strategy.

The first version of the Strategy document was produced using the following programme: -

- Production of the draft consultation strategy
- Consultation period.
- Modification of draft strategy
- Formally adopt and publish the strategy
- Forward adopted strategy to consultees and neighbouring local authorities.

The formal adoption procedure required that the Strategy document went before: -

- the Councils Management Team followed by,
- the Council's Development and Environment Committee

as a consultation document. The first version of the Strategy was subsequently formally adopted, after comments, July 1st 2001.

Consultation process – Original Strategy

This section details the contact points, consultation and liaison arrangements between the Council, other Statutory bodies, owner-occupiers, other interested parties and the wider community.

The consultation allowed people to give their views and to direct the Council to areas they were concerned about. It also allowed the Council to notify interested parties of the need to exchange information and invite involvement in the review and assessment process.

Liaison with other Statutory Bodies

The original strategy was sent for consultation to the following organisations, notwithstanding any consultation, which may have already taken place during the development of the strategy. The results of this consultation were taken into account when finalising the strategy.

The Council consulted with: -

- The Environment Agency
- Nottinghamshire County Council,
- The East Midland Development Agency,
- English Nature,
- English Heritage
- Ministry of Agriculture, Fisheries and Foods as was
- Severn Trent Water
- Food Standards Agency

The draft copy of the strategy document was circulated amongst these organisations for comment.

Liaison with landowners, occupiers and other interested parties.

In addition to the statutory consultees the Council consulted with the following groups: -

- It circulated the draft document internally amongst the relevant authority departments and amongst other interested parties.
- The Council also used its normal procedures for consulting the local community. This involved lodging a copy of the document at local libraries and Council offices. Issuing a press release informing the public of the issues.
- Circulated the document to the following list of interested parties:
 - a) Arnold Traders Forum
 - b) Netherfield Traders Forum
 - c) Local Members of Parliament
 - d) Parish Councils
 - e) Local Historical Societies
 - f) All other District and Borough Councils in Nottinghamshire.
 - g) Friends of the Earth

In June 2000 the Nottinghamshire Contaminated Land sub Group was started. This is a grouping of officers from; the District Councils in Nottinghamshire and the Environment Agency; responsible for contaminated land.

The group has met regularly and has provided a forum for consistency of approach and close liaison between neighbouring authorities. The group continues to provide the means by which informal liaison between neighbouring authorities over issues such as cross border sites, and strategy implementation and review can take place.

Appendix II

Geological and Hydrogeological Maps





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Title

Geology of Gedling Borough

Scale: 1:75,000



Appendix III

Potential Contaminative Sources

POTENTIAL SOURCES OF CONTAMINATION

INDUSTRIAL HISTORY

The first step in the process of identifying potentially contaminated sites will be to closely examine historical data in the form of old Ordnance Survey plans and photographs from the early part of the century to the present day. These will be obtained from this Council's archives and the County records office. A lot of past industry will also still be within recent memory so local knowledge will be important at this stage. To aid this process all the Town and Parish Council's will be consulted.

CURRENT INDUSTRY

The present industrial areas of the Borough are potential sources of contamination and these will be inspected in accordance with the statutory guidance to establish whether there is a potential of contamination to exist, and, if there is, whether it is controlled by another agency.

ENVIRONMENTAL PROTECTION ACT 1990 Part I

'Part B' processes are authorised for air pollution control by this Council. There are currently twenty-nine processes authorised by the Council under Part I of the Act. Many of these processes have the potential to pollute the land, but there are no other statutory methods of control.

ENVIRONMENTAL PROTECTION ACT 1990 Part I

'Part A' processes authorised for integrated pollution control (IPC); to be replaced by Integrated Pollution Prevention and Control (IPPC); by the Environment Agency. There are currently no processes authorised by the Environment Agency under Part I of the Act. The IPC regime should control unauthorised discharges to land but their presence will need to be noted and the potential for long term pollution assessed, particularly post closure.

HAZARDOUS SUBSTANCES

This Council is a Hazardous Substances Authority for the purposes of the Planning (Hazardous Substances) Act 1990 and the Planning (Hazardous Substances) Regulations 1992. This legislation requires consent to allow the presence on land of hazardous substances above a specified quantity. These regulations were recently amended by the Planning (Control of Major Accident Hazards) Regulations 1999 (SI 981) to take account of the new COMAH Regulations (see below). There are currently four authorised sites in the Borough. The Planning Office maintains a register for this purpose.

COMAH Sites

The Control of Major Accident Hazards Regulations 1999 (SI 743) are enforced by the Environment Agency and Health & Safety Executive (joint competent authority) to control both on and off site risks from industries with a high potential for disaster from dangerous substances (flammable, toxic or explosive). There are no sites within the Borough.

It should be noted that all sites notified to the HSE under the Notification of Installations Handling Hazardous Substances Regulations 1982 (NIHHS sites) and COMAH sites, will be held on the hazardous substances register, so there should be no need to consult with the HSE on their location.

EXPLOSIVES

Are not directly covered by the hazardous substances regulations but are controlled by the Health & Safety Executive under licences issued under the Explosives Act 1875. Any licensed sites will be identified.

CURRENT LANDFILL AND WASTE PROCESSING SITES

Are licensed by the Environment Agency under the provisions of Part II of the Environmental Protection Act 1990. Details of all these sites have already been provided by the Agency for this purpose.

CLOSED LANDFILL SITES

Are a potentially significant source of risk, especially those which operated before the licensing requirements of the Control of Pollution Act 1974. All closed landfills in the Borough will be identified and their association with any specified receptors considered in detail.

SEWAGE WORKS AND LAND USED FOR THE DISPOSAL OF SEWAGE

SLUDGE Land dedicated for the disposal of sewage sludge is notified to the Environment Agency under the, Sludge (Use in Agriculture) Regulations 1989. This land, together with all operating and redundant sewage works will be identified and assessed.

MINES AND MINERALS EXTRACTION

The geology of the area has resulted in large areas used for the extraction of minerals and stone. Many of the resulting quarries then being filled with refuse or other materials. These can present a particular risk to water resources. An attempt will be made to identify all past quarrying sites and assess the risk they present.

WASTE OR DERELICT LAND

Often land owned by the utilities, railways or the Council is left seemingly abandoned because it has no particular use or is difficult to access. These areas can accumulate unwanted materials and can be used to dispose of wastes and effluents illegally.

MINISTRY OF DEFENCE LAND

There is one area occupied by Defence Agencies. Its potential for contamination could be significant therefore it will be investigated, in association with the Environment Agency as required, in accordance with the statutory guidance.

PREVIOUSLY DEVELOPED CONTAMINATED SITES

The inspection of the District will identify many potentially contaminated sites that have been developed over the years. In some cases the methods and extent of remediation may be unknown, in others it may be known but the remediation suspected of being inadequate.

POTENTIALLY CONTAMINATIVE INDUSTRIES

The list below has been drawn up to provide a broad indication of the type of sites that are know to use, or to have used in the past, materials that could pollute the soil. It must be understood that the list is not exhaustive, also that inclusion on this list does not necessary infer the existence of a contaminant linkage.

Abattoirs Adhesives manufacture Agriculture Aircraft manufacture Airports Animal burial Animal by-product processing Anodisers Anti-corrosion treatment Asbestos products Asphalt works Automotive engineering Battery manufacture Bearings manufacture Blacksmiths Boiler makers Bookbinding Brass and copper tube manufacture Brass founders Brewing Car manufacture Carbon products manufacture Cement works Chemical manufacture and storage Chrome plating Ceramics manufacture Coal carbonisation Coal merchant Concrete batching Coppersmiths Descaling contractors (chemical) Detergent manufacture Distilleries Dockyards Drum cleaning Dry cleaners Dve works Dyers and finishers Electricity generation Electrical engineers Electro platers Engineering works Explosives manufacture (including fireworks) Farms Fertiliser manufacture Fellmongers Fibre glass works Food processing Foundries Fuel manufacture Fuel storage Garages and depots Gas mantle manufacture Gas works Glass works Glue manufacture Gum and resin manufacture Hatters Hide and skin processors Ink manufacture Iron founder Iron works Laguer manufacture Laundries Leather manufacture

Metal coating Metal manufacture Metal sprayers and finishers Mining Mirror manufacture Motor vehicle manufacture Oil fuel distributors and suppliers Oil merchants Oil refineries Oil storage Paint and varnish manufacture Paper works Pesticides manufacture Petrol stations Photographic film works Photographic processing Paper manufacture Plastics works Plating works Power stations Print works Printed circuit board manufacture Radioactive materials processing Railway land Railway locomotive manufacture Refiners of nickel and antimony Resin manufacture Rubber manufacture Scrap metal dealers Sealing compound manufacture Sewage works Sewage sludge disposal areas Sheet metal merchants and works Ship breakers Ship builders Skein silk dyers Small arms manufacture Smokeless fuel manufacture Soap manufacture Solvent manufacture Solvent recovery Steel manufacture Stove enamellers Synthetic fibre manufacture Tank cleaning Tanneries Tar and pitch distillers Textile manufacture Thermometer makers Timber treatment Timber preservatives manufacture Tin plate works Transport depots Tyre manufacture and retreading Vehicle manufacture Vulcanite manufacture Vulcanisers Waste disposal Waste recycling Waste treatment Zinc works

Appendix IV

Potential Receptors and Table 1 - Ecological systems effects Table 2 – Property effects

Potentially Sensitive Receptors

RECEPTOR	LAND USE TYPE	
Human beings	Allotments	
	Residential with gardens	
	Residential without gardens	
	Schools and Nurseries	
	Recreational/parks, playing fields, open space.	
	Commercial/industrial	
Eco systems	European Sites	
	Special Areas of Conservation (including candidate SAC's) classified pursuant to Article 4 of European Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora, and Special Protection Areas (including potential SPA's) classified pursuant to Article 4 of European Council Directive on the Conservation of Wild Birds.	
	Ramsar Sites	
	Listed under the Convention on Wetlands of International Importance.	
	Sites of Special Scientific Interest (SSSI's)	
	Notified under section 28 of the Wildlife and Countryside Act 1981 (as amended)	
	National Nature Reserves (NNR's)	
	Declared under section 19 of the National Parks and Access to the Countryside Act 1949 or section 35 of the Wildlife and Countryside Act 1981 (as amended).	
	Areas for the Special Protection of Birds Established under section 3 of the Wildlife and Countryside Act 1981	
	Local Nature Reserves (LNR's) Declared under section 21 of the National Parks and Access to the Countryside Act 1949.	
	Sites of Importance for Nature Conservation (SINC's)	
	Afforded planning policy protection under Gedling Borough Local Plan.	
Property	Buildings (including below ground)	
	Ancient monuments	
	 Listed Buildings, historic parks and gardens 	
	Conservation areas	
	All crops including timber	
	Produce grown domestically or on allotments for consumption	
	Livestock	
	Other owned or domesticated animals	
	Wild game subject to shooting or fishing rights	
Watar		
vvalei	I erritorial sea water (to three miles)	
	• Coastal waters	
	 Intanu tresh waters (rivers, streams, lakes, including the bottom / bod if dru) 	
	Cround waters Source Protection Zonos Major Aquifors Mater	
	Abstraction Points	
	Water Resources Act 1991 s104	
Relevant types of receptor	Significant harm	Significant possibility of significant harm
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 Any ecological system, or living organism forming part of such a system, within a location which is: a site of special scientific interest (under section 28 of the Wildlife and Countryside Act 1981) a national nature reserve (under s.35 of the 1981 Act) a marine nature reserve (under s.36 of the 1981 Act) an area of special protection for birds (under s.3 of the 1981 Act) a "European site" within the meaning of regulation 8 of the Conservation of Habitats and Species Regulations 2010 any habitat or site afforded policy protection under paragraph 6 of Planning Policy Statement (PPS 9) on nature conservation, potential Special Protection Areas and listed Ramsar sites); or any nature reserve established under section 21 of the National Parks and Access to the Countryside Act 1949. 	 The following types of harm should be considered to be significant harm: 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 significantly 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. In the case of European sites, harm should also be considered to be significant harm if it endangers the favourable conservation status of natural habitats at such locations or species typically found there. In deciding what constitutes such harm, the local authority should have regard to the advice of Natural England and to the requirements of the Conservation of Habitats and Species Regulations 2010. 	 Conditions would exist for considering that a significant possibility of significant harm exists to a relevant ecological receptor where the local authority considers that: significant harm of that description is more likely than not to result from the contaminant linkage in question; or there is a reasonable possibility of significant harm of that description being caused, and if that harm were to occur, it would result in such a degree of damage to features of special interest at the location in question that they would be beyond any practicable possibility of restoration. Any assessment made for these purposes should take into account relevant information for that type of contaminant linkage, particularly in relation to the ecotoxicological effects of the contaminant.

Statutory Guidance TABLE 1: Ecological systems effects

Statutory Guidance TABLE 2 – Property effects

Relevant types of receptor	Significant harm	Significant possibility of significant harm		
 Property in the form of: 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. 	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. 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 contaminant linkage, a 20% diminution or loss should be regarded as a benchmark for what constitutes a substantial diminution or loss. In this Chapter, this description of significant harm is referred to as an "animal or crop effect".	Conditions would exist for considering that a significant possibility of significant harm exists to the relevant types of receptor where the local authority considers that significant harm is more likely than not to result from the contaminant linkage in question, taking into account relevant information for that type of contaminant linkage, particularly in relation to the ecotoxicological effects of the contaminant.		
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, or buried services such as sewers, water pipes or electricity cables.	Structural failure, substantial damage or substantial interference with any right of occupation. 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. In the case of a scheduled Ancient Monument, substantial damage should also 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. In this Chapter, this description of significant harm is referred to as a "building effect".	Conditions would exist for considering that a significant possibility of significant harm exists to the relevant types of receptor where the local authority considers that significant harm is more likely than not to result from the contaminant 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 contaminant linkage.		

Appendix V

Enforcement Concordat

The Principles of Good Enforcement: Policy and Procedures

This document sets out what business and others being regulated can expect from enforcement officers. It commits us to good enforcement policies and procedures. It may be supplemented by additional statements of enforcement policy.

The primary function of central and local government enforcement work is to protect the public, the environment and groups such as consumers and workers. At the same time, carrying out enforcement functions in an equitable, practical and consistent manner helps to promote a thriving national and local economy. We are committed to these aims and to maintaining a fair and safe trading environment.

The effectiveness of legislation in protecting consumers or sectors in society depends crucially on the compliance of those regulated. We recognise that most businesses want to comply with the law. We will, therefore, take care to help businesses and others meet their legal obligations without unnecessary expense, while taking firm action, including prosecution where appropriate, against those who flout the law or act irresponsibly. All citizens will reap the benefits of this policy through better information, choice, and safety.

We have therefore adopted the central and local government Concordat on Good Enforcement. Included in the term "enforcement" are advisory visits and assisting with compliance as well as licensing and formal enforcement action. By adopting the Concordat we commit ourselves to the following policies and procedures, which contribute to best value, and will provide information to show that we are observing them.

Principles of Good Enforcement: Policy

• Standards

In consultation with business and other relevant interested parties, including technical experts where appropriate, we will draw up clear standards setting out the level of service and performance the public and business people can expect to receive. We will publish these standards and our annual performance against them. The standards will be made available to businesses and others who are regulated.

Openness

We will provide information and advice in plain language on the rules that we apply and will disseminate this as widely as possible. We will be open about how we set about our work, including any charges that we set, consulting businesses, voluntary organisations, charities, consumers and workforce representatives. We will discuss general issues, specific compliance failures or problems with anyone experiencing difficulties.

Helpfulness

We believe that prevention is better than cure and that our role therefore involves actively working with business, especially small and medium sized businesses, to advise on and assist with compliance. We will provide a courteous and efficient service and our staff will identify themselves by name.

We will provide a contact point and telephone number for further dealings with us and we will encourage businesses to seek advice/information from us. Applications for approval of establishments, licenses, registrations, etc, will be dealt with efficiently and promptly. We will ensure that, wherever practicable, our enforcement services are effectively co-ordinated to minimise unnecessary overlaps and time delays.

• Complaints about service

We will provide well publicised, effective and timely complaints procedures easily accessible to business, the public, employees and consumer groups. In cases where disputes cannot be resolved, any right of complaint or appeal will be explained, with details of the process and the likely time-scales involved.

• Proportionality

We will minimise the costs of compliance for business by ensuring that any action we require is proportionate to the risks. As far as the law allows, we will take account of the circumstances of the case and the attitude of the operator when considering action.

We will take particular care to work with small businesses and voluntary and community organisations so that they can meet their legal obligations without unnecessary expense, where practicable.

Consistency

We will carry out our duties in a fair, equitable and consistent manner. While inspectors are expected to exercise judgement in individual cases, we will have arrangements in place to promote consistency, including effective arrangements for liaison with other authorities and enforcement bodies through schemes such as those operated by the Local Authorities co-ordinating Body on Food and Trading Standards (LACOTS) and the Local Authority National Type Approval Confederation (LANTAC).

Principles of Good Enforcement: Procedures

Advice from an officer will be put clearly and simply and will be confirmed in writing, on request, explaining why any remedial work is necessary and over what time-scale, and making sure that legal requirements are clearly distinguished from best practice advice.

Before formal enforcement action is taken, officers will provide an opportunity to discuss the circumstances of the case and, if possible, resolve points of difference, unless immediate action is required (for example, in the interests of health and safety or environmental protection or to prevent evidence being destroyed).

Where immediate action is considered necessary, an explanation of why such action was required will be given at the time and confirmed in writing in most cases within 5 working days and, in all cases, within 10 working days.

Where there are rights of appeal against formal action, advice on the appeal mechanism will be clearly set out in writing at the time the action is taken (whenever possible this advice will be issued with the enforcement notice).

Appendix VI

Timescales

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Deal with urgent Sites																					
Production of Strategy																					
Purchase risk prioritisation software and input data onto GIS																					
Prioritisation of sites for investigation																					
Detailed inspection of sites																					
sites																					

KEY:

Action timetabled For this period Action may occur During this period