NON-TECHNICAL SUMMARY

The Contaminated Land Inspection Strategy (the Strategy) details how Bedford Borough Council will deal with the identification and inspection of potentially contaminated land in the Borough, as required by Part IIA of the Environmental Protection Act 1990. The UK has a legacy of land contamination arising from industrial development and related operational practices, which might have been perfectly legal and acceptable at the time when they occurred, but give cause for concern now. The Strategy is one of the measures the UK Government is putting in place to ensure that appropriate action is taken to deal with existing contamination where it poses unacceptable risks to human health or the wider environment.

The Strategy sets out the statutory definition of contamination and how the Council will go about identifying and testing whether sites are within this definition. For land to be determined as contaminated, the Council must identify ***what*** the contaminant is ("the source") ***what or who*** is affected by it ('the receptor') and ***how*** the contaminant is getting from the source to the receptor ('the pathway'). This will determine if the site poses actual or potential risk to human health or the environment, and ensure all land is ***fit for the current use***.

The Council will identify potential sites via a desk study of previous land uses and environmental information, collecting data on sources, pathways and receptors. The risks associated with each site will be evaluated by a process known as tiered risk assessment. This will identify the most serious problems first and ensure no immediate risk is present. Where immediate risks are identified, the Council will take urgent action to ensure sites are 'cleaned up'. All sites will be allocated a priority and the Council will carry out a more in depth survey of the sites according to these priorities. Timescales are indicated in the Strategy, but these are provisional, as at this stage the full extent of the problem is unknown. The Strategy will be subject to review.

The Strategy follows Government Guidance and adopts the 'polluter pays' principle. The Council will seek voluntary agreement from landowners to 'clean-up' the land, but has the power to issue formal notices to landowners to require this work if necessary. A public register of remediated sites will be provided. Normally the person responsible for causing the contamination will be liable for the costs involved but if they cannot be found the responsibility will pass to the current owner or occupier. In certain circumstances the Council will undertake the work. The legislation provides clear tests on liability, and includes appeals procedures.

Local Authorities are the key agency in the implementation of this new regime, but the Environmental Agency has responsibility for certain classes of contamination termed special sites, for example those that affect water resources, old MoD sites, and major industrial sites. The Council will maintain liaison with the Environment Agency and other statutory bodies.

The aim of the Strategy is to protect public health and the wider environment. The Council will consult widely with members of the public, industry and commercial sectors during the implementation of the Strategy to ensure the research is as full as possible. The process will be open and transparent.

CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION TO REGULATIONS

New regulations that came into force on 1st April 2000, require Bedford Borough Council to inspect land in its area for contamination, under Part IIA of the Environmental Protection Act 1990. To fulfil these obligations, the Council must publish a contaminated land inspection strategy by 1st July 2001 detailing how these requirements will be implemented in the Bedford Borough area. This document sets out the Council's policies and procedures for the identification and inspection of contaminated land in the Bedford Borough area.

1.2 BEDFORD BOROUGH COUNCIL (THE COUNCIL) CORPORATE POLICIES

The Council's Community Plan(1) is an overarching policy document bringing together all initiatives and strategies working within the Bedford Borough Area, in which the Council has a role. The plan was approved by full Council in May 2001. The purpose of the plan is to set out the priorities for responding to the problems and challenges facing the Borough. It will also guide the Council's other detailed strategies and plans to ensure every function and service provided, works towards the Council's overall vision of sustainable communities. The Community Plan sets out the Council's core aims as summarised here.

AIM: Working in partnership with our diverse community to promote the social, economic and environmental well-being of the Borough, its residents and businesses.

: Strive to deliver sustainable communities and an improved quality of life for all through a process of continuous improvement.

The Contaminated Land Inspection Strategy ('the Strategy') sits within this framework. Land contamination has the potential for significant impact on health, the wider environment and the economy of the Borough. These areas are clearly identified in the Council's objectives and priorities listed in the Community Plan. The Strategy will take due consideration of these policies in work priorities.

It is the Council's priority to give local people more say, by promoting open Government, consultation, dialogue and involvement, and be accountable for its actions. The Council will consult with Parish Councils, the public and business community during the implementation of this strategy.

1.3 DEVELOPMENT OF THE STRATEGY

The Pollution Control Section of the Council has managed the drafting of this Strategy and will have responsibility for the implementation of the inspection programme. The Council's Lead Officer for contaminated land is the Senior Pollution Control Officer.

Implementation of the Strategy will impact on the work of other Service Areas in the Council as listed below. The strategy takes account of these wider issues at various stages during implementation.

- Planning - Policy planning and development control
- Property Management - Council land holdings, liabilities
- Legal - Interpretation, advice, statutory action and enforcement
- Economic Development - Investment, liabilities
- Housing - Strategic housing developments
- Building Control - Maintaining the standard of new build.

Key contacts for these work areas are given in Appendix 2.

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1.4 REGULATORY CONTEXT

Contaminated land regulations have been under development since the early 1990's. Following consultation on a 1993 White Paper entitled "Paying for our Past"[(2)], The Environment Act 1995 inserted a new section (Part IIA) into The Environment Protection Act 1990 (EPA). Another period of detailed consultation followed this enabling legislation, and the regulations and statutory guidance finally came into force in April 2000. It is the introduction of this new regulatory regime, generally referred to as the Part IIA regime, that has prompted the production of this strategy document. The thrust of the legislation is to ensure land is in a suitable condition for its current use.

1.4.1 Defining Contaminated Land

The legislation (Section 78A (2) Part IIA EPA) and statutory guidance[(3)] (paragraph B10) for the identification of contaminated land provide statutory definitions of what conditions can be considered as contaminated. Appendix 1 summarises this information, with the key definitions included in Box 1 for convenience. Importantly, the regime reflects the suitability for use approach, and does not cover all land on which contamination is present, referring only to situations where the condition of the land is unacceptable.

BOX 1: Definitions for Contaminated Land

Contaminated Land:

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

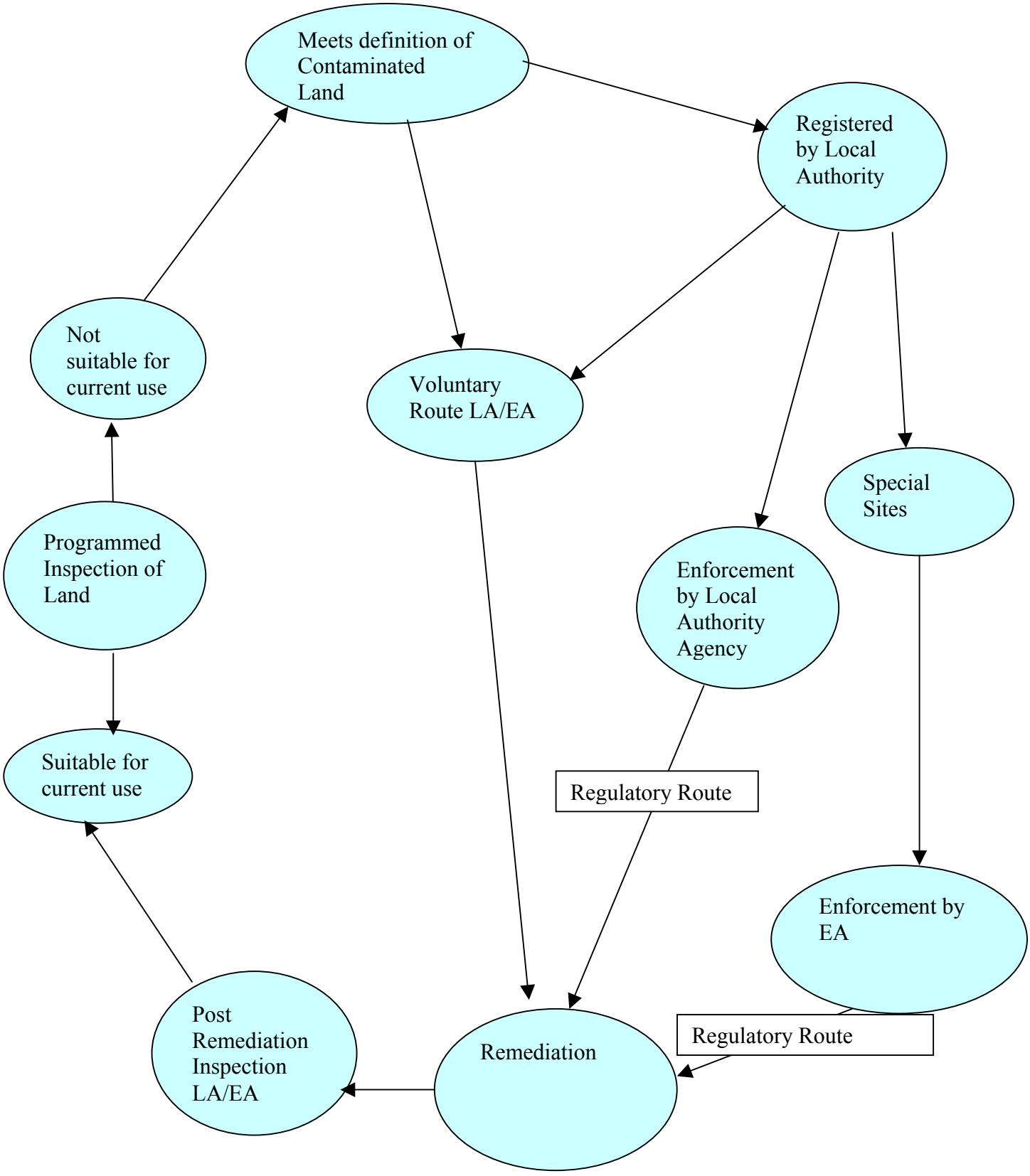
(a) *significant harm is being caused or there is a significant possibility of such harm being caused; or*

(b) pollution of controlled waters is being or is likely to be caused.

Harm:

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.

DIAGRAM 1: **Regulatory Flowchart – Part IIA Contaminated Land Register**



In this context, the definitions reflect the intended role of the new regime – to identify and clean up the land on which contamination is causing unacceptable risks to human health or the wider environment. The terms significant harm and significant possibility of harm are defined in statutory guidance and included at Appendix 3.

Diagram 1 summarises the key steps of the new contaminated land regime, which are explained in the following sections:

1.4.2 Pollutant Linkages and Risk Assessment

For a site to meet the definition of contaminated land, a pollutant linkage must be established. A pollutant linkage consists of three parts:

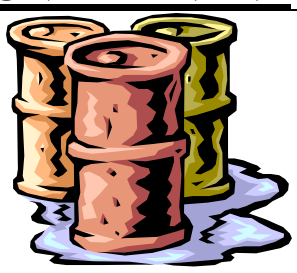
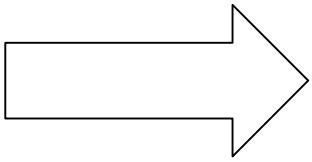
i. A source of contamination in, on, or under the land.

ii. A pathway by which the contaminant is causing significant harm (or which presents a significant possibility of such harm being caused).

iii. A receptor of a type specified in the regulations.

Without the linkage, the site cannot be determined as statutorily contaminated. Diagram 2 below shows examples of linkage.

DIAGRAM 2: Contaminated Land:Proving the Linkage

SOURCE/ CONTAMINANT	PATHWAY	RECEPTOR
		
SOLID	PERMEABLE SOIL	HUMANS
LIQUID	DRAINS	WATER (Surface/Ground)
GAS	AIR	FLORA & FAUNA
	SURFACE WATER	INFRASTRUCTURE (Buildings & Structures)
	GROUND WATER	

For land to be determined as contaminated, the source, the pathway and the receptor must all be proven **and** it must be demonstrated that significant harm is being caused **or** there is a significant possibility of such harm being caused; or pollution of controlled waters is being or is likely to be caused.

The definition of contaminated land is based upon the principles of risk assessment. Guidance[3] issued by the Secretary of State defines 'risk' as the combination of:

- the probability, or frequency, of occurrence of a defined hazard; and
- the magnitude (including seriousness) of the consequences of a defined hazard

The aim of this approach is to protect public health and the wider environment without unnecessarily wasting money on sites that do not pose a significant risk.

The receptors recognised as being potentially sensitive in national guidance[3] are summarised in Box 2. A full list is given in Appendix 3

BOX 2: Potentially sensitive receptors for contaminated land assessment [3]

RECEPTOR	LAND USE TYPE
Human beings	Allotments Residential with gardens Residential without gardens Schools or Nurseries Recreational/Parks, Playing Fields, Open Spaces Commercial/industrial
Ecological systems or living organisms forming part of a system within certain protected locations, including:	Sites of Special Scientific Interest (SSSIs) National Nature Reserves Marine Nature Reserves Nature Reserves Special Protection Areas (SPAs) Candidate SACs RAMSAR sites Areas of special protection for birds
Controlled Waters	Surface water (e.g. rivers, lakes, streams) Drinking water abstractions Source protection zones Groundwater – private abstractions Groundwater – major aquifers
Property	Crops Produce Livestock Animals Buildings

1.4.3 Interaction with Other Legislation

The new contaminated land regime does not apply to situations where the condition of the land will be dealt with by other legislation. A number of other regimes operate in parallel and the main powers are briefly described here :

- **Planning and Development Control**

  Land contamination, or the possibility of it, is a material consideration under the local plan and Town and Country Planning Legislation, both in the local structure plan and when determining individual applications for planning permission.

  The Planning Authority needs to satisfy itself when considering development proposals that the potential for contamination is properly assessed, both for the existing and proposed use and, when identified, that necessary remediation measures are enforced. At Bedford Borough Council, the Pollution Control Section routinely scrutinise planning applications before determination and provide technical advice to the Planning Services Group on the suitability of remediation schemes. The implementation of such schemes to render the land suitable for its proposed use is monitored. Any land dealt with via this route is excluded from the new Part IIA process, although sites dealt with previously, via the Planning Process, will be reviewed under the Part IIA regime.

- **Integrated Pollution Control (IPC) and Pollution Prevention and Control (PPC)**

  Under the Environmental Protection Act 1990 (EPA1990), the Environment Agency authorises a range of industrial processes to operate, controlling emissions to land, air and water. Action to remedy harm (statutorily defined) caused by a breach of IPC controls may be enforced by the Agency.

  A new Pollution, Prevention and Control (PPC) scheme is replacing IPC over a phased period and will cover the condition of the land. Both the EA and the Local Authority will have powers to remedy any breaches of legislation affecting land. Sites covered by this legislation will not be dealt with by Part IIA.

- **Waste Management Licensing (WML)**

  The WML system links with the Part IIA regime in several areas:

  - Significant harm or pollution of controlled waters from land subject to WML. The appropriate route for any remedial action is via the site licence.
  - Contamination arising from an illegal deposit of controlled waste. In this instance action would be taken by the Environment Agency or Waste Disposal Authority (Bedfordshire County Council) under the EPA1990.
  - Remediation work on contaminated land falling within the scope of waste disposal/recovery of the WML system (EPA1990 Part II).

  Any land dealt with via any of these routes is excluded from the new Part IIA process.

- **Radioactivity**

  The definition of harm under part IIA does not apply to any radioactivity possessed by any substance.

- **Statutory Nuisance (EPA1990, Section 79)**

  Part IIA replaces the statutory nuisance provisions of Section 79 of the 1990 Act when applied to remediating contaminated land, other than for cases already in hand. In this context, odour from deposits on land does not constitute harm within the meaning of Part IIA and Section 79 of the 1990 Act will apply. For all other situations the new Part IIA regime, as described in this strategy will take precedence.

1.4.4 The role of the District Council

Local Authorities have been given the primary regulatory role under the Part IIA regime. Local Authorities have historically had responsibility for dealing with any statutory nuisance caused by land contamination and are also lead authorities on land use planning.

Under Part IIA the Local Authority has the following key responsibilities:

- To cause their areas to be inspected for contaminated land.
- To determine whether any particular site meets the statutory definition of contaminated land.
- To act as the 'enforcing authority' for all contaminated land, unless the site meets the definition of a "special site" when it is transferred to the Environment Agency (EA).
- Consult the EA on pollution of controlled waters.
- Ensure remediation of land identified as contaminated.

1.4.5 The role of the Environment Agency

The Environment Agency will have four principal roles with respect to contaminated land under Part IIA. It will:

- Assist Local Authorities in identifying contaminated land, particularly in cases where water pollution is involved;
- Provide site-specific guidance to local authorities on contaminated land;
- Act as the 'enforcing authority' for any land designated as a 'special site'; and
- Publish periodic reports on contaminated land.

Part IIA establishes a new category of contaminated land called **'Special Sites'**. For any Special site, the Environment Agency is the enforcing authority for the purposes of the regime. However, it will be the responsibility of Bedford Borough Council to determine whether the site is contaminated before it can then determine whether it is 'Special' or not. The descriptions of the types of land, which are required to be designated as special sites, are set out in the Regulations. In summary, these include sites affecting controlled waters, certain industrial sites, nuclear sites and defence sites. Further detail is given in Appendix 4. Note that it is necessary to demonstrate a site falls into one of these categories **and** satisfies the contaminated land definition.

1.4.6 Dealing with Contaminated Land

When an area of contaminated land has been identified, the approach for dealing with it will be the same regardless of whether the Local Authority or the Environment Agency is the regulator. There are five main stages to this approach:

i. Determine, by Risk Assessment, if the site is statutorily contaminated.

ii. Establish who is the "appropriate person" as is defined in Section 78A (EPA 90); 'any person who is an appropriate person, determined in accordance with Section 78F to bear responsibility for anything which is to be done by way of remediation in any particular case to bear responsibility for the remediation (or "clean-up") of the land.'

Iii Decide what remediation is required, and to ensure that this occurs through:

- Reaching a voluntary agreement
- Serving a remediation notice, if agreement cannot be reached
- As a last resort the Enforcing Authority carrying out work themselves.

iii To determine who should bear what proportion of the liability for meeting the costs of the work.

iv To record certain information about regulatory action on a public register.

CHAPTER 2.

CHARACTERISTICS OF BEDFORD AND NORTH BEDFORDSHIRE (LOCAL AUTHORITY AREA)

2.1 DESCRIPTION

2.1.1 Geographical

Bedford Borough Council's area encompasses the central urban district of Bedford and Kempston with these providing a core, and services to the surrounding predominately rural area. The town is situated on one of the early crossing points of the River Great Ouse. London is 55 miles to the South, Milton Keynes is 15 miles to the Southwest, Northampton 20 miles to the Northwest and Cambridge is 30 miles to the East. A map of the area covered by the Council is included at Appendix 10.

The area enjoys good communication with all these locations due to the close proximity of the A1 and M1, which are joined by the A428, one of the main roads between the Midlands and the East Coast ports.

The area is also well served by the rail network, Bedford being the northern terminal for the Thameslink service between Bedford and Brighton via London Gatwick Airport. The station is also one of the major nodes on the InterCity line between London and the North.

2.1.2 Population

The current population of around 140,000 is distributed between: -

- Bedford at 75,000
- Kempston at 19,000
- Rural Areas at 46,000

The rural population is distributed between 43 rural parishes varying in size between Bromham (4,600); Wootton (4,160); Swineshead (140); and Little Barford (30).

2.1.3 Employment

This is broadly based, now mainly within the urban areas. In the past this has been centred around agriculture, and this led to the development of industrial and manufacturing processes, which were closely related to the rural economy. More recently, the area has seen a reduction and closures within the manufacturing base, however it has been successful in introducing modern electronics firms together with the research and development arms of major pharmaceutical companies.

2.2 GEOLOGICAL CHARACTERISTICS

The geology of the Local Authority area is relatively uniform. The solid geology consists of Cornbrash[(a)] and Bisworth[(a)] formations, and Oxford Clay[(b)] from the Jurassic period. The strata dip gently (2°) to the South East. Faults within both the limestone and mudstone formations have been identified as part of site investigations for engineering works.

These rocks are overlain by glacial deposits including boulder clay, gravel and silts. Within the valleys, particularly the Ouse Valley, the solid geology is overlain by alluvium (river gravel and silts).

The drift deposits covering this underlying solid geology are mainly chalky tills with the dominant soil type comprising low-permeability clay soils (mainly calcareous).

Details of historic quarrying will be taken from the Bedfordshire Historic Environment Record, and more recent extractions from plans held by the County Council's Minerals and Waste Section.

Details of historic quarrying will be taken from the Bedfordshire Historic Environment record and more recent extractions from plans held by the County Councils' minerals and waste section.

Relevance to Potentially Contaminated Land: Excavation of materials for construction purposes (i.e. clay, sands and gravel) followed by back filling, with unknown material.

2.3 HYDRO-GEOLOGY

The majority of the land within the Local Authority Land Area is classified by the Environment Agency as non-aquifer.

Minor aquifers within the area are: -

a) the Bedford Oolitic limestone
b) the sand and gravel deposits within the River Great Ouse valley.

There are no Public Water Supply (ground water) Sites or Source Protection Zones within the Local Authority area. However, several deep boreholes service sections of the local industry in and around Bedford and 23 private water supplies are checked and approved for public consumption.

Relevance to Potentially Contaminated Land: In view of the largely uniform and impermeable nature of the surface geology and the lack of underlying major aquifers it is unlikely that the pollution of controlled ground waters will be a major issue in the identification of contaminated sites.

2.4 INDUSTRIAL HISTORY

Bedford is a long-standing market town serving the local area. The Local Authority

(a) Limestones (including Bedford Oolite)
(b) Mudstones (pale grey calcareous silty mudstones with minor calcareous silt stones)

area includes the adjacent urban area of Kempston and 43 rural villages (area 120,000 acres / 484km²). The Borough Charter was granted by Henry II in 1166.

The first map of the town was produced by John Speed in 1610 and shows a small market town with the main part of the built up area to the North of the River Great Ouse.

Bedford became the head of navigation for the River Great Ouse in 1689. Activities at that time were primarily agricultural, and Bedford became an inland port for fish, crops (wheat, oats, barley, peas, beans and apples), malt, fullers earth and coal. Brewing and lace making featured as "cottage" industries.

However population growth was slow and the census of 1801 reveals an urban population of only 4000.

The mid 19th century, i.e. 1832-1888, was identified as the time of the Great Estates when crop rotation of fallow, barley, beans on clay, clover on gravel / loam and wheat was introduced. Cottagers continued lace making and extended products to plait (rope) for hat making.

Small scale market gardens appeared. Brewing continued to flourish in areas of Bedford at Castle Hill, Newlands (St. Paul's Square) and St. Mary's. The associated trade of glass and bottle making was introduced. Foundries producing agricultural implements started to appear. In 1817, Britannia Iron Works - a foundry manufacturing stoves, railings and farm implements - was set up by John Howard at the west end of High Street. The works relocated to Kempston Road in 1859 and had extended to a 15 acre site by 1874.

During this period the railway connections came through Bedford and its adjacent areas,

1846 Bedford - Bletchley
1851 Great Northern (London - York)
1857 Midland (London - Leicester)

1832, saw the formation of the Bedford Gas Company, with a gas works on the then edge of Bedford at Greyfriars. The Company transferred to a larger site at Ford End Road in 1864.

Further industrial expansion followed including:

1894 W. H. Allens Engineering Works on a 13 acre site at Queens Park.
1904 W Y A Robertsons works at Ampthill Road
1913 Igranic Electrical Company at Elstow Road
1913 Meltis at Elstow Road

Outside Bedford, and within the rural area, glass house and nursery production was introduced. Leather tanning and dying sites in villages adjacent to the River Great Ouse became established.

Excavation and firing of the Oxford Clay for brick products started prior to 1914.

Urban population growth escalated during the 19th century, rising to 35,000 by 1901.

In recent years, much of Bedford's manufacturing base has suffered from plant closures and the impact of all redundant/reused sites will be reviewed as part of the inspection process.

Relevance to Potentially Contaminated Land: Effects due to excavation of clays, sands and gravels is considered under 2.2 Geological Characteristics.
The Victorian Industrial Developments of railways and foundries will be examined as desk research for the initial assessment of sites.

CHAPTER 3:

AIMS, OBJECTIVES AND MANAGEMENT SYSTEMS

3.1 STRATEGIC APPROACH

The Hertfordshire and Bedfordshire Environmental Protection Group have worked jointly to establish consistency in the approach to the development and application of inspection strategies, throughout the region. The detail will depend upon local circumstances and their specific aims appropriate to Bedford Borough Council.

The DETR Circular 02/2000 on Contaminated Land, guides local authorities to take a strategic approach to inspections (paragraph B9). For simplicity, the guidance is not reproduced here, and a summary provided as Appendix 1.

3.2 AIMS AND OBJECTIVES

Bedford Borough Council will aim to deal with contaminated land within the framework of this strategy to:

BOX 3: Aims of the Contaminated Land Strategy

- Protect human health
- Protect controlled waters
- Protect designated ecosystems
- Prevent damage to property and buildings
- Prevent future contamination of land
- Encourage voluntary remediation
- encourage re-use

To achieve a strategic rational approach the Council will implement the following policies and outline procedures indicated.

1. Undertake a phased survey based on past and present land use, to identify potentially contaminative uses.

2. Undertake a planned inspection programme of potentially contaminated sites.

3. Prioritise the identification and inspection plan to protect the most sensitive receptor at risk.

4. The Council will take immediate action where an imminent risk to health or ecosystem is identified, at any stage in the process.

5. All sites known to be previously remediated will be included in the identification and inspection plan.

6. The Council will assess the significance of any contamination identified and establish if a pathway exists (or is likely to) by which significant harm may be caused to a receptor. The land will only be determined contaminated, if the pollution linkage from source to receptor is established.

7. The Council will liaise with the Environment Agency on the determination of special sites or other sites in line with the agreed Memorandum of Understanding 'Contaminated Land'. The Council will determine sites as special sites when sufficient evidence is obtained.

8. The Council will seek voluntary remediation, appropriately monitored, of sites identified as statutorily contaminated and only enact Part IIA of the Environmental Protection Act 1990, where voluntary and other statutory means fail, or an emergency situation prevails.

9. The Council will operate standard procedures wherever possible and require work undertaken by external consultants or contractors to follow recognised methods and accreditation. All work will be subject to monitoring and audit.

10. The Council will adopt a 'polluter pays principle'.

11. The Council will make inspection results available through the planning process to ensure a consistent standard of development is achieved and assist the redevelopment of brownfield sites.

12. All information related to determination of contaminated land sites will be held on a public register (as required by Regulation) and made available to members of the public. The Council will not release information until an investigation is completed, except in an emergency situation or when likely to be.

13. The Council will deal with all other requests for information in line with its responsibilities under the Environmental Information Regulation 1998, Human Rights Act 1998, and Freedom of Information Act 1998.

14. Box 4 summarises the arrangements and procedures required to achieve these aims and objectives. Details are provided in Chapter 4.

BOX 4: Arrangements and Procedures

- Obtain and evaluate data on actual harm or pollution of controlled waters
- Identification of receptors
- Obtain and evaluate data on possible contaminants
- Liaison with Consultees
- Liaison with current and former Landowners (including the Borough Council)
- Contacts the public, businesses and voluntary organisations
- Programme for initial reviews and detailed inspection
- Ongoing reviews of data and technical advice
- Information management

3.3 MANAGEMENT SYSTEMS

3.3.1 INTRODUCTION

The Pollution Control team have existing detailed work procedures to describe how contaminated land issues will be handled by the Council and these will be revised to take account of the new responsibilities of Part IIA. This section provides the broad principles of the Council's approach to dealing with contaminated land including the level of service the business community and members of the public can expect from the Council in dealing with these issues.

The inspection of potentially Contaminated Land will be dealt with on a site by site basis. It will be dependent on site characterisation and risk assessment.

Site characterisation, includes desk based studies and research, site reconnaissance, exploratory investigation and where necessary, sampling and monitoring. Characterising a site is also a critical procedure in terms of remedial measures for land designated as being statutorily contaminated.

Site characterisation is an integral feature of risk assessing sites. It is not a separate exercise. This whole process determines what type and the amount of data required; the location to be sampled; techniques to be applied and the time scales in which assessments are to be made.

A site found to be posing an immediate risk to a specified receptor, i.e. when a pollution linkage is determined and where there is a **significant** possibility of **significant** harm being caused, or pollution to controlled waters; the Council will reassign its priority and take any necessary action.

It should also be noted that the characterisation activities would be subject to differing time, cost and location factors, together with factors beyond the control of the Council. The data collected will inevitably be subject to uncertainties affecting levels of confidence. The Council recognises that these uncertainties exist and will take every practicable step to minimise any uncertainty, subject to resource availability, by following National Guidance and other accepted working practices.

Each local authority is designated to determine how sites will be identified, assessed and prioritised in terms of further investigation, and has the sole responsibility for determining whether any land appears to be contaminated. It is the Government's intention to publish guideline values for key pollutants in due course Environment Agency are formulating model procedures. Pending this guidance the Council will refer to existing authoritative texts such as BS10175[8], the ICRCL (Interdepartmental Committee for Redevelopment of Contaminated Land) recommendations, the Dutch Intervention levels or other similar data demonstrated to be appropriate to any given site.

3.3.2 INTERNAL MANAGEMENT ARRANGEMENTS FOR INSPECTION

Within the Council, the Pollution Control Section has the responsibility for the implementation of Part IIA. Data collection and collation will be undertaken by Bedford Design Group, an in-house technical consultancy working under the direction of the Senior Pollution Control Officer. Report CLR 6[4] provides guidance on the skills required for various stages of complexity in contaminated land identification and investigation which the Council will follow.

The initial prioritisation of sites will be performed by staff familiar with the interpretation of mapped data, as considered appropriate by the Lead Officer.

Initial site inspections at the initial prioritisation stage will be performed by staff experienced in site evaluation with technical support where appropriate. Sampling and analysis will be undertaken by competent personnel, employed under contract if necessary.

The Lead Officer will approve contact with owners of potentially contaminated sites, or other appropriate persons, to ensure consistency of approach to secure voluntary remediation if appropriate. Service of formal Notices (including Remediation Notices) will follow the Council's arrangements for delegated authority. The Senior Pollution Control Officer has authority to initiate and sign notices, subject to consultation with the Principal Environmental Health Officer responsible for this work area. The Service Manager (Public Health and Housing) will be consulted for sites where the investigation and / or remediation work, potentially to be undertaken in default of the Notice, will exceed allocated budgets. Member approval will be required for such cases.

3.3.3 LOCAL AUTHORITY INTERESTS IN LAND

The Council accepts that not only is the Authority a regulator, it is also a landowner. This Authority will seek to be open, transparent and consistent in its approach when dealing with the inspection and where necessary, the remediation of land in its ownership that may be statutorily contaminated.

The Council will not make special provision for land that it owns, over and above any other land identified as potentially contaminated. All sites will be risk assessed uniformly and no exception is made for land owned by the Council.

Information will be sought concerning land owned by the Authority, initially from the Service Manager (Land and Property). Further internal liaison will take place where information exists to perform a full risk assessment.

3.3.4 INFORMATION COLLECTION

To identify potentially contaminated land, the Council will need to collect a wide range of information from internal and external sources. These are summarised in Appendix 4.

It is anticipated that the risk assessment stage will involve large volumes of data. The Council's Geographical Information System (GIS) will be a key tool in managing this data. The Public Health and Housing computer database to be installed during 2001, will include a mapping facility based on Arcview (as used by the EA) and will have links to the new corporate GIS system. The Council will hold computerised records for the historical use of land and the identification of contaminated sites.

The quality of data collected, is one of the key factors that will affect the outcome of any risk assessment performed. The Council recognises that uncertainty will arise from piecemeal data. However, where this is the only data available, this will be taken into account. The sources of data to be used are listed in Appendix 4

The primary source of information will be Historical Land use Data. Further information will be derived from Trade directories, Council files and local knowledge.

Information has been provided by the Environment Agency concerning Source Protection Zones (SPZ's), pollution incidents, discharge consents, waste management licences, etc., which will be loaded onto the GIS system for source, pathway and receptor information.

Sensitive receivers such as schools and play areas will be derived from the County Council and Borough Council records.

Geological information will be obtained from British Geological Survey to provide another criteria to be risk assessed.

The potentially contaminative uses will be defined by category using the DOE Industry Profiles[5]. The former land use will be used as the basis for the initial risk assessment.

Where land is found to be posing a significant risk or causing significant harm, consultation will be made with the Environment Agency and any other relevant bodies, (for example English Nature, where necessary). External consultants will be engaged for specialist, third-party advice and recommendations, if necessary to enable the Council to make a determination. The Council will encourage site owners to take advise from competent personnel.

CHAPTER 4 : INFORMATION MANAGEMENT

4.1 INTRODUCTION

This section details procedures for the inspection and assessment of land based on setting initial priorities, preliminary hazard assessments, followed by detailed risk evaluation. Further procedures will cover remediation, liaison and communication.
Information obtained will be kept in accordance with the provisions of the Data Protection Act 1998, where the Council must comply with the eight enforceable principals of good practice. These principals state that the data[(a)] must be:

- fairly and lawfully processed;
- processed for limited purposes;
- adequate, relevant and not excessive;
- accurate;
- not kept longer than necessary;
- processed in accordance with the data subject's rights;
- secure;
- not transferred to countries without adequate protection.

Where personal information about an individual or group of individuals must appear on a public register, i.e.; where land is designated as Contaminated Land and the persons have been identified as *Appropriate Persons*; written notice will be given stating that their details will be published.
The Council will respond to requests for information under the Environmental Information Regulations (1998). Third party information will not be released without authority, nor will information where investigations are incomplete and enforcement action may be taken. All requests for information must be in writing, specifying the areas of land in question and identifying the information required.

4.2 INFORMATION EVALUATION

4.2.1 Principles of Risk Assessment

To enable the Council to fulfil its the duty under section 78B (1) [B9], Bedford Borough Council will apply a staged process of risk assessing the available information to determine the schedule for inspection of sites.

The risk assessment procedure will be based upon the Contaminant-Pathway-Receptor principle in order to establish the priority in which sites will be inspected.

The risk assessment has been derived from the CLR Report 6[(4)] and joint working with the Herts and Beds Contaminated Land Sub Group. The procedure is simple but systematic in its approach to deciding what priority to give to action, on a site that may be contaminated.

The assessment is aimed at minimising the possibility of a site being placed in too low a category for action. Where limited information exists, the worst case is assumed until demonstrated otherwise.

[(a)] This includes an individual's personal information

This risk assessment is intended to apply to a wide range of sites and situations. There may be occasions where the specific circumstances at a site require the risk assessment to be adapted and therefore, it should not be regarded as prescriptive.

Each site will be given a priority category for inspection. This is not a definitive classification. Further investigations may reveal information that warrants a revision of a priority categorisation – either higher or lower.

The risk assessment for prioritisation has three main phases as described below.

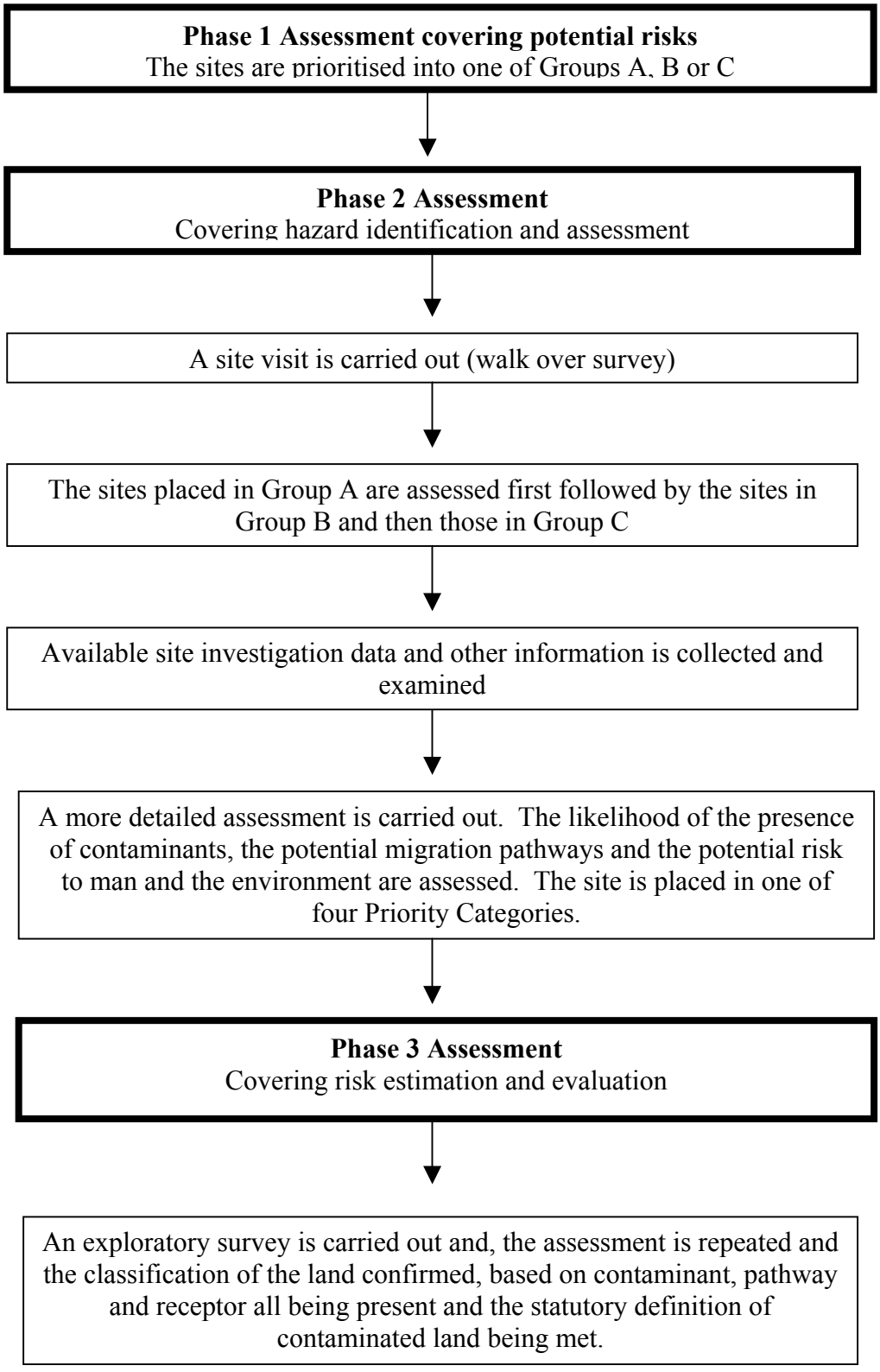
BOX 5: Main phases of assessment to prioritise site inspections

PHASE 1 – Preliminary Prioritisation of the site based on an assessment of the proximity of a receptor to the contaminant. Receptors are assessed under the headings of: **Development** (Humans, plants and the built environment) **Surface Water** **Groundwater**
PHASE 2 – Hazard Assessment: Follows the results from Phase 1. This phase is a more refined and detailed assessment. receptors are assess under the heading of. 'Development – Occupied Land; development – Unoccupied Land; Surface Water and; Groundwater
PHASE 3 – Risk Evaluation: Following the prioritisation the priorities set from Phase 2 further detailed work involving obtaining site based data and preparation of risk estimation and evaluation details will be compared with the statutory definition for Contaminated Land.

A procedural flowchart is shown as diagram 3

DIAGRAM 3: Procedural Flowchart

DETERMINATION OF CONTAMINATED LAND



Adapted from CLR6

4.3 INITIAL PRIORITIES (PHASE 1)

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

The location of specified receptors and potential sources of contamination will be required at this stage through desk-based research, using the electronic map records held on GIS (Geographical Information System). A walkover survey may be required at this stage, especially where information is piecemeal.

This stage will seek to eliminate those sites that are deemed not to present a risk and thus, no further investigation will be performed.

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

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

Preliminary Groupings are ranked alphabetically and split into groups. A site that is given a rating of A, will be in a higher preliminary group than B. Each character of the coding represents the likelihood of sensitive receivers (see Box 2) being present in the vicinity of the site. This stage determines when the site is run through the second stage assessment. The coding assumes a worst case scenario with priority being given to the most sensitive use.

Details of Phase 1 assessments for developments, surface water and ground water are given in Appendix 6

4.4 HAZARD ASSESSMENT (PHASE 2)

This stage refines the conceptual model developed during the Phase 1 assessment to set priorities for the second phase of the work. It confirms the plausibility of a pollutant linkage and gives an indication of the site's current suitability for use, in terms of the time scale for when action will be required.

Phase 2 requires more detailed site characterisation and assessment on the basis of more comprehensive desk-based research and /or exploratory site investigation data. This stage takes into account the nature, likely location and behaviour of contaminants, together with their possible interactions with defined receptors.

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

The results of Phase 2, place the site into one of four of the following categories. This is derived from CL Report 6[4].

BOX 6: Prioritise for Site Inspection

Priority Category 1	Site is probably or certainly not suitable for present use and environmental setting. Urgent – action needed in the short term. Contaminants probably or certainly present and very likely to have an unacceptable impact on key receptors.
Priority Category 2	Site may not be suitable for present use and environmental setting. Contaminants probably or certainly present and likely to have an acceptable impact on key receptors. Action may be needed in the medium term.
Priority Category 3	Site consideration suitable for present use and environmental setting. Contaminants may be present, but unlikely to have an unacceptable impact on key receptors. Action unlikely to be needed whilst in present use or remains undisturbed.
Priority Category 4	Site considered suitable for present use and environmental setting. Contaminants may be present, but very unlikely to have an unacceptable impact on key receptors. Action not be needed whilst in present use, or if site remains undisturbed.

Any site visit may take into account the following items:

- degree of public accessibility, the presence and condition of fencing or boundary walls and warning notices;
- use of the site – if industrial, type of industry; if agricultural, what use is made of the land; if housing (incl. schools), whether there are areas of exposed soils; if allotments, are they in use; if amenity, what type of use and surface, etc?
- derelict buildings, evidence of demolition, foundations, tanks, drums, pits, pipes and evidence of underground services or covered shafts;
- land use in the area up to 1km from the site boundary, particularly the proximity of housing and differences from information available at Phase1;

- evidence of ground disturbance – e.g.; discoloured soil or coloured water, signs of subsidence, evidence of fill material or fly tipping;

- vegetation type and signs of distress;

- significant odours;

- direction of surface water runoff and the presence of ponding on site;

- discharges of water from the site;

- rivers, streams, ditches, culverts, canals, lakes or any other surface water features within 500m of the site boundary;

- direction and rate of flow of water courses;

- discoloration of surface waters and the bubbling or frothing of surface water which may indicate gaseous emissions from beneath the water.

Details of Phase 2 Assessments for Developments (Occupied and Unoccupied Land), Surface Water and Ground Water are shown in Appendix 7.

4.5 RISK EVALUATION (PHASE 3)

Phase 3 of the risk assessment involves detailed analysis of each site. The DETR will be publishing new guidelines – CLEA (Contaminated Land Exposure Assessment). Until its publication, information will be evaluated against the guidelines issued by the Interdepartmental Committee on Redevelopment of Contaminated Land (ICRCL)[6] or other creditable guidance on the exposure risks from contaminated land.

Details of Phase 3 Assessments for Development (Occupied and Unoccupied Land), Surface Ground Water are shown in Appendix 8.

4.6 ASSESSMENT AND INSPECTION

The systematic approach to Contaminated Land investigations adopted by the Council is denoted by the programme details in Box 7, compiling phases 1, 2 and 3, as described previously.

BOX 7: STEPS FOR THE INSPECTION AND ASSESSMENT OF LAND

1. Assembly of data
2. Phase 1 assessment confirm initial priorities Groups A, Band C
3. Obtain Results
4. Phase 2 assessment for Group A
5. Obtain results (desk study)
6. Walkover survey
7. Review results and revise risk assessment
8. Phase 3 assessment for Group A based on Priority Categories 1 to 4 from Phase 2
9. Site investigation
10. Review results and revise risk assessment. Register Land as Contaminated.
11. Seek voluntary remediation
12. Confirm registration of all Contaminated Land within Group A
13. Phase 2 assessment for Group B
14. Obtain results (desk study)
15. Walkover survey
16. Review results and revise risk assessment
17. Phase 3 assessment for Group B based on Priority Categories 1 to 4 from Phase 2
18. Site investigation
19. Review results and revise risk assessment. Register Land as Contaminated.
20. Seek voluntary remediation
21. Confirm registration of all Contaminated Land within Group B
22. Phase 2 assessment for Group C
23. Obtain result (desk study)
24. Walk over survey
25. Review results and revise risk assessment
26. Phase 3 assessment for Group C based on Priority Categories 1 to 4 from Phase 2
27. Site investigation
28. Review results and revise assessment. Register Land as Contaminated.
29. Seek voluntary remediation
30. Confirm registration of all Contaminated Land within Group C

4.7 REMEDIATION

4.7.1 Guidance

Remediation measures will be in line with DETR Guidance (02/200) and accepted best practice. Full consultation will take place with Statutory Consultees. The council will require a full remediation stategy to be submitted for each each site.

4.7.2 Principles to Securing Remediation

The Council will employ the following steps for liaison and communication regarding the remediation of Contaminated Land:

a. Inform all parties with an interest in the Contaminated Land at an early stage and encourage voluntary remediation.

b. Determine the “appropriate” person(s).

c. Initial contact with the “appropriate” person for each pollutant linkage will be based on voluntary remediation. The “appropriate” person will be determined according to statutory guidance, as the person responsible for any remediation to be done. The Council will provide evidence of the data used to make the determination.

d. The process for entry to the Contaminated Land: Statutory Remediation Public Register will be commenced.

e. The “appropriate” person will be advised that the entry will be placed on the register after 14 days has elapsed.

f. Attempt will be made again seeking voluntary remediation (without recourse to formal Notice).

g. When circumstances warrant a Remediation Notice will be served, and this will provide the designated “appropriate” person with details of their connection to the land and contamination, the land itself, specify the action necessary and the time scale.

h. Recipient of Notice has right if appeal within 21 days.

i. If the necessary work is not completed within 3 months the Council will consider the need to undertake the work itself in default under the Remediation Notice already served. The appropriate person may be liable for costs incurred.

j. The Council recovers reasonable costs incurred to remediate sites where the appropriate person is not found.

4.8 LIAISON AND COMMUNICATION

4.8.1 Public Register

The Register will be available for public access at the Town Hall and contain the following, as required by statute:

a. Remediation Notices (including voluntary works).

b. Site Reports (registered sites only).

c. Remediation declarations, statements and notifications.

d. Appeals and convictions.

e. Special sites (the responsibility of the Environment Agency) will be identified within the Register.

4.8.2 Consultation

The Borough Council will provide copies of the Strategy, to the Statutory Consulates consultees:

a. Environment Agency

b. English Nature

c. Ministry of Agriculture Fisheries and Food

d. English Heritage

e. Bedfordshire County Council

f. Food Standards Agency

It is recognised that other organisations, businesses and members of the public and voluntary organisation will hold both information and views on contaminated land, and information exchange will be encouraged through both publicity and access. Due regard will be taken of comments made by both statutory and informal consultees.

The Council recognises the need to communicate effectively with all stakeholders on the risks associated with contaminated land and the need to overcome barriers based on:

a. Familiarity

b. Control

c. Proximity in space

d. Proximity in time

e. Scale

f. InterAction

4.8.3 INFORMATION & COMPLAINTS

Requests for service and enquiries received within the Public Health and Housing service area are responded to in accordance with agreed performance indicators.
All requests and enquiries received concerning land that may be contaminated, will be investigated and a first response, in writing if necessary, given within 7 working days. Situations with imminent significant risk to health will be responded to as soon as possible and within 24 hours.

Where a complaint is received anonymously, an individual's anonymity will be respected where the information offered concerning contamination, is detailed and sufficient enough to perform an investigation. Non-specific, generalised information will not be considered sufficient enough to conduct an investigation.

Information obtained will be kept in accordance with the provisions of the Data Protection Act 1998, where the Council must comply with the eight enforceable principles of good practice. These principles state that the data[(a)] must be:

- fairly and lawfully processed;
- processed for limited purposes;
- adequate, relevant and not excessive;
- accurate;
- not kept longer than necessary;
- processed in accordance with the data subject's rights;
- secure;
- not transferred to countries without adequate protection.

Where personal information about an individual or group of individuals must appear on a public register, i.e.; where land is designated as Contaminated Land and the persons have been identified as *Appropriate Persons*; written notice will be given stating that their details will be published.

The Council will respond to requests for information under the Environmental Information Regulations (1998). Third party information will not be released without authority, nor will information where investigations are incomplete and enforcement action may be taken. All requests for information must be in writing, specifying the areas of land in question and identifying the information required.

CHAPTER 5: WORK PROGRAMME

5.1 Timescale

The inspection programme for potentially contaminated sites will follow a structured approach. At this time, it is not possible to put a fixed timescale for each stage as the amount of information and number of sites are not known. The following work plan is based on the Council's current knowledge of potentially contaminated sites and previous land uses in the area. The timescale will be reviewed as further information becomes available. Completion of each stage by end October each year, will enable budget estimates to be placed for the following financial year.

BOX 8: Timescale

ACTIVITY	DESCRIPTION	TIMESCALE
Agree Programme		Summer 2001
Research Historical Records	To include Sources in Section 4.4 and	Information collection/collation July – December 2002
Define information management needs	Identify GIS system needs	Ongoing – System commission Sept 2001
Data Entry	Enter/collate records	April 2002 – Dec 2002
Phase 1: Preliminary assessment	Length of time will depend on number of sites identified	January 2003 – October 2003
Inspection Schedule		
Priority A	Inspect Sites – High Priority	November 2003 – October 2004
Priority B	Inspect Sites – Medium Priority	November 2004 – October 2005
Priority C	Inspect Sites – Low Priority	November 2005 – October 2006
Review of existing strategy		Annually Oct – Nov 2002- 2006 3 yearly

5.2 Reviews/Revisions to Strategy

During the early stages of Strategy implementation, progress and effectiveness will be reviewed on an annual basis each October between 2002 and 2006. The strategy will be reviewed against the Overall Aims and Objectives and the effectiveness of the proposed protocols will be reviewed against operational effectiveness. Any revisions will be made subject to the consultations, which accompanied the creation of Strategy.

Bedford Borough Council will liaise with and report to the Environment Agency to meet the national data collection and reporting requirements of the Environment Protection Act 1990, Part IIA.

1.	Confirm initial priorities (and review and record)	Oct 2003
2.	Review from Phases II & III works on Group A	Oct 2004
3.	Review from Phases II & III works on Group B	Oct 2005
4.	Review from Phases II & III works on Group C	Oct 2006
5.	Review operation of Strategy and revisit initial priorities	Oct 2006
6.	Review operation of Register and revisit initial priorities	Oct 2009

5.3 Triggers for Review of Inspection Programme

The identification of Contaminated Land is an ongoing process, and the Council will respond to new information, as it becomes available. When appropriate, the site priority classification will be reviewed and risk assessment updated. The follow-up action will depend upon the new assessment and urgent action will be taken, as detailed elsewhere in this document (sections 3.2, 4.2).

The changes to trigger review may include:

- unplanned changes in the use of the site (i.e. fly tipping, access by children).
- notification of unusual or abnormal site conditions.
- reports of localised health effects.
- updates on information from other statutory bodies.
- proposed changes in use of surrounding land.

CHAPTER 6

REFERENCES

1. Bedfordshire Community Plan 2001

2. Paying for our past: White Paper 1993 HMSO

3. Contaminated Land Environmental Protection Act 1990: Part IIA
   Circular 02/2000 Department of the Environment and Transport Regions

4. Prioritisation and Categorisation of procedures for sites which may be Contaminated DOE. Contaminated Land Research Report Series DETR

5. Industry Profiles – produced by Contaminated Land and Liabilities Division, DETR

6. ICRCL 59/33 Guidance on the Assessment and Redevelopment of Contaminated Land 1987
   Interdepartmental Committee on the Redevelopment of Contaminated Land

7. Communicating Understanding of Contaminated Land Risks SNIFFER Environment Agency 1999

8. BS10175: 2001 Investigation of potentially contaminated sites – Code of Practice - British Standards Institution.

APPENDIX 1:

DETR GUIDANCE ON CONTAMINATED LAND

Guidance on Contaminated Land - extract from The DETR Circular 02/2000.
The Local Authorities inspection program shall be; (Paragraph B9)

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

The Local Authority is also guided to ensure that (paragraph B10):

a) any available evidence that significant harm or pollution of controlled waters is actually being caused;
b) the extent to which any receptor (which is either of a type listed in Table A in Chapter A of the guidance, or is controlled waters) is likely to be found in any of the different parts of the authority's area;
c) the extent to which any of those receptors is likely to be exposed to a contaminant (as defined in Chapter A), for example, as a result of the use of the land or the geological and Hydrogeological features of the area;
d) the extent to which information on land contamination is already available; the history, scale and nature of industrial or other activities, which may have contaminated the land in different parts of its area;
e) the nature and timing of past redevelopment in different parts of its area;
f) the extent to which remedial action has already been taken by the authority, or others to deal with land-contamination problems, or is likely to be taken as part of an impending redevelopment and;
g) the extent to which other regulatory authorities are likely to be considering the possibility of harm being caused to particular receptors, or the likelihood of any pollution of controlled waters being caused in particular parts of the local authority's area.

APPENDIX 2:

INTERNAL CONTACTS

1. INTERNAL

Planning (Policy and Development	:	Head of Planning Services
Property Management	:	Service Manager (Land and Property)
Legal	:	Service Manager (Legal)
Economic Development	:	Head of Economic Development and Corporate Support
Housing	:	Service Manager (Housing)
Building Control	:	Building Control Manager
Finance	:	Head of Financial Services

EXTERNAL CONTACTS

2. EXTERNAL		**CONTACT**
Environment Agency Anglian Region Bromholme Brampton Huntingdon Cambs PE18 8NE	:	Tom Smith
Bedfordshire County Council County Hall Bedford	:	Kevin Monkton
English Heritage East of England Region Team 62-74 Burleigh Street Cambridge CB 1DJ	:	Sally Harper
English Nature Ham Lane House Ham Lane Orton Watervile Peterborough PE2 5UR	:	David Denman

Ministry of Agriculture
Fisheries and Food
Rural and Marine Environment
Room 311
16 Palace Street
London
SW1E 5FF

: Fiona Reynolds and Gary Beckwith

Contaminants Division
Food Standards Agency
Room 707C
Aviation House
125 Kingsway
London
WC2B 6NH

: Dr Patrick Miller

APPENDIX 3: RECEPTORS AND DESCRIPTION OF SIGNIFICANT HARM

Type of Receptor	Description of harm to that type of receptor that is to be regarded as significant harm.
1. Human beings	**Death, disease, serious injury, genetic mutation, birth defects or the impairment of reproductive functions.** **For these purposes, disease is to be taken to mean an unhealthy condition of the body or a part of it can include, for example, cancer, liver dysfunction or extensive skin ailments. Mental dysfunction is included only insofar as it attributed to the effects of a pollutant on the body of the person concerned.**
2. Any ecological system or living organism forming part of such a system, within a location which is: • **an area notified as an area of special scientific interest under section 28 of the Wildlife and Countryside Act 1981;** • **any land declared a national nature reserve under section 35 of that Act;** • **any area designated as a marine nature reserve under section 36 of that Act;** • **an area of special protection for birds, established under section 3 of that Act;** • **any European Site within the meaning of regulation 10 of the Conservation (Natural Habitats etc) Regulations 1994 (i.e. Special Areas of Conservation or potential Special Protection Areas given equivalent protection;** • **any candidate Special Areas of Conservation or potential Special Protection Areas given equivalent protection;** • **any habitat or site afforded policy protection under paragraph 13 of Planning Policy Guidance Note 9 (PPG9) on nature conservation (i.e. candidate Special Areas of Conservation, potential Special Protection Areas and listed Ramsar sites); or** • **any nature reserve established under section 21 of the National Parks and Access to the Countryside Act 1949.**	**For <u>any</u> protected location.** • **harm which results in an irreversible adverse change, or in some other substantial adverse change, in the functioning of the ecological system within any substantial part of that location; or** • **harm which affects any species of special interest within that location and which endangers the long-term maintenance of the population of the species at that location.** **In addition, in the case of a protected location which is a European Site (or a candidate Special Area of Conservation or a potential Special Protection Area), harm which is compatible with the favourable conservation status of natural habitats at that location or species found there.** **In determining what constitutes such harm, the local authority should have regard to the advice of English Nature and to the requirements of the Conservation (Natural Habitats, etc) Regulations 1994.**
3. 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 pollutant linkage, a 20% diminution or loss should be regarded as a benchmark for what constitutes a substantial diminution or loss.**
4. Property in the form of buildings. **For this purpose , "building" means any structure or erection, and any part below ground level, but does not include plant or machinery comprised in a building.**	**Structural failure, substantial damage or substantial interference with any right occupation.** **For this purpose, the local authority should regard substantial damage or substantial interference when any part of the building ceases to be capable of being used for the purposes it is or was intended.** **Additionally, in the case of a scheduled Ancient Monument, substantial damage should be regarded as occurring when the damage significantly impairs the historic, architectural, traditional, artistic or archaeological interest by reason of which the monument was scheduled.**

APPENDIX 4: SPECIAL SITES

SPECIAL SITES

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

Special Sites are sub-divided into 3 groups:

a. Water pollution cases
Sites that could pollute drinking water supplies (wholesomeness of drinking water, via surface water run-off or by affecting major aquifers)

b. Industrial cases
Sites with difficult pollution problems such as:

- waste and tar lagoons
- oil refining
- explosives
- integrated Pollution Control (IPC) Sites
- Nuclear Sites

c. Defence cases
Sites covered by the Ministry of Defence

APPENDIX 5: Information Sources

SOURCE	FOR	DETAILS
Kelly's Trade Directories	Potentially contaminative uses	Analysis of 5 periods available from Pollution Control.
Ordinance Survey Plans and maps	Current land use	On GIS
Bedfordshire Historic Environment Record	Former Industrial Land Uses Ancient Monuments	To be transferred GIS to GIS from Beds County Council
Environment Agency Local Action Plans and Web Site (What's in my backyard)	Geology and Hydrology	Licensed waste disposal / transfer station, pollution incidents, discharges
British Geological Survey	Geology	Mapped details only
Watercourse catchments	Run off contamination	Contoured OS sheets
Bio 2000	Biological Record	Wildlife sites, SSS1, badgers, GC Newts, Bats and Veteran Trees
Planning Permission Application Records	Remediation sites/works	Sites, extent of previous work
Building Control Records	Remediation sites/works	Precautionary measures/remediation
National Gas Archive	Gas production sites	Former and current
Central Electricity Generating Board	Power station sites	Former and current
British Geological Survey	Radon Methane	
Anglian Water Services Ltd	Sewerage Treatment Sites	Former and current
Parish Councils	Local Knowledge	Advice sought by consultation
Environmental Groups	Local Knowledge	Advice sought by consultation
Bedfordshire County Council (Minerals and Waste Section)	Quarrying	Recent extractions
Ministry of Agriculture Fisheries and Food	Agricultural Land	Classification and Criteria

DETR Industry Profiles	Potential contaminants associated with land use	Report series
English Nature	Nature Conservation	Sites and protected species data

Note on Bedfordshire Historical Environment Record

This record, maintained by Bedfordshire County Council, is a database containing information on all known archaeological sites, historic buildings and historic landscape features in the county. It already holds information on more than 17,000 items of all periods from the earliest human activity (125,000 years ago) to World War II, including stray finds and industrial remains. All Scheduled Ancient Monuments and Listed Buildings of Special Architectural or Historic Interest are recorded together with historic parks and gardens and field systems. Buried remains and demolished buildings are also included.

The record also contains the results of a recent detailed study of 19th and 20th Century trade directories and historic maps, which identified and located the majority of industrial sites in Bedford and Kempston.

APPENDIX 6:

PHASE 1 ASSESSMENTS:

FIGURE 1 : DEVELOPMENTS

FIGURE 2 : SURFACE WATER

FIGURE 3 : GROUND WATER

The following figures are adapted from CLR6 :

Prioritisation and categorisation of procedures for sites which may be contaminated, Contaminated Land Research Report Series DOE.

FIGURE 1: Phase 1 Assessment for Development

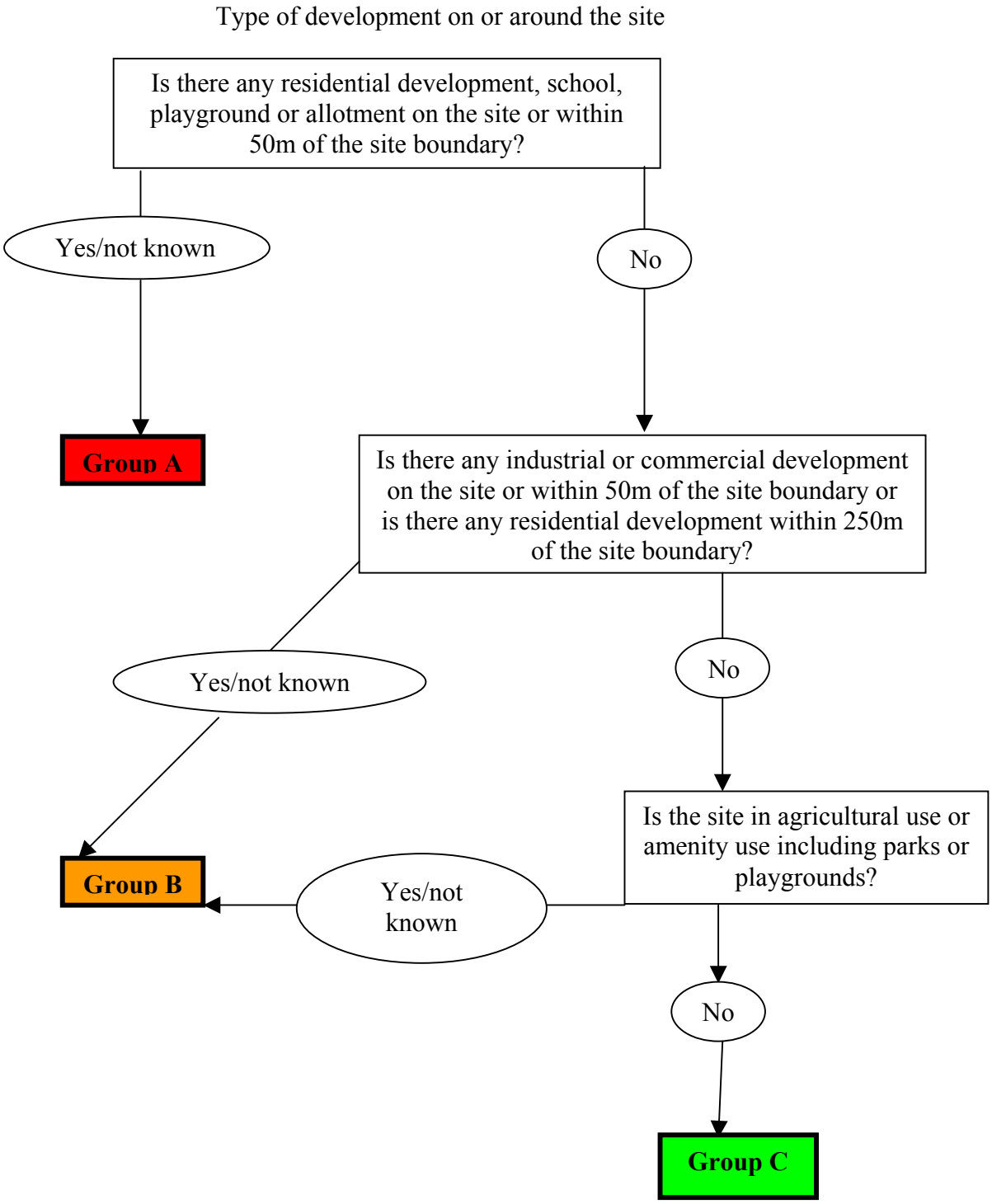


FIGURE 2 : Phase 1 Assessment for Surface Water

Surface water features on or around the site

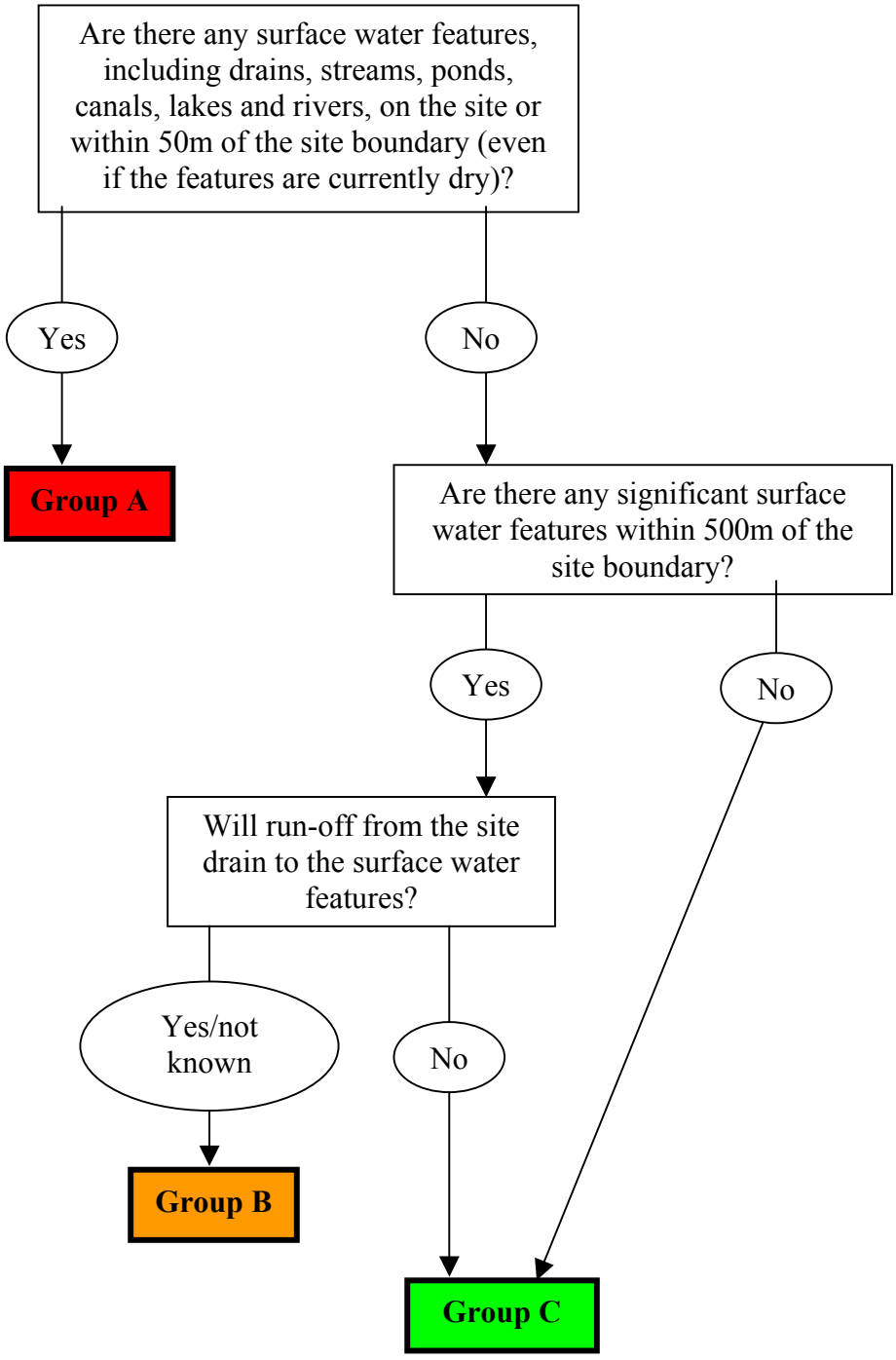
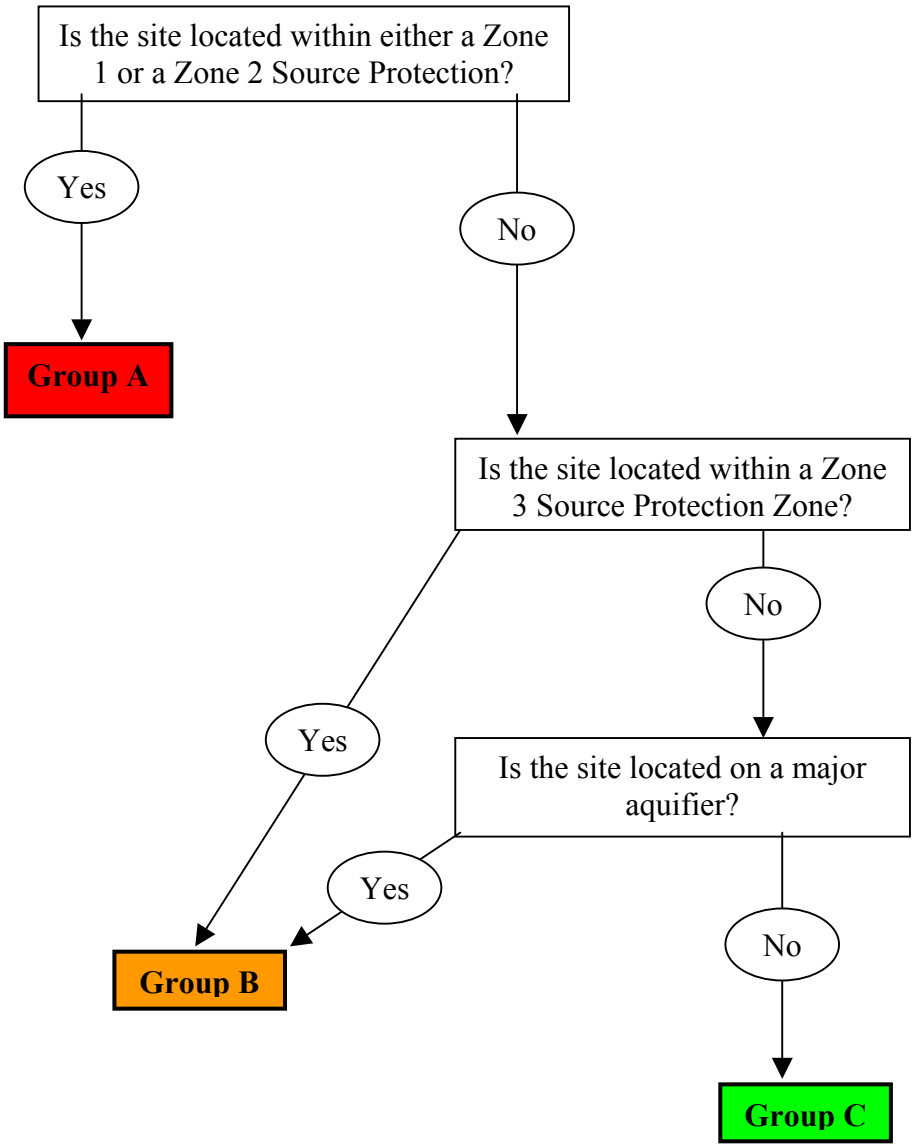


FIGURE 3: Phase 1 Assessment for Groundwater



APPENDIX 7:

PHASE 2 ASSESSMENTS:

FIGURE 1 : DEVELOPMENT

FIGURE 2 : UNOCCUPIED LAND

FIGURE 3 : SURFACE WATER

FIGURE 4 : GROUND WATER

NOTE ON PHASE 2 ASSESSMENTS:

NOTE: The answer NO only applies where the data on the contamination has been compared with a checklist for the contaminants expected on this site relevant to the particular receptor and has been evaluated to determine the statistical validity. For example, if a contaminant is expected to be present but has not been included in the testing programme or otherwise discounted the answer must be NO DATA.

The following figures are adapted from CLR6 :

Prioritisation and categorisation of procedures for sites which may be contaminated, Contaminated Land Research Report Series DOE.

FIGURE 1: Phase 2 Assessment for Development including residential, allotments, agricultural land, commercial or industrial use, public open space or amenity.

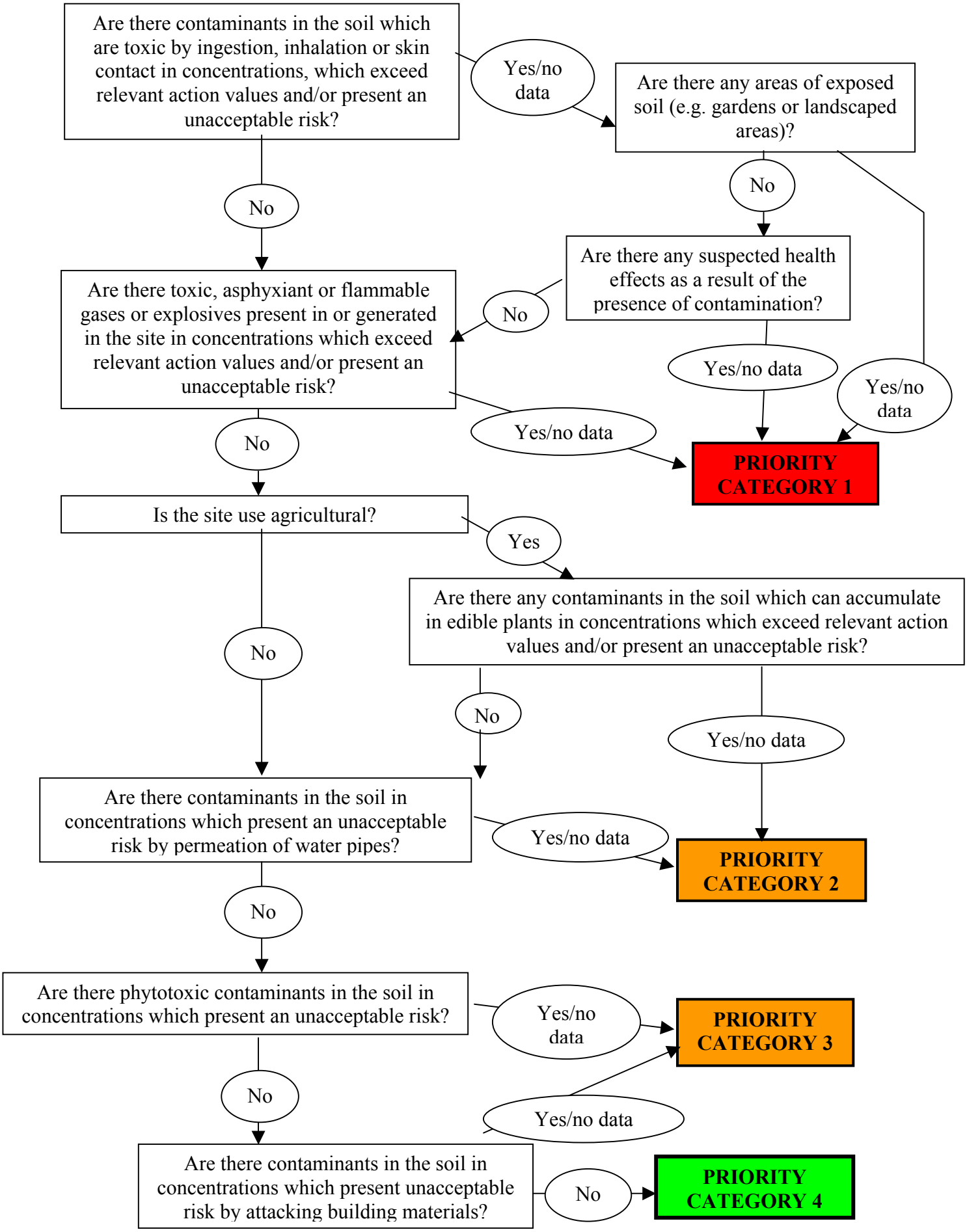


Figure 2: Phase 2 Assessment Development – Unoccupied Land

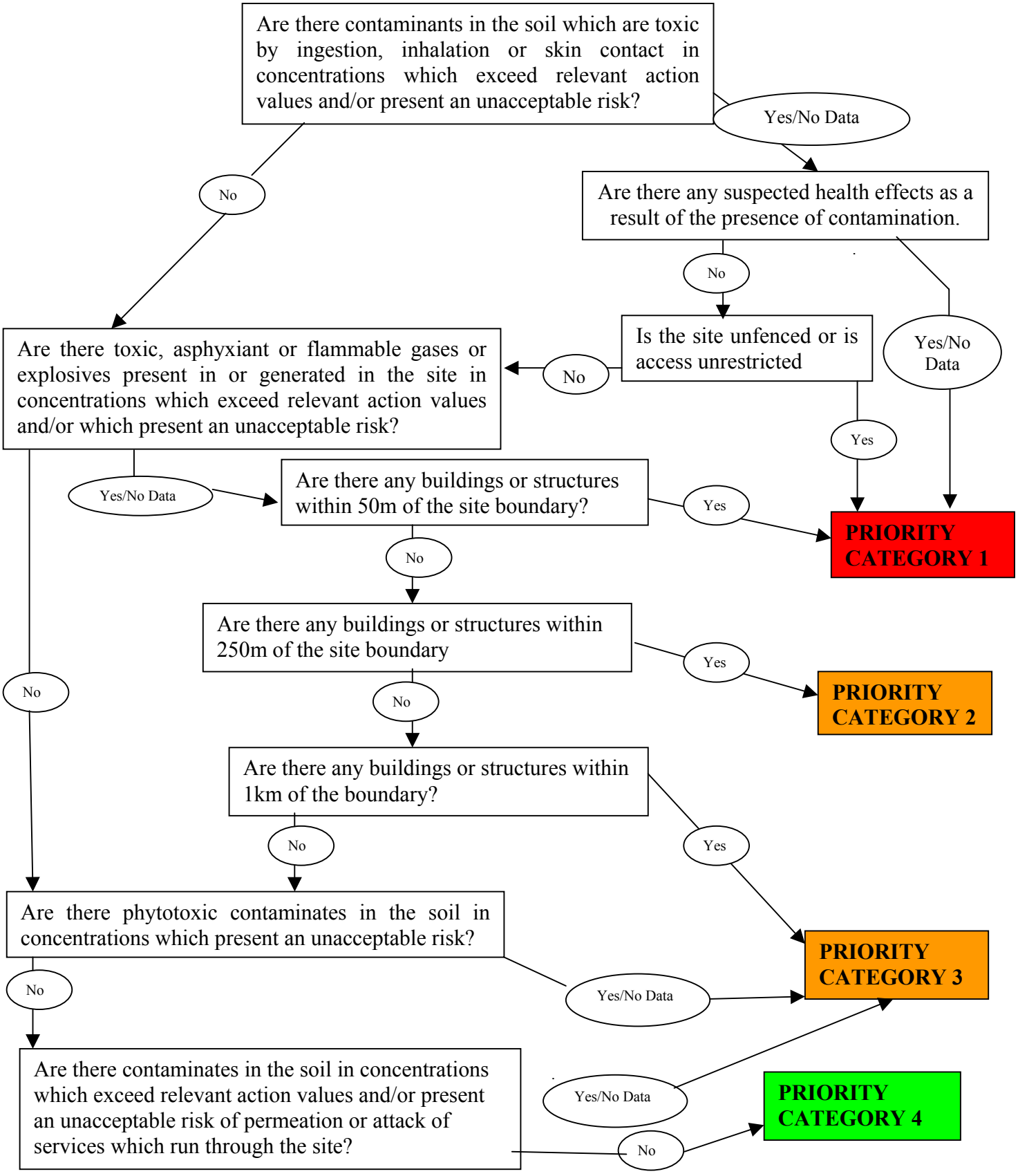
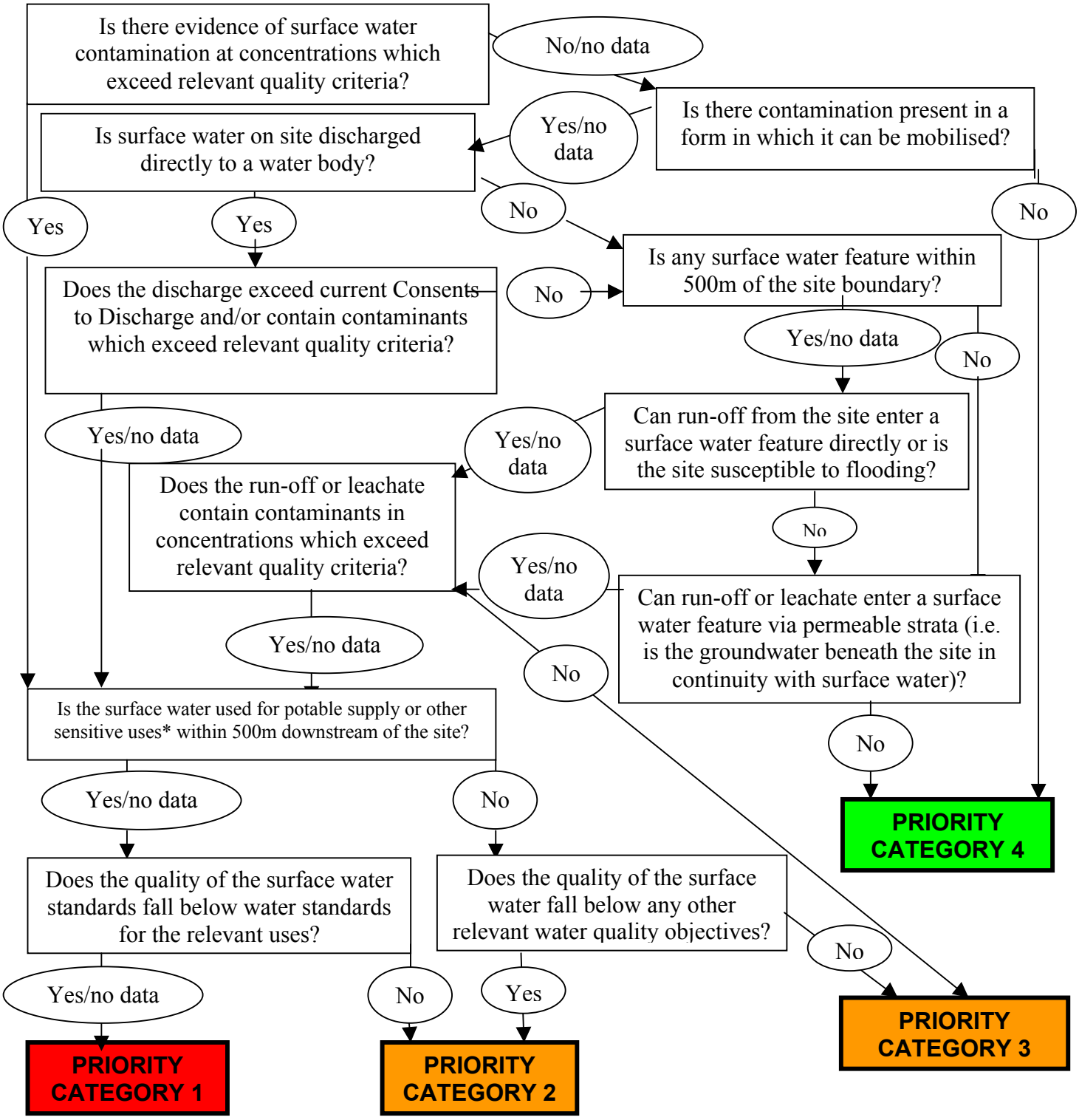


Figure 3: Phase 2 Assessment for Surface Water



* Other sensitive uses of surface water include recreation (bathing/canoeing), salmonid fishery and SSI designation

Figure 4: Phase 2 Assessment for Groundwater

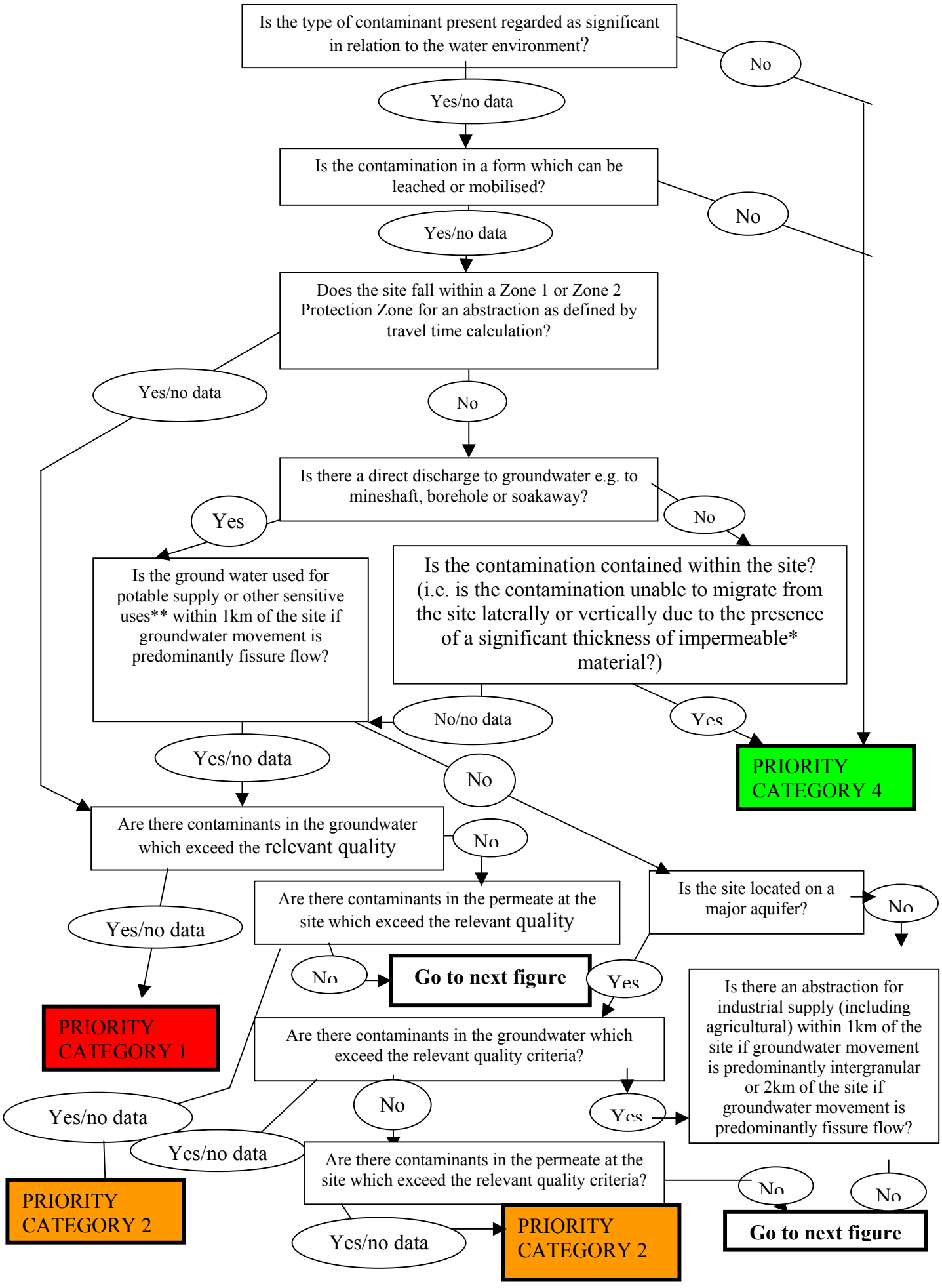
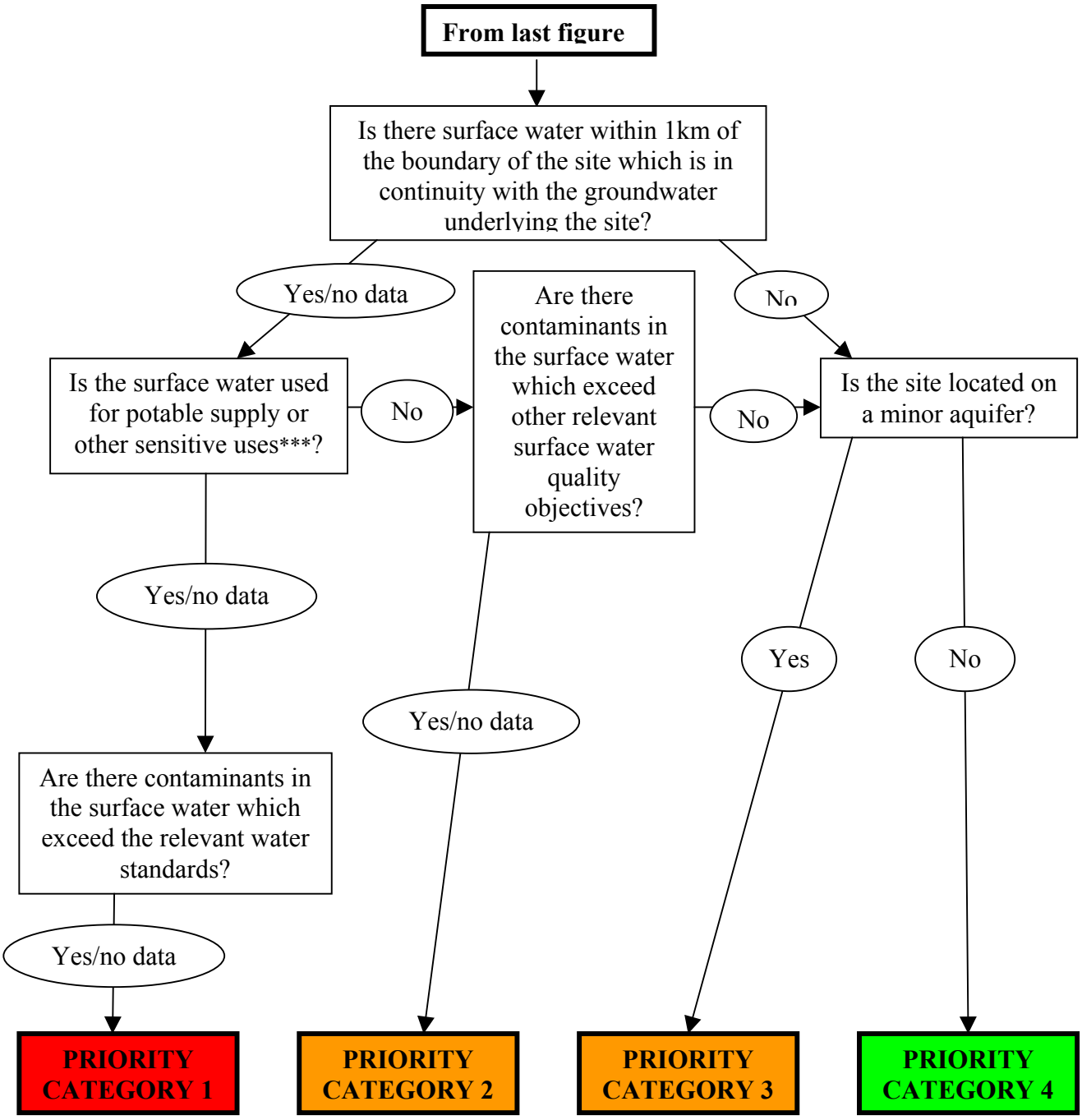


Figure 4: Phase 2 Assessment for Groundwater (continued)



* For the purposes of this assessment material is defined as permeable if it has a vertical coefficient of permeability equal to or greater than 5mm/day
** Other sensitive uses of groundwater include use in food manufacture, mineral water bottling and brewing
***Other sensitive uses of surface water include recreation (bathing/canoeing), salmonid fishery and SSI designation

APPENDIX 8:

PHASE 3 ASSESSMENTS:

FIGURE 1 : DEVELOPMENT

FIGURE 2 : UNOCCUPIED LAND

FIGURE 3 : SURFACE WATER

FIGURE 4 : GROUND WATER

The following figures are adapted from CLR6 :

Prioritisation and categorisation of procedures for sites which may be contaminated, Contaminated Land Research Report Series DOE.

Figure 1: Phase 3 Assessment for Development including; residential, allotments, agricultural land, commercial or industrial use, public open space or amenity

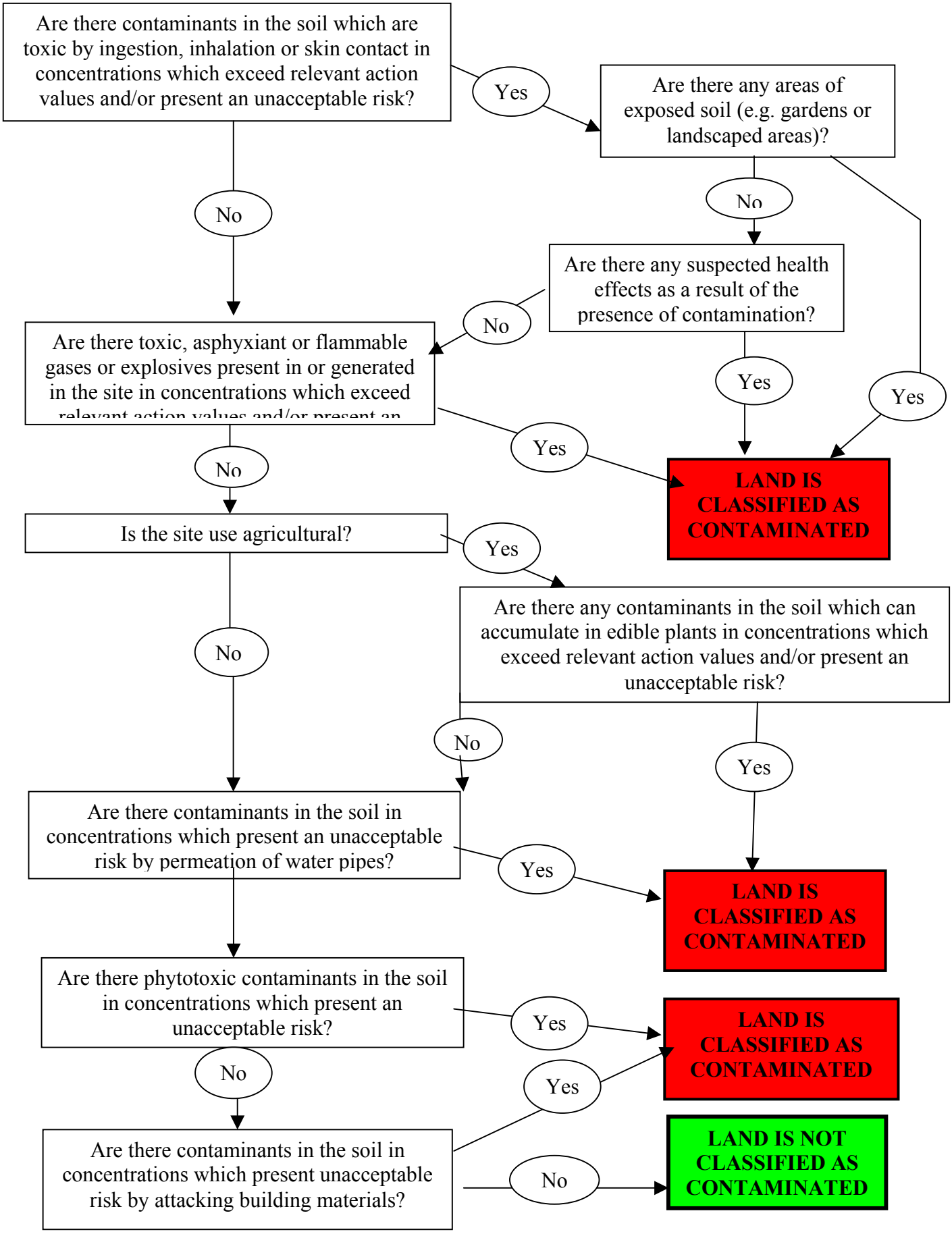


Figure 2: Phase 3 Assessment Development – Unoccupied Land

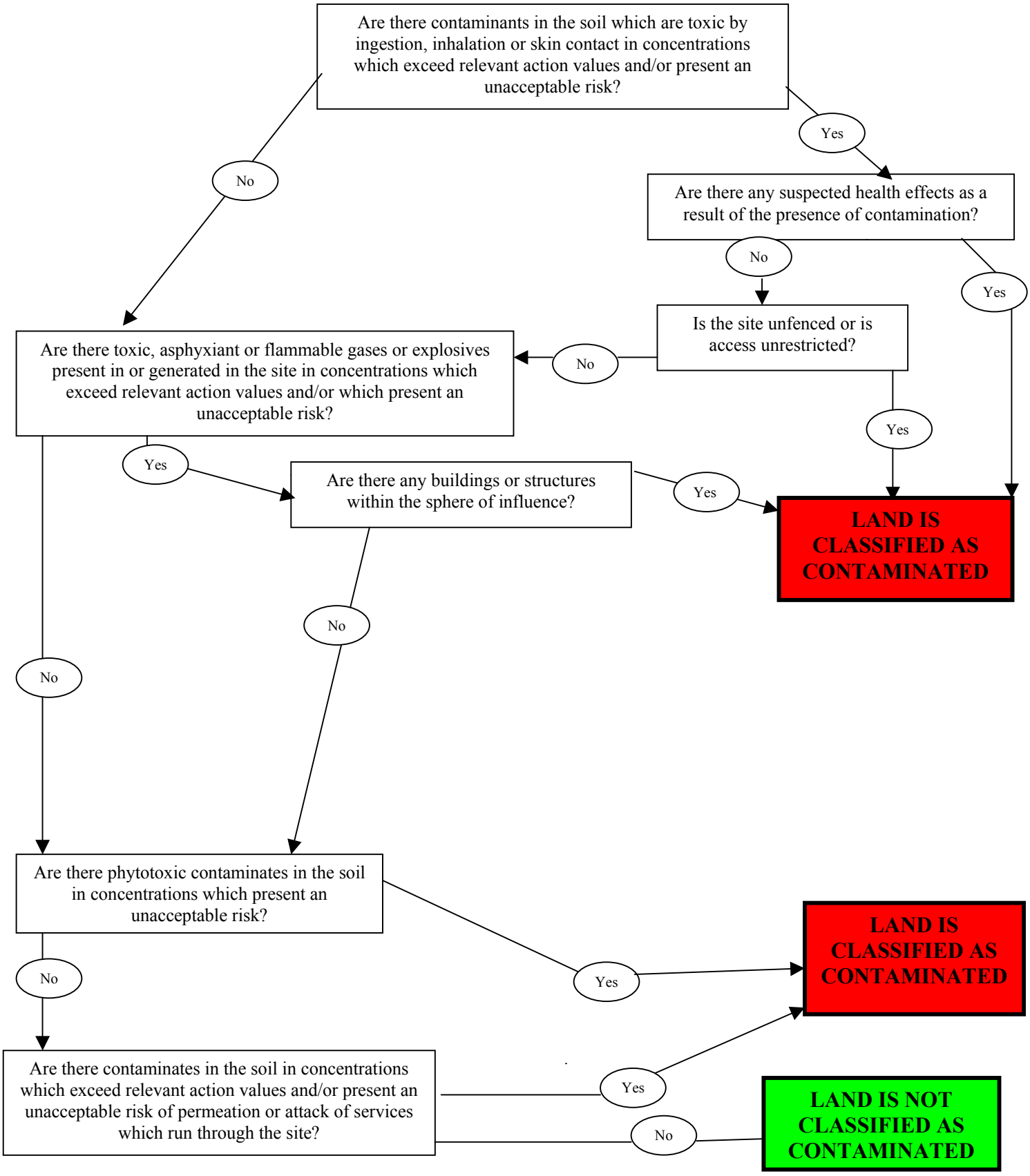
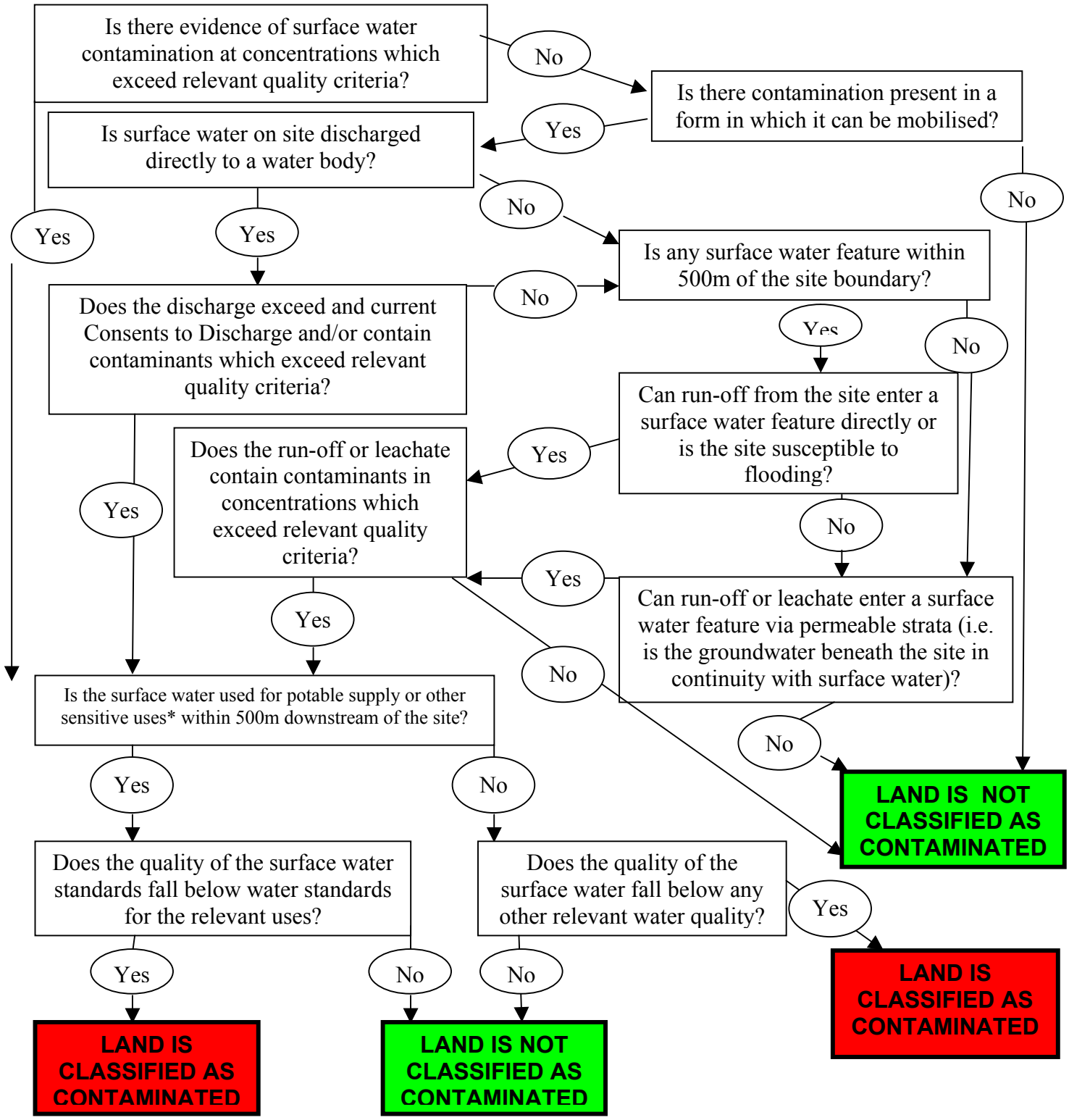


Figure 3: Phase 3 Assessment for Surface Water



*Other sensitive uses of surface water include recreation (bathing/canoeing), salmonid fishery and SSI designation

Figure 4: Phase 3 Assessment for Groundwater

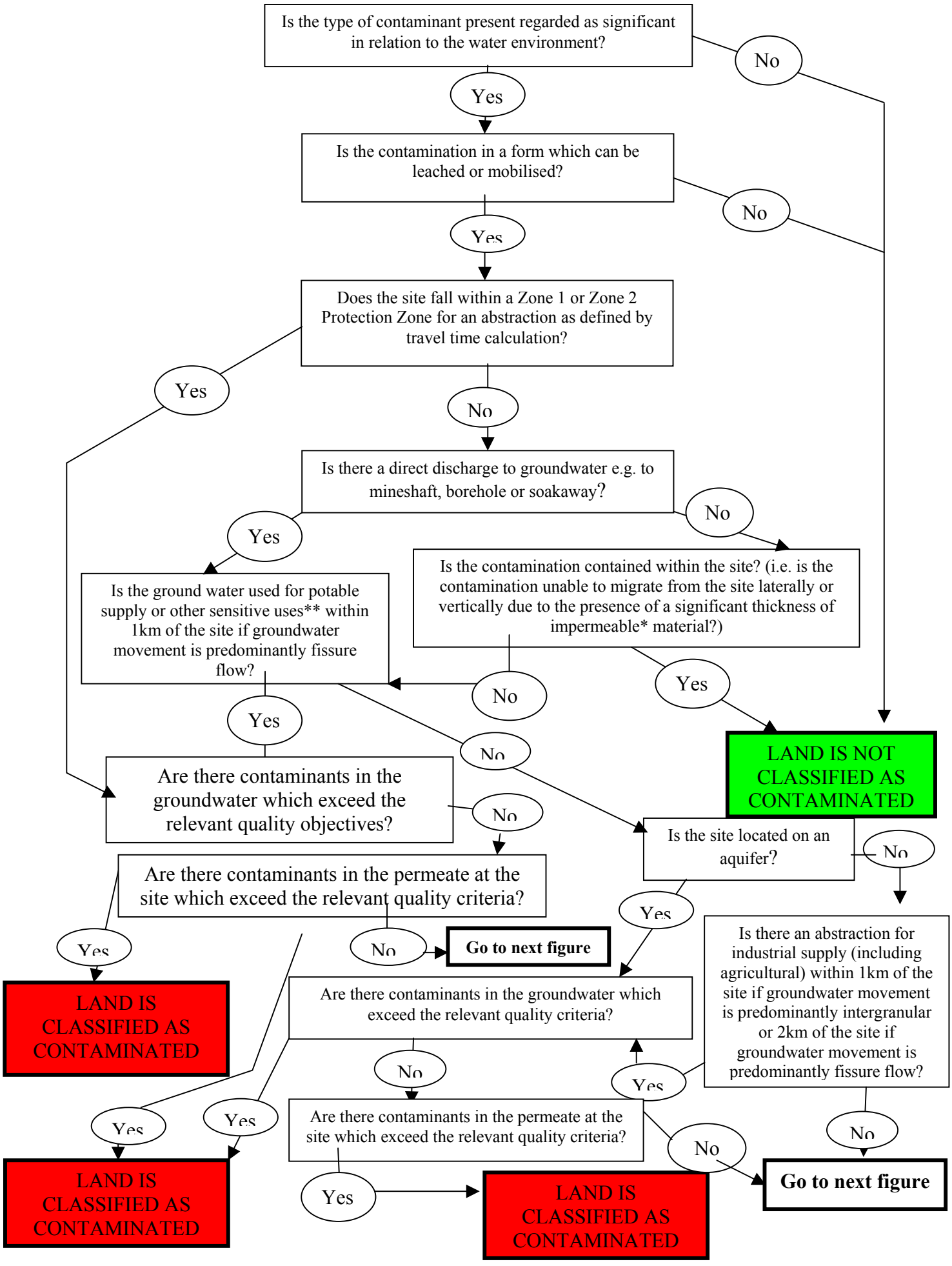
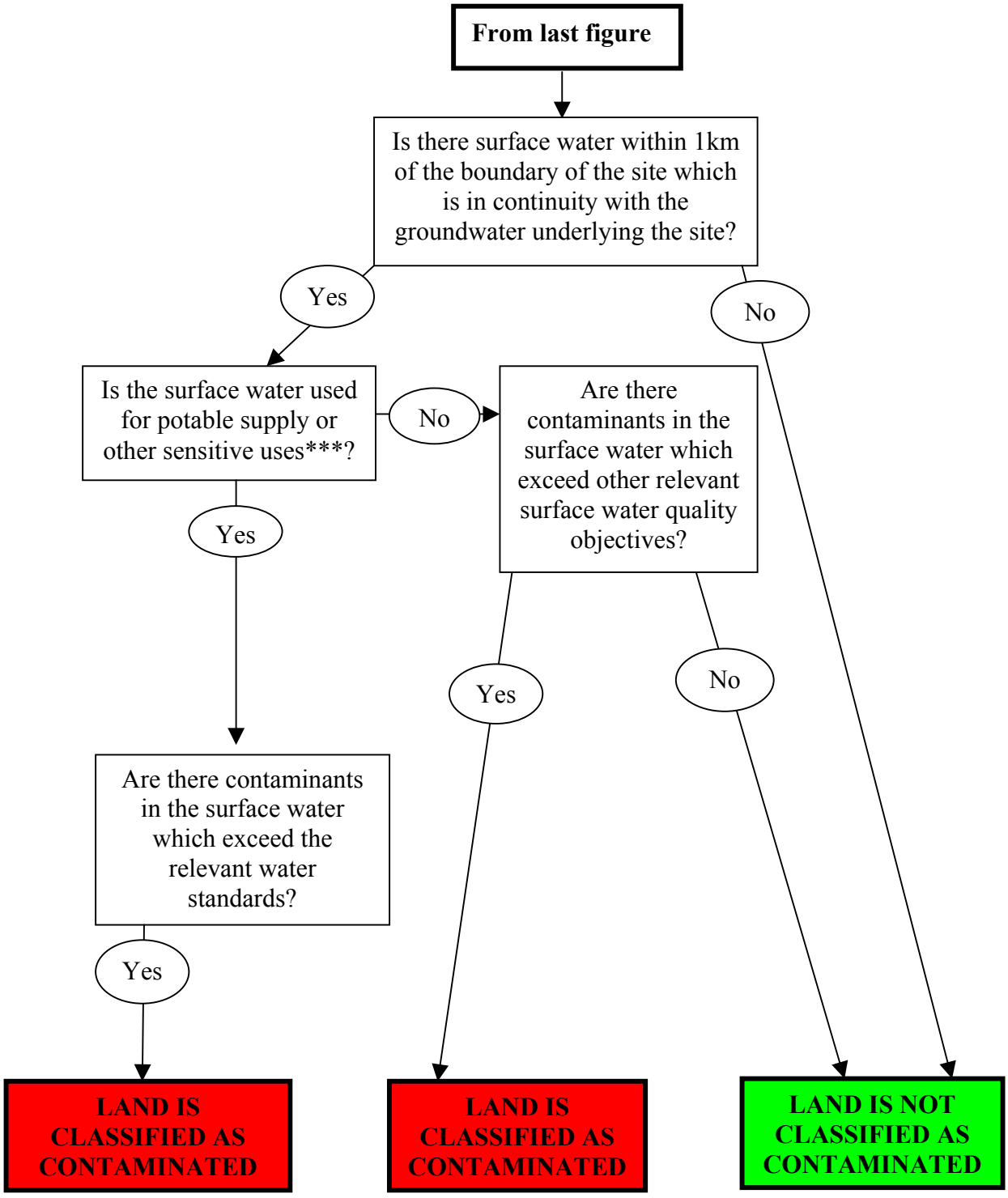


Figure 4: Phase 3 Assessment for Groundwater (continued)



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** Other sensitive uses of groundwater include use in food manufacture, mineral water bottling and brewing
*** Other sensitive uses of surface water include recreation (bathing/canoeing), salmonid fishery and SSI designation

APPENDIX 9: REFERENCES

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2. Paying for our past : White Paper 1993 HMSO

3. Contaminated Land Environmental Protection Act 1990: Part IIA
Circular 02/2000 Department of the Environment and Transport Regions

4. Prioritization and Categorisation of procedures for sites which may be Contaminated DOE. Contaminated Land Research Report Series DETR

5. Industry Profiles – produced by Contaminated Land and Liabilities Division, DETR

6. ICRCL 59/33 Guidance on the Assessment and Redevelopment of Contaminated Land 1987
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7. Communicating Understanding of Contaminated Land Risks SNIFFER Environment Agency 1999

8. BS10175: 2001 Investigation of potentially contaminated sites – Code of practice
British Standards Institution.


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