

## **Chapter 5 – Avoiding Hazards**

## 5 AVOIDING HAZARDS

### 5.1 Introduction

5.1.1 The Council's intention to maintain a physically safe environment by taking proper precautions against the risks posed by natural and man-made hazards is expressed in the objective of this chapter which is:

**To ensure that proposed development is not at risk from natural or man-made hazards and will not cause or increase the risk of hazards to existing development, human health or the wider environment.**

5.1.2 This chapter includes policies to take account of the risks posed by:

- unstable land;
- flooding;
- pollution (including that posed by land contamination); and
- hazardous installations.

5.1.3 When considering proposed developments, which may be at risk from or give rise to hazards, the Council will assess the nature of the risk, the potential harm associated with it, and take account of any proposed measures to reduce the overall level of risk. Where the nature of the hazard is unknown, or poorly understood, developers will be expected to provide sufficient information to enable the Council to make an assessment of the risks of harm to existing development, human health and the wider environment.

5.1.4 The regulation of development and activities that may be at risk from, or give rise to, hazards is complex and usually involves other statutory agencies. For example, the regulation of pollution is largely a matter for the Environment Agency, and health and safety issues are largely the concern of the Health and Safety Executive (HSE). In appropriate circumstances the Council will liaise with the relevant statutory agencies and have regard to their advice when making planning decisions.

### 5.2 Unstable Land

#### **HAZ 01: UNSTABLE LAND**

**Development that may be subject to ground instability or potential instability will only be permitted if it can be demonstrated that:**

- a) the development site is stable or would be made stable; and**
- b) the development itself is unlikely to trigger erosion, landsliding or subsidence within or beyond the boundaries of the site or threaten the structural integrity of any building on or adjoining the site.**

5.2.1 Underground cavities, unstable slopes or land of low load-bearing capacity can create unstable ground conditions. In these areas, natural geological or man-

made processes may trigger subsidence or settlement. The movement that results can damage or destroy buildings and structures and threaten public safety. Once ground movement has occurred, an area can remain unstable for a long time and relatively minor actions or changes in the local environment may trigger further movements. Potential ground instability problems in Test Valley are detailed in Figure 5.1.

**Figure 5.1: Unstable Land Problems in Test Valley**

<p><b>SUBSIDENCE</b></p> <p>Underground cavities can form where the underlying rock is soluble (for example on chalk deposits) and the collapse of the cavities can lead to subsidence. Sinkholes occur in chalk areas in Test Valley due to dissolution and may become filled with shrinkable or compressible deposits. Other causes of subsidence include quarrying, which may destabilise slopes, and the consolidation and decay of organic materials within landfill sites.</p>
<p><b>SETTLEMENT</b></p> <p>Settlement occurs through the compaction of poorly consolidated, compressible or shrinkable soils. Peat and alluvial soils are typically waterlogged and are liable to settling if de-watered. New development may require deeper foundations in order to ensure stability in such areas. Existing buildings and structures over peat deposits could be at risk from settlement caused by new development nearby, particularly if sub-surface water flows are altered. This is an issue in the floodplain of the River Test, especially in Romsey. Shrinkable clays can cause problems of settlement particularly during (and after) prolonged periods of drought.</p>

- 5.2.2 The Council will not permit development if it is likely to be at risk from ground instability during its anticipated lifetime or if it is likely to cause ground movements within or beyond the boundaries of the development site. It is not the Council's intention to sterilise land unnecessarily and development may be permitted if adequate mitigation measures can be undertaken to secure the long-term stability of the site and surrounding areas. The Council will use planning conditions or agreements in appropriate circumstances.
- 5.2.3 It is the developer's responsibility to ensure that instability or trigger ground movements off-site will not affect proposed developments.<sup>64</sup> Where there are reasons for suspecting instability, the developer will be required to submit a ground stability report.

**Figure 5.2: Ground Stability Reports**

<p><b>GROUND STABILITY REPORTS</b></p> <p>In areas of potential ground instability, planning applications for development</p>
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<sup>64</sup> para. 18, PPG14 (Annex 1) Development on Unstable Land: Landslides and Planning, 1996, DoE.

should be accompanied by a ground stability report prepared by a geotechnical specialist. The report should show:

- whether the land is capable of supporting the loads imposed over the expected lifetime of the development; and
- whether the development would threaten the continuing stability of the landform on or adjacent to the site (for example, through excavation, changing drainage patterns and groundwater regimes, or changes in land use).

The assessment should be based upon: site history; site inspection; geotechnical desk study; and / or ground investigation adequate to reasonably assess the stability of the site. Any ground investigation should not itself cause ground instability. Where the ground would be potentially unstable, but the instability could be reduced to a reasonable level by mitigation measures, details should be provided on the type of mitigation measures proposed.

### 5.3 Flooding

#### HAZ 02: FLOODING

**Development will only be permitted if it can be demonstrated, through a Flood Risk Assessment where necessary, that:**

- a) **it would not have a significant impact on the capacity of a floodplain to store floodwater;**
- b) **it would not impede the flow of surface floodwater or obstruct the run-off of water due to high levels of groundwater;**
- c) **it would not significantly increase the volume of surface water run-off entering existing water-courses;**
- d) **it would not increase the number of people or properties at risk from flooding; and**
- e) **it incorporates flood protection and mitigation measures to minimise its impact on the water environment and provision is made for the long term maintenance and management of such measures.**

- 5.3.1 Development permitted without regard to the risks of surface water or groundwater flooding can endanger life, lead to property damage, and require expenditure on the construction and long-term maintenance of flood protection works. Such an approach is contrary to the principles outlined in PPG 25: Development and Flood Risk<sup>65</sup> and it is more appropriate to avoid the need for such structures by considering this issue at the planning application stage. An indication of the location of floodplains in Test Valley can be obtained from the Environment Agency's Indicative Floodplain Maps, which are available from the

<sup>65</sup> PPG25: Development and Flood Risk, 2001, DTLR

local Agency office or on the Agency's website ([www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)). In these areas, the Council will seek the advice of the Environment Agency. It should be noted that built development, including housing would not normally be permitted in such areas. It is therefore recommended that for developments within or adjacent to such areas, direct discussions are held with the Environment Agency, prior to the submission of planning applications, to explore the implications of this issue further.

5.3.2 The risk of flooding is not only an issue in river floodplains but also in other locations such as sites without adequate surface water run-off, sites where seasonal groundwater levels are such that drainage may be difficult during winter months, or where the natural drainage of the land is obstructed, and even on level sites with low ground permeability. In such locations, existing development can be at risk from flooding and new development may generate additional flood risk problems. Outside main river floodplains development will be permitted provided that any flooding problems can be overcome by mitigation measures including, in appropriate locations, sustainable drainage systems which seek to control surface water run-off as close to its origins as possible. For example, surface water run-off can be limited by surface water storage areas, such as ponds, subsurface storage areas, flow limiting devices, or soakaways. The Council will consider using planning conditions or agreements to secure any necessary flood protection and mitigation measures and to secure satisfactory arrangements for their long-term maintenance. Any mitigation measures proposed will be assessed as part of the development. Where developers intend to utilise existing ponds or watercourses to achieve the mitigation of flood risks, the Council will expect developers to show that there is adequate capacity in these systems to accept any increases in surface water run-off that may be generated by the development. The Council will also expect their character to be preserved or maintained, as far as possible, as part of the mitigation scheme.

5.3.3 It is the developer's responsibility to investigate and assess the extent of risk from flooding and in appropriate circumstances a developer will be required to submit a detailed flood risk evaluation report.<sup>66</sup>

The Council will require developers to carry out a detailed risk assessment where:

- The proposed development lies within a river floodplain or an area prone to high seasonal groundwater levels;
- The size or nature of a proposed development would significantly increase the amount of surface water run-off from the site;
- The proposed development would necessitate the culverting or diversion of watercourses or restrict access to a watercourse; or
- The proposed development would be liable to obstruct flood flows, reduce the effectiveness of existing flood defence works or restrict access to existing flood defence works.

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**Figure 5.3: Flood Risk Evaluation Reports**

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<sup>66</sup> para. 60, *op. cit.*

### FLOOD RISK ASSESSMENT REPORTS

A flood risk evaluation report should be prepared by a hydrological specialist. The report should show:

- The extent and location of the floodplain in both pre and post development phase;
- whether the development would create or exacerbate flooding problems;
- whether the development would affect local drainage routes and, if so, whether the drainage routes could cater for extreme events;

The assessment should be based upon: site history; site inspection; and / or ground investigation adequate to reasonably assess the hydrology of the site. Details should be provided on the type of mitigation measures proposed to overcome any potential flooding problems, including the necessary maintenance of any land drainage system.

## 5.4 Pollution

### HAZ 03: POLLUTION

**Development which would, or could potentially give rise to pollution, will only be permitted if it will not have an adverse impact on adjoining uses or the natural environment, or pose a risk to health as a result of any discharges or emissions to water, land or air.**

- 5.4.1 Pollution is the release of substances into the environment, which can cause harm to human health, property or the wider environment. Pollution can be released into the air or water or can contaminate land. Some developments or activities have the potential to pollute more than one environmental medium. Emissions or discharges that are a nuisance but are not likely to prove harmful to health (such as dust, noise or harmless odours), are dealt with in Policy AME 05.
- 5.4.2 The control of pollution is a complex process involving both local planning authorities and other statutory bodies. Government advice is that *"the planning system should not be operated so as to duplicate controls which are the statutory responsibility of other bodies."*<sup>67</sup> The legal position, however, is that pollution impacts are material planning considerations which should not be ignored in the making of planning decisions.<sup>68</sup> Therefore the Local Planning Authority will control the location of development which may give rise to pollution or is in close proximity to pollution sources.
- 5.4.3 The Council will take account of any material considerations concerning potential releases of pollution and when making planning decisions will have regard to the advice of the pollution control agencies. In cases where land use mitigation measures are required to prevent pollution, or to enable releases, or

<sup>67</sup> para. 1.3, PPG23: Planning and Pollution Control, 1994, DoE.

<sup>68</sup> Gateshead MBC v. the Secretary of State for the Environment and Northumbrian Water Group plc.

potential releases, to meet pollution control standards the Council will need to be convinced that the proposed measures will be effective. In appropriate circumstances the Council will use planning conditions or agreements to ensure that a development does not give rise to pollution.

## 5.5 Land contamination

### HAZ 04: LAND CONTAMINATION

**Development on, or immediately adjoining land known or suspected to contain contamination, will be permitted provided that all necessary, practicable and effective measures to investigate and remediate the site have been agreed so as not to:**

- a) expose the occupiers of the development and neighbouring land users to unacceptable risk from the contamination, or allow such a situation to continue;**
- b) lead to the contamination of any watercourse, water body, groundwater, or adjoining land, or allow such contamination to continue; or**
- c) lead to the release of contamination to air, or allow such releases to continue.**

- 5.5.1 Past developments and processes have resulted in the contamination of land both in urban and rural areas. Examples of contaminated sites include; old gas works, sewage works, landfill sites, and industrial sites. Contamination can pose a threat both to the health of future users of the site, and to the surrounding environment, if the contaminants escape and cause pollution. Few sites are so badly contaminated that they cannot be reused at all, but the contamination may require remediation and limit the range of potential future uses
- 5.5.2 The Government encourages the reuse of contaminated sites, subject to the risks to human health and the environment being adequately dealt with. The reuse of contaminated land is in line with the principle of sustainable development because it effectively recycles the land and reduces pressure for the development of greenfield sites.<sup>69</sup> In undertaking remedial works, the Government considers that a balance needs to be struck between the need to bring the land back into a beneficial use, and the risks and liabilities posed by the contamination. Consequently, a "*suitable for use*" approach is advocated in which the level of remedial action required should be sufficient to overcome any unacceptable risks to health or the environment, taking into account the actual or intended use of the site.<sup>70</sup>
- 5.5.3 The Council will encourage the redevelopment of contaminated sites, provided that this does not pose an unacceptable risk to human health or the wider environment. The risks should be identified early in the development process to ensure that appropriate mitigation measures can be taken. Where it is anticipated that contamination may be present near or on a proposed

<sup>69</sup> para. 4.1, PPG23: Planning and Pollution Control, 1994, DoE.

<sup>70</sup> para. 4.2, *op. cit.*

development area, a site assessment will be required to characterise the contamination and establish the likely risks posed. Responsibility for providing information on whether land is contaminated rests primarily with the developer.<sup>71</sup> This should take the form of a “*source - pathway - receptor*” assessment, whereby the sources of the hazard (for example: heavy metal contamination), the receptors (for example: public water supply borehole) and the pathway connecting the two (for example: contaminated groundwater plumes) are considered. In this way the development, including any mitigation measures, can be assessed to determine whether the risks can be reduced to an acceptable level. In assessing the need for mitigation, the Council will have regard to the intended future use of the site. If mitigation measures prove necessary, the Council will consider using planning conditions or agreements to secure the measures needed before development starts. Applicants would be expected to carry out an initial investigation into the previous uses of the site, including investigating the presence of any landfills within 250 metres of the site. The results and conclusions of such investigations should inform the layout and design of proposals and be submitted with applications.

## 5.6 Hazardous installations

### HAZ 05: HAZARDOUS INSTALLATIONS

**The development of hazardous installations or the storage of hazardous materials will be permitted provided that:**

- a) the level of risk from accidents relating to the presence of hazardous substances is considered acceptable; and**
- b) appropriate emergency access is provided to the site and any areas of human activity that may potentially be affected.**

**Within the consultation zone of a hazardous installation development will be permitted provided that the development and its users would not be subject to an unacceptable risk from an accident.**

5.6.1 The Planning (Hazardous Substances) Regulations<sup>72</sup> define certain substances as a risk to human health, either due to their toxicity or their reactive or explosive nature. Regulating the storage and distribution of hazardous substances, and providing an emergency plan procedure, can reduce the risk to people living in the vicinity of such substances. The Council controls the storage and treatment of hazardous substances through a system of Hazardous Substances Consents established by the Planning (Hazardous Substances) Act 1990.

5.6.2 The Control of Major Accident Hazards Regulations 1999 (SI 743) require the operator of an establishment or installation where hazardous substances are present to prepare and implement major accident prevention policies. The Regulations also require the operator to submit a regular safety report to the Health and Safety Executive (HSE) and the Environment Agency, to prepare an

<sup>71</sup> para. 4.10, *op. cit.*

<sup>72</sup> The Planning (Hazardous Substances) Regulations S.I. 1992 No. 656, Schedule 1, 1992.

on-site emergency plan, and to supply the County Council with information necessary for the purpose of preparing an off-site emergency plan.

- 5.6.3 When considering a proposal for a new installation handling hazardous substances, the Council will aim to minimise the potential impact of an accident on human lives. If emergency evacuation procedures are required, the area should be readily accessible by the emergency services, and the level of human activity in the area should be low. The Council will take into account any risk assessment or other advice provided by the HSE.
- 5.6.4 The existence of a hazardous installation is a material consideration in determining the acceptability of development in proximity to that installation which may be at risk from an accident involving hazardous substances. Where hazardous installations already exist, the HSE are responsible for notifying consultation zones around such sites, and local authorities are required to seek the HSE's view on the likely risks to proposed developments.<sup>73</sup>
- 5.6.5 The Council will consult the HSE when development is proposed within consultation zones around hazardous installations. When considering proposals for development in these areas, the Council will be guided by the HSE's views and any other relevant information that can be used to assess the likely risks to people and property.

## 5.7 Safeguarding Aerodromes and Technical Sites

### **HAZ 06: SAFEGUARDED AERODROMES AND TECHNICAL SITES**

**Development will be permitted within safeguarded areas around official civil or military aerodromes and technical sites provided that:**

- a) It would not infringe on protected surfaces, obscure runway approach lights or have the potential to impair the performance of aerodrome navigation aids, radio aids or telecommunication systems;**
- b) It would not result in lighting which has the potential to distract pilots;**
- c) It would not result in an increase in the number of birds that would cause an increased hazard to aircraft;**
- d) it would not cause a hazard from other aviation use; and**
- e) In the case of wind turbines it would not cause a hazard due to their size or electromagnetic disturbance.**

- 5.7.1 The aim of this policy is to recognise that safeguarded areas have been officially established by the Civil Aviation Authority for airports or technical site and that under Circular 01/2003 certain forms of development may be restricted. Any application within the safeguarded area as designated on the proposal maps and which may inhibit the aerodrome or technical site in any way will be subject to consultation with the operator of the site.

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<sup>73</sup> para. B-24, Annex B, *op. cit.*

- 5.7.2 The types of development which would require appropriate consultation include development over 15m, 45m and 90m in height; development involving intense lighting; developments that may attract large numbers of birds (e.g. landfill sites); applications connected with aviation use; and wind turbines due to their size and to their effect on aeronautical systems. These types of proposal are subject to the consultation requirements described in the legend to the relevant safeguarding map.
- 5.7.3 Although there are no safeguarded civil aerodromes or technical sites within the Borough the location of both Southampton Airport and the Southampton navigational beacon are sited just outside the boundary meaning that safeguarded areas extend into the Borough. Any application will involve consultation with the airport or technical site operator, or both as described in the legend on the relevant safeguarding map. Military aerodromes and technical sites, such as Middle Wallop, are also safeguarded and any application that may affect these sites in the safeguarded area will require consultation with Defence Estates. Plans of the safeguarded areas are available at the Council Offices in Romsey and Andover.