



**British
Geological Survey**
NATURAL ENVIRONMENT RESEARCH COUNCIL

The
COAL
AUTHORITY

Mineral safeguarding in England: good practice advice

Minerals and Waste Programme

Open Report OR/11/046



BRITISH GEOLOGICAL SURVEY

MINERALS AND WASTE PROGRAMME

OPEN REPORT OR/11/046

Mineral safeguarding in England: good practice advice

C E Wrighton¹, F M McEvoy¹ and R Bust²

Editors/ Contributors

J Cowley³, S Hannis¹ and K Hobden⁴

The National Grid and other Ordnance Survey data are used with the permission of the Controller of Her Majesty's Stationery Office.
Licence No: 100017897/2011.

Keywords

Mineral safeguarding, mineral safeguarding areas, mineral resources and reserves, minerals and waste development framework, sustainable development.

Bibliographical reference

WRIGHTON, C E, MCEVOY, F M AND BUST, R. 2011. Mineral safeguarding in England: good practice advice. *British Geological Survey Open Report*, OR/11/046. 53pp.

Copyright in materials derived from the British Geological Survey's work is owned by the Natural Environment Research Council (NERC) and/or the authority that commissioned the work. You may not copy or adapt this publication without first obtaining permission. Contact the BGS Intellectual Property Rights Section, British Geological Survey, Keyworth, e-mail ipr@bgs.ac.uk. You may quote extracts of a reasonable length without prior permission, provided a full acknowledgement is given of the source of the extract.

Maps and diagrams in this report use topography based on Ordnance Survey mapping.

¹ British Geological Survey, Keyworth, Nottingham NG12 5GG

² Coal Authority, 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire NG18 4RG

³ Minerals and Resource Planning Associates, 23 Bayfran Way, Blandford Forum, Dorset, DT11 7RZ

⁴ Minerals Products Association, Gillingham House, 38-44 Gillingham Street, London SW1V 1HU



BRITISH GEOLOGICAL SURVEY

The full range of our publications is available from BGS shops at Nottingham, Edinburgh, London and Cardiff (Welsh publications only) see contact details below or shop online at www.geologyshop.com

The London Information Office also maintains a reference collection of BGS publications, including maps, for consultation.

We publish an annual catalogue of our maps and other publications; this catalogue is available online or from any of the BGS shops.

The British Geological Survey carries out the geological survey of Great Britain and Northern Ireland (the latter as an agency service for the government of Northern Ireland), and of the surrounding continental shelf, as well as basic research projects. It also undertakes programmes of technical aid in geology in developing countries.

The British Geological Survey is a component body of the Natural Environment Research Council.

British Geological Survey offices

BGS Central Enquiries Desk

Tel 0115 936 3143 Fax 0115 936 3276

email enquiries@bgs.ac.uk

Kingsley Dunham Centre, Keyworth, Nottingham NG12 5GG

Tel 0115 936 3241 Fax 0115 936 3488

email sales@bgs.ac.uk

Murchison House, West Mains Road, Edinburgh EH9 3LA

Tel 0131 667 1000 Fax 0131 668 2683

email scotsales@bgs.ac.uk

Natural History Museum, Cromwell Road, London SW7 5BD

Tel 020 7589 4090 Fax 020 7584 8270

Tel 020 7942 5344/45 email bgs_london@bgs.ac.uk

Columbus House, Greenmeadow Springs, Tongwynlais, Cardiff CF15 7NE

Tel 029 2052 1962 Fax 029 2052 1963

Maclean Building, Crowmarsh Gifford, Wallingford OX10 8BB

Tel 01491 838800 Fax 01491 692345

Geological Survey of Northern Ireland, Colby House, Stranmillis Court, Belfast BT9 5BF

Tel 028 9038 8462 Fax 028 9038 8461

www.bgs.ac.uk/gsni/

Parent Body

Natural Environment Research Council, Polaris House, North Star Avenue, Swindon SN2 1EU

Tel 01793 411500 Fax 01793 411501

www.nerc.ac.uk

Website www.bgs.ac.uk

Shop online at www.geologyshop.com

Foreword

A key aspect of sustainable development is the conservation and safeguarding of non-renewable resources, such as minerals, for future generations. The UK is endowed with a wide range of indigenous minerals but these natural resources are finite. With increased pressure on land-use in the UK, there is a need to ensure that these natural resources are not needlessly sterilised by other development, leaving insufficient supplies for future generations. Safeguarding is the term that encompasses the process necessary to ensure that outcome. Safeguarding will also help ensure that the planning system retains the flexibility to identify sites which have the least impact on the environment.

Minerals Policy Statement 1: *Planning and minerals*, published in November 2006, aims to prevent unnecessary sterilisation of mineral resources by providing national policy for mineral safeguarding. This good practice advice is designed to complement this policy which introduces an obligation on all Mineral Planning Authorities to define Mineral Safeguarding Areas. Defining Mineral Safeguarding Areas carries no presumption that the resource will be worked. The report provides advice on how current mineral safeguarding policy can be complied with and puts forward a relatively simple step-by-step methodology for delineating Mineral Safeguarding Areas, together with examples of policies through which they would have effect. When linked to appropriate local planning policies, Mineral Safeguarding Areas should ensure that mineral resources are adequately and effectively considered in making land-use planning decisions.

This advice supersedes *'A guide to mineral safeguarding in England'* which was published in 2007. It is intended for use principally by those involved in the preparation of mineral Development Plan Documents (DPDs) and in determining planning applications. Developers working in areas where the presence of a mineral resource may need to be considered may also find this report useful.

This report has been published during a period of change in national planning policy. The Government has committed to radically streamline and consolidate existing national planning policy. In July 2011 the Department for Communities and Local Government (DCLG) published the draft National Planning Policy Framework (NPPF) which is currently undergoing a period of consultation. Whilst the draft NPPF retains the obligation for Local Planning Authorities to define MSAs, it is important to recognise that this good practice advice should be read in the context of a changing framework for planning.

Acknowledgements

The authors would like to thank Paul Wilcox (Staffordshire County Council) and Wayne Allum (Nottinghamshire County Council) who represented the Planning Officers Society and provided advice and comments as this report has developed. In addition, the authors would like to thank Alliance Planning for their research into case studies for use in this report, and the attendees of the consultation event that was held to inform the project in the early stages.

A large number of individuals in British Geological Survey have contributed to the project. This assistance has been received at all stages of the study. The authors would particularly like to thank Joseph Mankelow and Andrew Bloodworth for reviewing the report and Jenny Forster, Christina Edwards and Naomi Idoine for their contributions to the consultation event. The research on which this report is based was funded through the DCLG Joint Minerals Programme.

Contents

Foreword	i
Acknowledgements	i
Contents	ii
1 Introduction	1
1.1 MPS1 and mineral safeguarding	1
1.2 Background to this second edition	1
1.3 Who should use this guide and how it will help	2
1.4 How this update of the guide was prepared	3
1.5 Status of the guide	3
2 Why safeguard mineral resources?	4
2.1 What is a mineral resource?	4
2.2 Mineral resource information	6
2.3 Safeguarding mineral resources	6
3 Safeguarding in the planning process	9
4 Development Plan Documents: the robust evidence base	11
4.1 Step 1: Identify the best geological and mineral resource information	12
4.2 Step 2: Decide which mineral resources to safeguard and the physical extent of MSAs	13
4.3 Step 3: Undertake consultation on draft MSAs	15
5 Development Plan Documents: policy and development management	26
5.1 Step 4: Decide on the approach to safeguarding in the Core Strategy	27
5.2 Step 5: Include development management policies in a DPD	28
5.3 Step 6: Inclusion of mineral safeguarding in District DPDs	31
6 Development Plan Documents: planning applications	35
6.1 Step 7: Include mineral assessments in the local list of information requirements	35
7 Prior extraction of minerals	41
8 Abbreviations/Acronyms	44
9 Glossary	45

FIGURES

Figure 1: Mineral use in England	5
Figure 2: The sterilisation of near surface mineral resource by surface development	7
Figure 3: Development planning process for mineral safeguarding	10

Figure 4: Planning application guidance: two tier planning areas 33
Figure 5: Planning application guidance: single tier planning areas..... 34

TABLES

Table 1: Principles and criteria for local list preparation and review 36

1 Introduction

1.0.1 The original document '*A guide to mineral safeguarding in England*' was first published in October 2007. This second edition of the guide has been produced in response to a call from users for clearer definition and greater assistance with implementing certain aspects of the mineral safeguarding process. It supersedes the 2007 version and is published to complement national planning policy for minerals that is contained in Minerals Policy Statement 1: *Planning and Minerals* (MPS1) and the advice in the associated *Planning and Minerals: Practice Guide*.

1.1 MPS1 AND MINERAL SAFEGUARDING

1.1.1 MPS1 outlines the national approach to planning for minerals, taking into account the need to 'safeguard' and conserve mineral resources in accordance with the principles of sustainable development. It addresses, among other things, the issue of the loss of access to mineral resources by development, a concept known as '*mineral sterilisation*' and aims to negate future problems caused by the effects of unnecessary sterilisation by providing a stronger national policy for the 'safeguarding' of minerals.

1.1.2 The process of minerals safeguarding is essential to ensure that the ability of future generations to meet their needs for minerals is not compromised by planning decisions that are being made in the present day. The essence of any safeguarding process is that it should introduce the consideration of minerals into the decision making balance, so that access to mineral resources for future generations is preserved as far as possible. The first part of that process is the identification of mineral resources and the definition of Mineral Safeguarding Areas (MSAs).

1.1.3 MPS1 requires Mineral Planning Authorities (MPAs) to define MSAs and show them in Local Development Documents (LDDs). In two tier areas, Local Planning Authorities (LPAs) must show MSAs in their district LDDs. The second part of the process links MSAs to appropriate local planning policies. This enables planning authorities to ensure that mineral resources are not unnecessarily sterilised when they consider planning applications.

1.1.4 The presence of a MSA neither precludes other forms of development being permitted nor conveys any presumption that the mineral will be worked. MSAs simply provide a policy tool which will be an alert to the fact that minerals may be sterilised by the proposed non-mineral development and that this should be taken into account by the planning process, both when making site allocations in development plans and during development management.

1.1.5 The guide concentrates on surface-won minerals, since those are currently the most common extraction operations in England and the most vulnerable to sterilisation by surface development. However, it should also be recognised that deep mined resources may pose a sterilisation issue. It is beyond the remit of this guide to consider such resources, although if a MPA decides to safeguard these, surface infrastructure together with any surface effects of underground working may need to be considered.

1.2 BACKGROUND TO THIS SECOND EDITION

1.2.1 Since the publication of MPS1 (2006) and '*A guide to mineral safeguarding in England*' (2007), a number of MPAs have commenced the process of including the safeguarding of mineral resources within their development plans. A review of the process in 2009

highlighted the need for further practical advice to assist MPAs in defining MSAs, and both MPAs and district planning authorities in drafting the policies through which they have effect. Lessons can now be learnt from minerals-related LDDs that are in preparation or have been adopted. This will help support the delivery of sound minerals related Development Plan Documents (DPDs) and provide a robust framework for mineral safeguarding policy preparation and implementation.

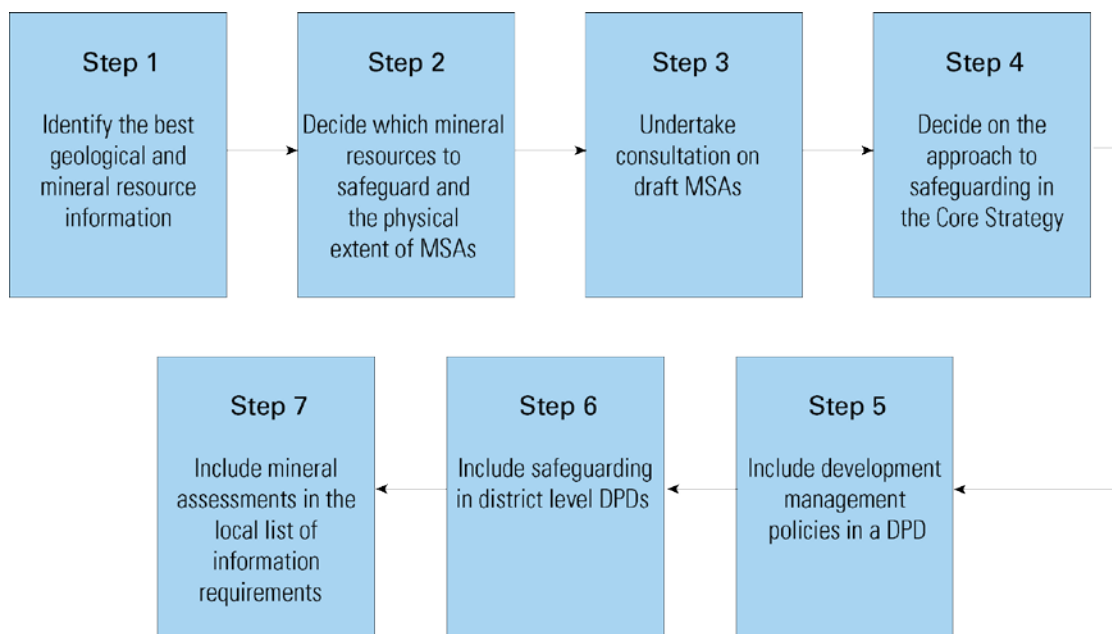
1.3 WHO SHOULD USE THIS GUIDE AND HOW IT WILL HELP

1.3.1 The guide is aimed at all planning practitioners and those parties with an interest in safeguarding, whether they are involved in development plan making or in the development management process. The guide also includes contextual minerals information that will be relevant to many other interested parties; the general public, community groups, or developers who may consider submitting a proposal for non-mineral development in a MSA.

1.3.2 The guide complements MPS1 by offering guidance on how to implement national policy with respect to the safeguarding and the prior extraction of minerals. Real case study examples are used to show elements of good practice and to show how the development plan system and the development management process can deliver national policy on mineral safeguarding. The case studies used reflect local circumstances and the constraints of the data available. Example policies are provided that can be used to frame policy wording.

1.3.3 The guide presents a seven step mineral safeguarding methodology.

- Steps 1 – 3 provide a methodology for the identification of mineral resources, the definition of MSAs and signposts to useful sources of information to assist the process.



- Step 4 centres on how matters related to MSAs should be linked into development plan policies.
- Steps 5 - 7 address how development management policies and mechanisms should be included to ensure that mineral resources are taken into account appropriately in planning decisions.

1.3.4 Wherever possible, this guide explains with a minimum of technical or specialist geological terminology the process that should be followed to complete each relevant step, and addresses the specific issues that have arisen for planning practitioners.

1.3.5 This updated guide should be read alongside MPS1 and the associated practice guide, together with other relevant mineral planning policy and guidance. Guidance on safeguarding relating to specific minerals is also provided in MPS1 Annex 2: *Brick Clay* (Para 3.1), MPS1 Annex 3: *Natural building and roofing stone* (Para. 3.1 to 3.5), Mineral Planning Guidance (MPG) 15: *Provision of silica sand in England* (Para. 53 and 54) and MPG 3: *Coal mining and colliery spoil disposal* (Para. 38). These documents should be read in the context of a changing framework for planning.

1.4 HOW THIS UPDATE OF THE GUIDE WAS PREPARED

1.4.1 The guide has been prepared by a team led by the British Geological Survey (BGS) and has drawn on previous mineral safeguarding guidance, the views of planning practitioners and a selected review of LDDs subjected to Examination in Public since the introduction of MPS1.

1.5 STATUS OF THE GUIDE

1.5.1 This document comprises independent advice that is intended to support and facilitate the implementation of the Government's overarching planning policy for all minerals as set out in MPS1: *Planning and Minerals*. As such, it may assist bodies that have a duty to prepare any part of the development plan or to submit or decide on planning applications.

1.5.2 The case studies which have been included illustrate good practice. This does not imply full endorsement of the complete approach taken by any individual authority. Links to the documents are provided which will provide information about the complete approach, should further information be needed.

2 Why safeguard mineral resources?

2.0.1 England is endowed with a wide range of indigenous minerals. The principle of maintaining an adequate and steady supply of minerals has been the long-accepted basis for strategic mineral planning in England. Minerals are important national resources and adequate and steady supplies are vital for developing and sustaining our modern society and economy. They play a fundamental role in underpinning the growth of many sectors of the economy and in contributing to the country's high standard of living. Aggregates and other construction materials such as cement raw materials, brick clay and gypsum, are vital to the construction industry which maintains and enhances our built environment and transport infrastructure. Industrial minerals such as salt, kaolin, ball clay, silica sand and fluorspar provide the essential raw materials and chemical feedstock which underpin the manufacturing industry, as well as agriculture. Building stones are needed for repairing historic structures and for maintaining local distinctiveness in new buildings. Coal is an important energy resource. The minerals that are currently worked in England together with their uses are summarised in Figure 1.

2.1 WHAT IS A MINERAL RESOURCE?

- 2.1.1 Mineral resources are natural concentrations of minerals in or on the Earth's crust that are or may become of economic interest because they are present in such form, quality and quantity that there is the potential for eventual economic extraction. Mineral resources are thus defined by economic as well as physical parameters.
- 2.1.2 The identification and delineation of mineral resources is inevitably somewhat imprecise as it is limited not only by the quantity and quality of data currently available but also involves predicting what might, or might not, become of economic importance in the future. The identification of mineral resources is, therefore, a dynamic process which must take into account a range of factors.
- 2.1.3 Geological reinterpretation of resource areas may be appropriate as additional data becomes available. The demand for minerals changes, as different materials or different qualities of minerals are required to meet changing economic, technical and environmental circumstances. Future developments in working or processing techniques may render deeper extraction viable despite higher proportions of waste. Changes in the location of the point of use have an effect upon viability. Thus a mineral deposit with a high proportion of waste may be viable if located in close proximity to a major market, but uneconomic if located further away. Consequently the boundaries of mineral resources may change over time.
- 2.1.4 It is important to note that the delineation of mineral resources does not involve consideration of the full range of land use planning constraints that might apply if extraction were to be considered. Issues such as the environmental, social and cultural impacts of mineral extraction are matters which must be left for consideration by the planning process.

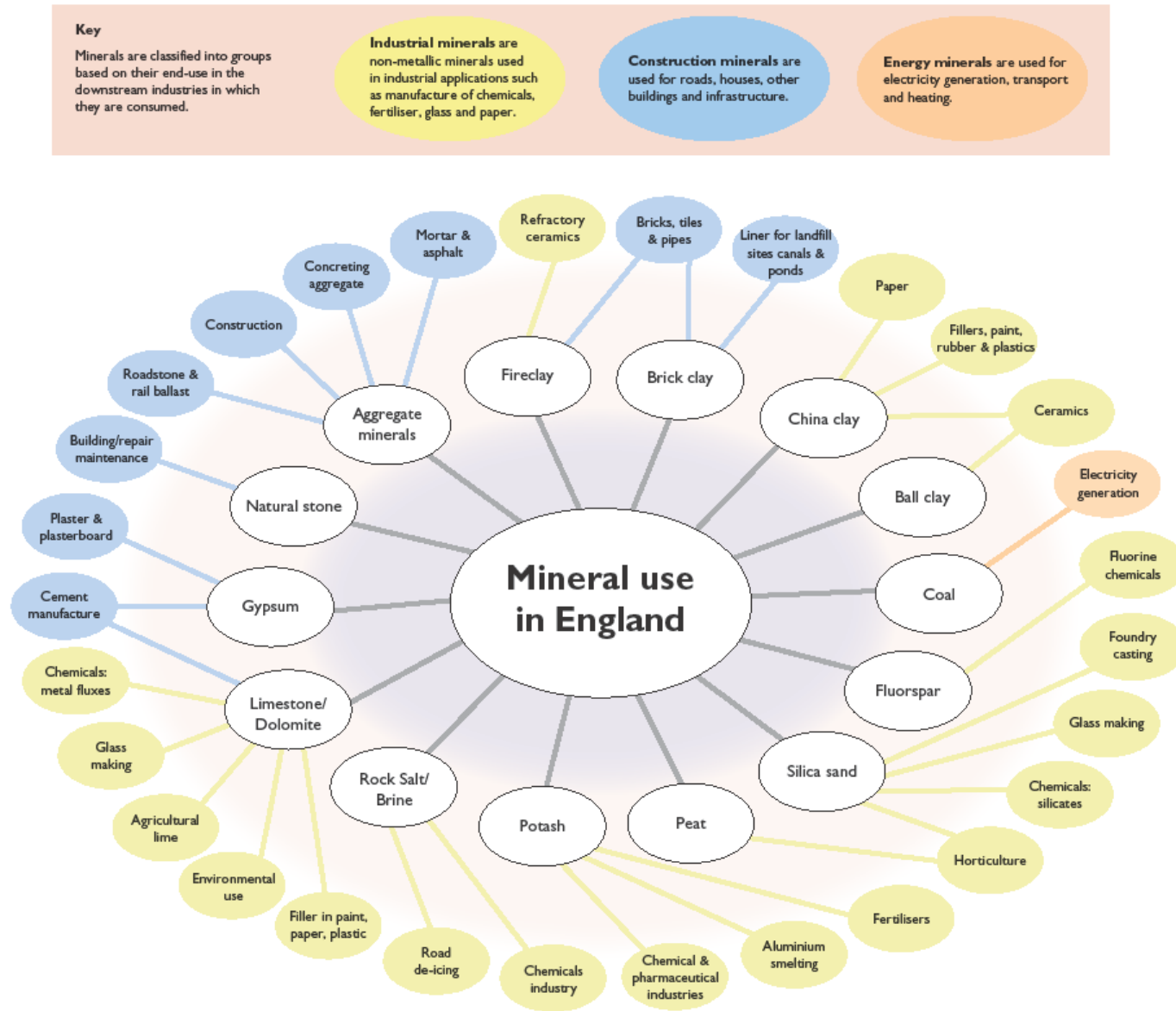


Figure 1: Mineral use in England

2.2 MINERAL RESOURCE INFORMATION

- 2.2.1 Mineral resource maps of each English county have been compiled by the BGS on behalf of the Office of the Deputy Prime Minister (now DCLG). These maps show the geological distribution of all onshore mineral resources together with additional information on the location of mineral extraction sites, the extent of mineral planning permissions and licences for coal extraction and the extent of selected landscape and nature-conservation designations. The primary objective is to produce baseline data in a consistent format that can be updated, revised and customised to suit planning needs, including use in the preparation of LDDs.
- 2.2.2 This mineral resource information is available in paper format or as digital data under licence from the BGS. All the data on the ‘county maps’ have been merged to produce an online minerals information Geographical Information System (GIS) for each English region (<http://www.bgs.ac.uk/mineralsuk/maps/maps.html>). Further information on how these datasets were prepared, together with caveats on their use and how to licence this data is provided through this link.
- 2.2.3 The level of information used to identify the existence of a mineral resource ranges from field-based geological mapping to more in-depth geological investigations such as trenching and drilling. The gathering of new information can incur considerable costs, as in order to compile basic geological maps, a field geologist will need to survey and interpret the geology using rocks that outcrop and the landscape as a guide, and trenching and drilling requires appropriate equipment and expertise to record the data. Information gathered is then compiled and used to create new maps and other sources of information.

2.3 SAFEGUARDING MINERAL RESOURCES

- 2.3.1 Mineral resources are finite and they must be protected to give future generations the best possible chance of meeting their own needs. Minerals can only be worked where they naturally occur and with increased pressure on land use we must ensure that those resources are not needlessly sterilised by other forms of development.
- 2.3.2 Sterilisation of mineral resources can occur as a result of surface development directly overlying the mineral resource, or by development that is situated on or close to the boundary of a resource (Figure 2). The marked differences in the geological occurrences, properties, markets, and supply and demand for minerals, give rise to different land use planning implications and safeguarding considerations depending on the location.
- 2.3.3 There is no presumption that areas within a MSA will ultimately be allocated for extraction. If an application is submitted for mineral extraction within a MSA, the MSA designation itself does not provide any support for a grant of consent. If a MPA wishes to define future allocations for extraction then such areas must be identified as Areas of Search, Preferred Areas, and Specific Site allocations. Equally, there is no presumption that non-mineral development within a MSA is automatically precluded. MSAs alert those proposing sites for future development to the presence of valuable mineral resources which they otherwise might not have considered. The MSAs indicate where local mineral safeguarding policies, formulated specifically to suit local circumstances, may apply. The process should ensure that minerals are not unnecessarily sterilised whilst allowing competing development to proceed if there is an overriding need for it. In those circumstances extraction of the mineral ahead of the development (prior extraction) should always be considered.
- 2.3.4 A complete safeguarding process will:
- identify mineral resources from the best available information

- define and adopt mineral safeguarding areas in development plans
- adopt suitable policies to ensure that minerals are not unnecessarily sterilised.

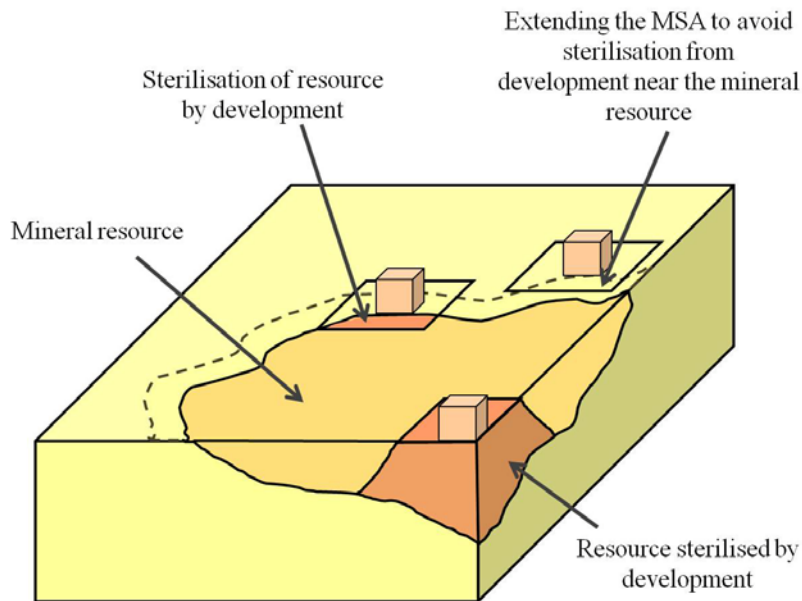


Figure 2: The sterilisation of near surface mineral resource by surface development

Further information on economic minerals and mineral resources in England

British Geological Survey

Detailed information on the minerals that are extracted in Britain, and therefore are currently of economic importance is set out in a series of 'Mineral Planning Factsheets'. These include information on the distribution of resources, supply, demand, uses and planning considerations. They are regularly updated and provide an overview of the supply of a specific mineral. They are primarily intended to inform the land use planning process but will be of much wider interest. Factsheets are available at <http://www.bgs.ac.uk/mineralsuk/search/home.html>.

A series of BGS publications on minerals in the economy, mineral exploration, minerals planning and mineral statistics are also available for download at <http://www.bgs.ac.uk/mineralsuk/search/home.html>.

Information on mineral resources by region can be found by using the interactive map at <http://www.bgs.ac.uk/mineralsuk/maps/maps.html>.

Information to assist users' understanding of BGS digital mineral resource map data including limitations, uses, content and background information on compilation, together with how to licence the data is available at <http://www.bgs.ac.uk/mineralsuk/maps/licence.html>

The Coal Authority

The Coal Authority is a non-departmental public body sponsored by the Department for Energy and Climate Change. The Coal Authority owns, on behalf of the country, the vast majority of the coal in Great Britain, as well as former coal mines. In addition to protecting the public and the environment in coal mining areas, they regulate the licensing of coal mining operations in Britain.

The Coal Authority has made available information on surface coal resources to all coalfield MPAs free of charge. Other information on current licensed areas for surface and deep mining of coal together with coal mine methane and underground coal gasification is also available

upon request. This information will form part of the robust evidence base for development plan making and considerations in development management.

Information on the historic legacy of coal mining is being released and updated free of charge on a phased basis to all coalfield LPAs. This information is an important part of the development plan-making process as well as taking a more risk based approach to the determination of individual planning applications to ensure safe, stable and sustainable development. See www.coal.gov.uk for further information.

Trade associations and their websites or contact email

British Aggregates Association - <http://www.british-aggregates.co.uk/>

British Ceramic Confederation - <http://www.ceramfed.co.uk/>

Confederation of UK Coal Producers - <http://www.coalpro.co.uk/>

Kaolin and Ball Clay Association UK - <http://www.kabca.org/>

Mineral Products Association - <http://www.mineralproducts.org/>

Silica and Moulding Sands Association - <http://www.samsa.org.uk/>

Stone Federation Great Britain- <http://www.stone-federationgb.org.uk/>

Salt Association - email info@saltinfo.com

3 Safeguarding in the planning process

- 3.0.1 MPS1 sets out the national approach to spatial planning. An objective included in MPS1 is 'to safeguard mineral resources as far as possible'. Paragraph 10 of MPS1 requires MPAs and LPAs to carry out their functions in relation to the preparation of plans and in relation to development management in accordance with the national policies for minerals planning. More detailed national policy on safeguarding is set out in paragraph 13.
- 3.0.2 At the local level, MPAs should '... define Mineral Safeguarding Areas (MSAs) in LDDs, in order that proven resources are not needlessly sterilised by non-mineral development, although there is no presumption that resources defined in MSAs will be worked' (MPS1 Para.13). Figure 3 shows this structure and summarises where mineral safeguarding duties apply at the different levels of the planning system.
- 3.0.3 The following chapters explain how national policy can be implemented at the local level of the planning system. Specifically, these chapters identify how national safeguarding policy may be applied and the considerations that are needed in order to design an effective system. Examples are provided to illustrate key steps and example policies for each level of the planning system are provided.

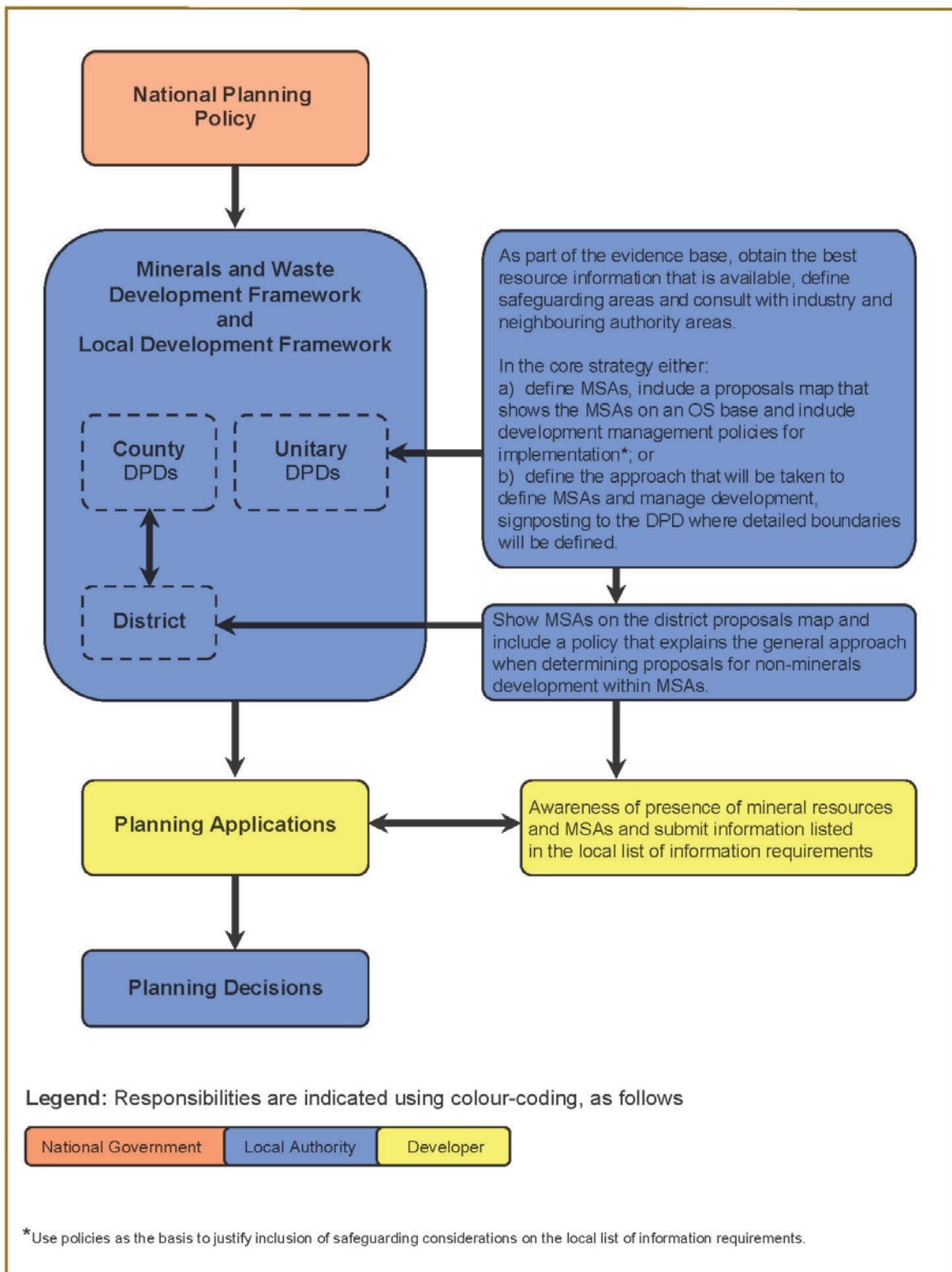
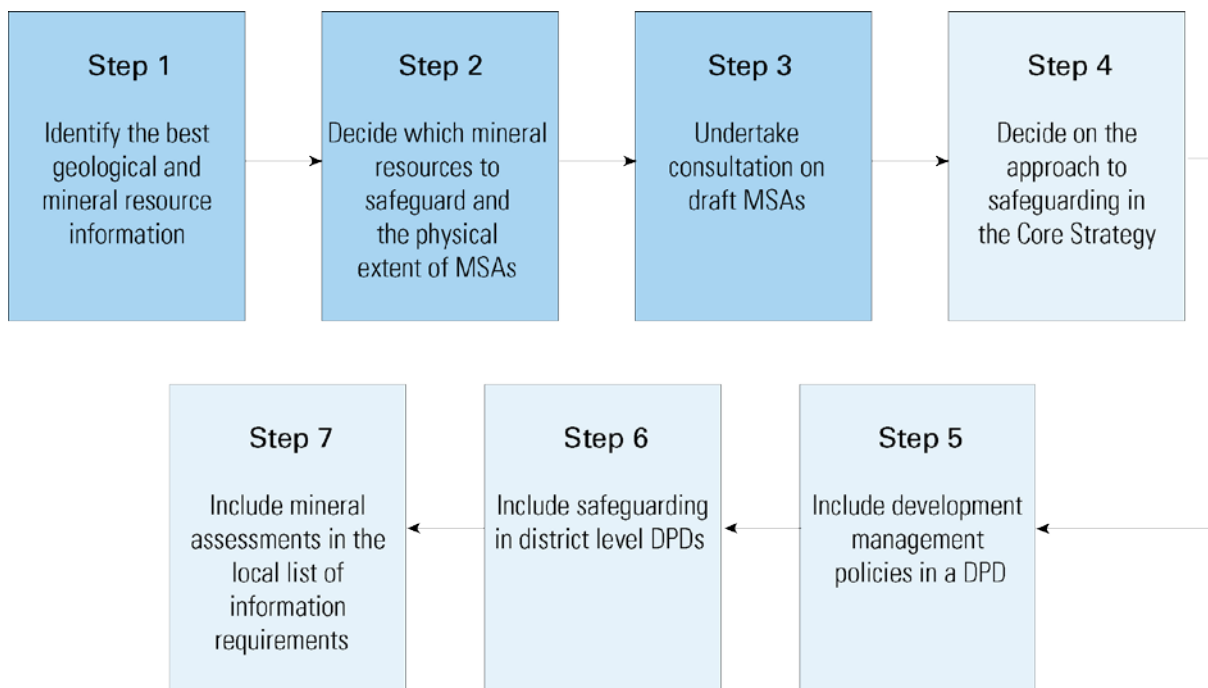


Figure 3: Development planning process for mineral safeguarding

4 Development Plan Documents: the robust evidence base

- 4.0.1 The Minerals and Waste Local Development Framework (or the overall Local Development Framework in Unitary Authorities), provides the structure for planning for minerals development at the local level. The frameworks comprise LDDs which set out the development plan for the area and provide guidance to all interested parties about local development. MPS1 requires that MPAs define MSAs in their LDDs and that District Authorities show MSAs in their LDDs.
- 4.0.2 To be considered ‘sound’ a DPD must be founded on a robust and credible evidence base. Evidence gathering should begin well before drafting of the Core Strategy is started. The best available geological and mineral resource information should be identified and decisions taken as to whether that information base can be improved. Preliminary drafts of the proposed methodology for defining MSAs and initial drafts of the MSAs themselves can be produced for consultation with specialist consultees prior to the publication of any public consultation documents. If such early consultation takes place, all documentation associated with it could form part of the evidence base.
- 4.0.3 All consultation documents and events should make it clear that MSAs are being identified as part of the process of producing a DPD. The purpose and effect of MSAs should be explained and in particular the fact that there is no presumption in favour of planning permission being granted for extraction within a MSA.



4.1 STEP 1: IDENTIFY THE BEST GEOLOGICAL AND MINERAL RESOURCE INFORMATION

'MSAs can be defined objectively using the best available geological and mineral resources information, including that published or held by the British Geological Survey or made available by the industry'

(MPS1 Practice Guide, Para. 32).

Mineral resource information gathering

- 4.1.1 **The definition of MSA boundaries requires up-to-date, factual information on the physical location of mineral resources and should be based principally on the best available mineral resource information at the time MSAs are defined.** In the context of the plan making process, geology, unlike many other factors that influence planning, does not change with time.
- 4.1.2 A robust and credible starting point for defining MSAs is the BGS/DCLG mineral resource information which has been produced specifically to support planning. If no other information is available then this resource information is considered adequate for the purposes of defining MSAs. It comprises minerals resource digital data which are updated at intervals and mineral resource maps produced on a county basis from 1995 to 2004. Collectively this information is referred to in this document as the BGS mineral resource maps. Both the digital data and the maps identify those deposits that the BGS consider to be mineral resources. In addition a short report accompanies the paper maps summarising key facts about individual minerals, their production and uses.
- 4.1.3 Judging which mineral deposits are mineral resources requires technical knowledge of the geology of the deposits together with an understanding of a range of operational and economic criteria. This knowledge has been applied by BGS to produce the mineral resource maps which are available digitally under licence (see section 2.2). The use of these digital datasets and maps largely eliminates the need for MPAs to make their own judgements on which mineral deposits are or may become of potential economic interest. It should be noted that, whilst the information within the reports accompanying the maps remains substantially correct the digital data delineating the location and extent of mineral resources will have changed as a result of larger scale mapping and updates undertaken in the interceding years.
- 4.1.4 Where available, other data should be incorporated. These include:
- i. sand and gravel assessments undertaken by various organisations in the 1980s to early 1990s, funded by the Department of Environment. Some of these datasets have already been incorporated into the BGS mineral resource maps.
 - ii. exploration data from industry that is not held by BGS, such as shallow borehole information and trial pit investigations. Where mineral operations occur in areas not identified as resources on the BGS mineral resources maps, discussions with industry operators could be held to determine the importance and extent of the resource that is to be safeguarded. Information from industry can be requested at this stage or during the consultation on the preliminary MSAs (Step 3). If information is not available from industry, the digital BGS mineral resource information is likely to be the 'best available information' from which MSAs can be defined.
 - iii. Coal Authority data held in relation to the location and extent of coal resources together with information on past and present workings. The Coal Authority has identified

those shallow coal deposits that are of resource quality, thus avoiding the need for MPAs to make their own judgements. The Coal Authority also holds information regarding the areas licensed for coal extraction and emerging coal related technologies such as coalbed methane extraction and underground coal gasification. This information is available free of charge in both paper and digital formats, ready for integration into a GIS.

- iv. data held by the MPAs which may include geological and resource data that is not held by BGS, gathered through exploration programmes within their area.
- v. published information from various organisations. One example is the collection of mineral planning factsheets on individual mineral commodities intended to inform the land use planning process (see further information box in section 2).
- vi. information on important building stone resources held by English Heritage. The BGS mineral resource maps do not consistently show 'building stone resources', because at the time of producing the maps, the information on which to distinguish those units of importance was not readily available. Annex 3 of MPS1 encourages operators and English Heritage to make MPAs aware of the building and roofing stone sources that they consider should be safeguarded. To support this process, English Heritage have commissioned a Strategic Stone Study to identify sustainable stone resources for building and conservation purposes, and to provide evidence of their importance. This will provide MPAs with information to help them identify sources of importance to the built heritage, whether disused or active, which they consider should be safeguarded. This information will be made freely available. See bgs.ac.uk/mineralsuk/mines/stones/EH_project.html for further information.

4.2 STEP 2: DECIDE WHICH MINERAL RESOURCES TO SAFEGUARD AND THE PHYSICAL EXTENT OF MSAs

- 4.2.1 **The best available geological and mineral resources information gathered should be used as a basis for deciding on those minerals that are considered of economic importance and should be safeguarded.** Any decisions on minerals that initially were identified as resources but are not proposed for safeguarding, due to the review of information in Step 1 and changing economic circumstances should be justified.
- 4.2.2 The information from the data gathering exercise should be used to compile resource maps for the area. This is best undertaken using a GIS which provides the user with flexibility to create maps at an appropriate scale and can show resources on a topographic base. The ability to use GIS to examine the boundaries of resources in detail is of particular value where those resources overlap, such as superficial sand and gravel resources overlying hard rock resources.
- 4.2.3 MSAs should usually cover the whole resource and not be curtailed by other planning considerations. Any modifications made by the MPA to the extent of any resources should be fully justified and a record kept for future reference/challenges.

Geological modifications to resource boundaries

- 4.2.4 Modifications to the resource extent are most likely to result from the provision of additional or more detailed geological information. This information is likely to be obtained through consultation (Step 3).
- 4.2.5 Geological reasons for modifying the mineral resource boundaries include:
 - Reducing or extending the resource boundary as a result of on-going working or exploration by industry. For example, information on the quality and viability of working geological formations gained through their ongoing exploration programmes;

- Location of new resources not identified in BGS information. In some instances, mineral operations occur in areas not identified as resources on the DCLG/BGS mineral resource maps. In such instances, discussions with the mineral operators are important to determine the importance and extent of any resource that may require consideration for safeguarding;
 - Extension of the resource down dip where a mineral is located within dipping strata (see explanatory diagram in Case Study 1). In such instances, a judgement may have to be made as to the depth below the surface at which extraction will become uneconomic using surface extraction methods. Such refinements should be undertaken in discussion with the industry.
- 4.2.6 The majority of extensive mineral resources that are identified will cover areas of open countryside. The volume of applications submitted in these areas and therefore considered on safeguarding grounds are likely to be small, despite the relative size of the MSA. In most cases therefore, MSAs should cover the full estimated extent of mineral resources. The instances in which an application may take place in a MSA can be set out in development plan policy, and the policy used as a tool to refine the development management process.
- 4.2.7 However, in certain circumstances, MSAs covering resources that are not considered of any great national or regional importance and that occur extensively over the area of a MPA, could be reduced in size. Any reduction in extent of a MSA must be based on consistent and justifiable criteria, in particular geological and, if necessary, economic consideration in a transparent and credible way. Specifically factors such as quality, quantity, importance and productivity may be considered to attempt to identify those parts of the resource that might have greater economic significance than other parts. Case Study 2 shows an approach taken by Nottinghamshire County Council to refine extensive resources.
- 4.2.8 MSAs should usually cover the whole resource and not be curtailed by other planning considerations. The MPS1 Practice Guide (Para.32) acknowledges that incompatible development close to a MSA may lead to sterilisation of part of the resource. It may therefore often be appropriate to extend the MSA beyond the resource boundary to take account of such risks, the extent of which will vary between minerals and likely method of extraction. This need to extend the resource for these reasons could be determined through consultation at this stage. Examples of how this matter can be addressed are provided in Case Study 3 at the end of this section.

“...It should be kept in mind that, in addition to proposed development within a MSA, incompatible development that is allowed close to a MSA may also lead to sterilisation of part of the resource” (Para. 32).

Minerals Policy Statement 1: *Practice Guide* (DCLG, 2006)

Safeguarding in designated and urban areas

- 4.2.9 Mineral safeguarding is not precluded by the presence of national and international environmental designations on the basis that sterilising development does take place in these areas. Defining MSAs alongside environmental and cultural designations will ensure that the impact of any proposed development on mineral resources will be taken into account and weighed against other land use/conservation interests at the time planning decisions are made.

- 4.2.10 In urban areas, MPAs should define MSAs to highlight the potential for extracting minerals (such as shallow coal, river terrace sand and gravel or Etruria Formation clays) beneath large regeneration projects and brownfield sites. Mineral development on such sites, particularly on the fringes of the urban areas, may be of economic advantage due to the availability of mineral on site for the development proposed, or the shorter distance to market if sold. In the case of coal, prior extraction can rectify issues associated with land stability. If applicants for non-mineral development are not aware of the presence of a mineral resource below the surface when they are making planning applications, opportunities for prior extraction for some or all mineral resources may be missed. Defining MSAs in urban areas avoids disputes over the definition of what constitutes an urban area and it reduces the need to amend MSAs to reflect urban expansion. Any concerns regarding the number of planning applications that might be referred to the MPA as a consequence of defining MSAs in urban areas can be managed by simple exemption criteria (see Para. 5.2.3 – 5.2.8).
- 4.2.11 In exceptional circumstances, the definition of MSAs to include urban areas may not be justified. This is particularly the case where the method of working is unlikely to be acceptable in close proximity to an urban environment, such as blasting of hard rock resources. Section 7 examines in more detail the issues that surround prior extraction in urban areas and provides examples of where mineral resources (coal, and sand and gravel) have been successfully extracted ahead of a proposed development.
- 4.2.12 It is acknowledged that there may be community concerns that designation of safeguarded areas makes mineral extraction more likely or inevitable. These concerns need to be carefully managed through early and effective consultation on the DPDs which should contain a very clear statement intended to dispel this common misconception.

4.3 STEP 3: UNDERTAKE CONSULTATION ON DRAFT MSAS

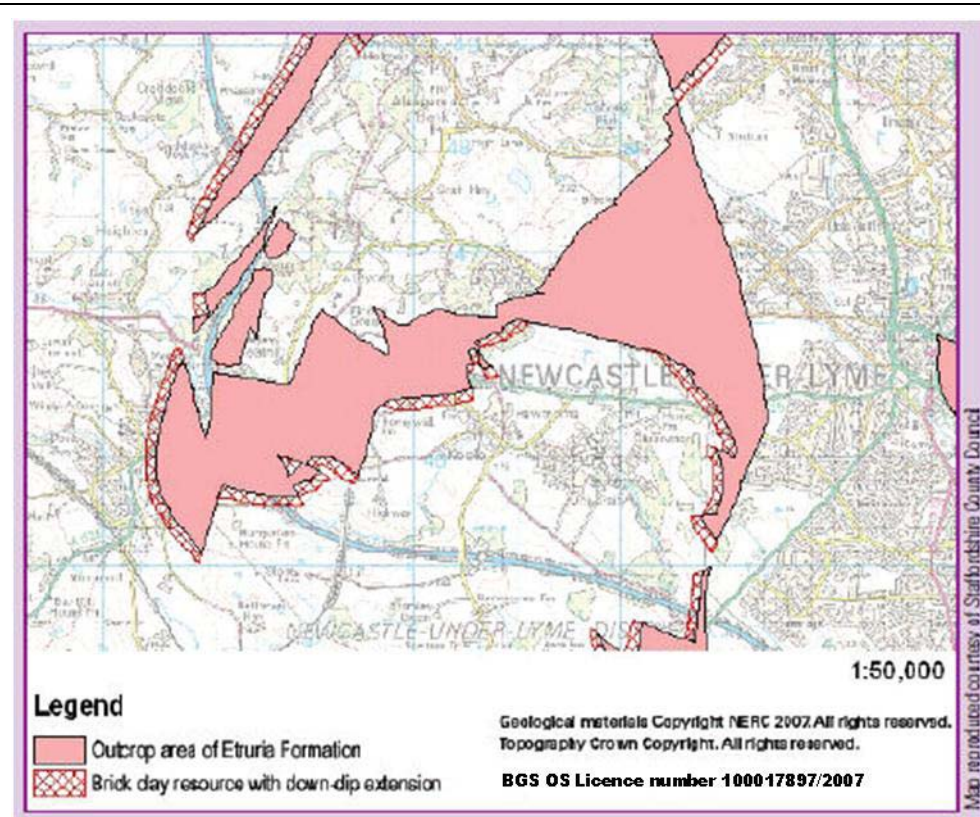
- 4.3.1 The proposed list of minerals to be safeguarded and the justification together with maps of the mineral resources and draft MSAs should be the subject of specialist consultations. The MPS1 Practice Guide (Para. 32) is clear in its guidance that MSAs, however initially defined, will need to be refined in discussion with the industry (operators direct and / or trade bodies as appropriate) and other stakeholders. Key consultees include the Coal Authority, English Heritage, BGS and neighbouring MPAs.
- 4.3.2 Consultation with industry and other stakeholders could take many forms including by letter, email, telephone or on-site meetings. Points for consultation may include the mineral resources proposed for safeguarding and local geological and operational considerations. Information should also be gathered to inform any potential requirement for the need to extend the boundary of the mineral resource to take account of sterilisation from development permitted close to the resource boundary. This requirement will vary depending on resource type, scarcity and nature of extraction.
- 4.3.3 When consulting with the minerals industry, it may be advisable to contact the head office of the company in order for them to assign the task to a relevant person in the company who has the local knowledge. This should also help to retain some accountability and a national company overview of the situation for context. Problems may arise with the availability of information from industry due to commercial confidentiality. There is understandably reluctance on the part of companies in some cases to release information if it could have an effect on market values or a company's competitive position. The industry should respond positively to consultation to ensure that the MSAs are defined from a robust evidence base. If information is not available from industry, the digital BGS mineral resource information is likely to be the 'best available information' from which MSAs can be defined.

- 4.3.4 Consultation should be undertaken with neighbouring MPAs where mineral resources cross or are in close proximity to administrative boundaries. A 'joined-up' approach to the definition of MSAs is essential to ensure that development in one MPA does not needlessly sterilise mineral resources in an adjacent MPA area. Case Study 5 illustrates an example where MPAs liaise across boundaries.
- 4.3.5 Three further case study examples are provided at the end of the section. The first example shows where additional information was provided as a result of consultation to supplement the BGS mineral resource information. The second is an example of where BGS mineral resource information was modified through discussion with industry. In contrast, the third example shows where it was not necessary to supplement information to the BGS mineral resource information.

Case Study 1

Examples of amending BGS mineral resource information for geological reasons.

The Etruria Formation is a nationally important brick clay resource. Industry has highlighted that this resource should be safeguarded beneath overburden due its importance and relative scarcity. Advances in extraction technology now allow mineral to be worked beneath thicker overburden. As a result of consultation with industry and the councils involved, it was considered appropriate to extend the MSA beyond the boundary of the Etruria formation in specific areas.

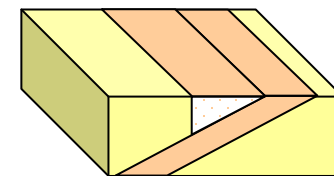


Staffordshire – downdip extension

In Staffordshire the Etruria Formation has a shallow dip angle. Due to changes in economic circumstances and through consultation with industry, it was decided to extend the brick clay resource polygon by 100 metres in the down dip direction in order to safeguard the resource beneath overburden.

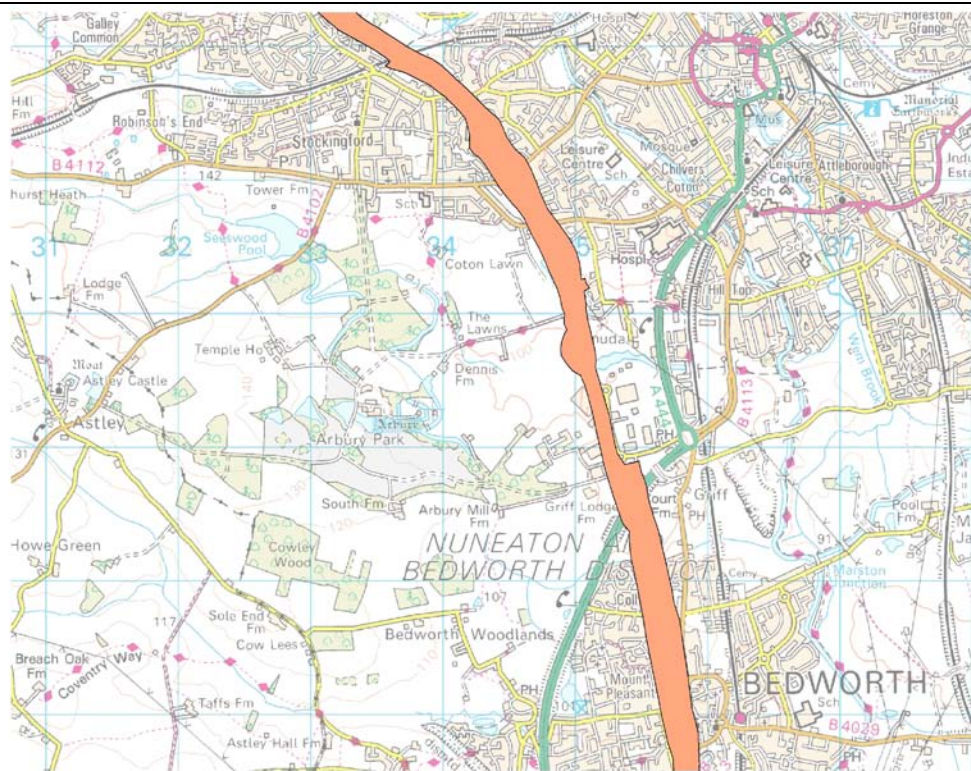
Left: The 100 metre downdip continuation of an area of Etruria Formation in Staffordshire (assuming a 15° dip and without consideration for topography. No extension was added in those areas where faulting has removed the resource)

Below: Sketch cross section showing shallow dip angle of Etruria Formation in Staffordshire and the according downdip continuation of the resource polygon used for the MSA (for illustration purposes only, not to scale).



Case Study 1 continued...

Examples of amending BGS mineral resource information for geological reasons.

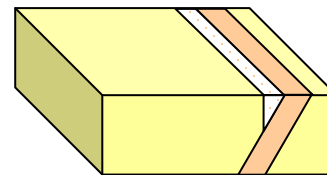


Warwickshire – no extension necessary


In Warwickshire the Etruria formation is steeply dipping. This means it was not considered necessary on geological grounds to extend the resource beyond the mapped boundaries defined by the existing mineral resource maps in order to protect the resource beneath overburden.

Left: No downdip continuation was necessary for the Etruria Formation in Warwickshire because the resource is more steeply dipping.

Below: Sketch cross section showing steep dip angle of Etruria Formation in Warwickshire, meaning that a downdip continuation of the Etruria formation resource polygon is too thin to be considered necessary (for illustration purposes only, not to scale).



Legend

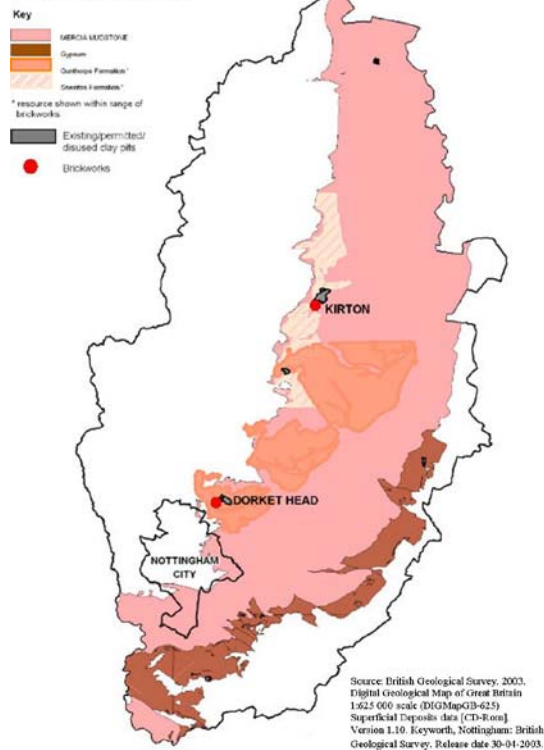
 Outcrop area of Etruria Formation

Geological materials Copyright NERC 2010. All rights reserved.
 Topography Crown Copyright. All rights reserved.
 BGS OS licence number 100037272/2010.

Case Study 2

Nottinghamshire – Extensive resources reduced by geological formation

Plan MP5(a) Nottinghamshire - Mercia Mudstone Brick Clay Resources



Mercia Mudstone Group (pink) from BGS mineral resources information with the more detailed information made available from industry: the Gunthorpe Formation (salmon) and the Sneinton Formation (pink hatched).

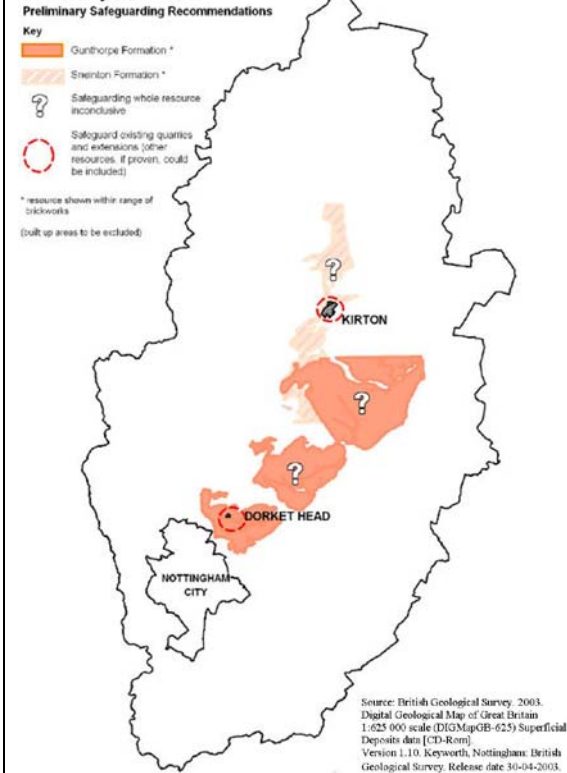
BGS mineral information shows extensive resources of brick clay (Triassic Mercia Mudstone Group) in Nottinghamshire. Two formations within the Mercia Mudstone are worked for brick making at two sites in Nottinghamshire (each working one formation) and these make a significant contribution to regional and national brick supply. Industry was consulted and asked to provide ‘mineral resource within economic range’. Industry had more detailed information available to them from a previous geological mapping exercise and they provided this to the MPA. This consisted of the mapped extent of the formations that fall within a certain distance of their sites (e.g. 10 kilometres in the case of the Kirton site).

Mineral profile 5, Appendix 2, of the pre-publication draft of the Mineral Safeguarding background paper
<http://www.nottinghamshire.gov.uk/home/environment/planningmatters/mineralsandwasteplanning/localdevframework/oe-planningmatters-mineralslocalplan/mineralssafeguarding.htm>

NOTE: The BGS geological mapping shows the Mercia Mudstone Group subdivided into two formations only in the southern half of the county. The remainder of the county was covered in less detail during an earlier mapping exercise.

To see if more geologically mapped subdivisions exist for geology in your area, consult the web version of the BGS DiGMap50-GB dataset at <http://www.bgs.ac.uk/data/services/digmap50wms.html> or contact BGS enquiries on +44 (0)115 936 3143 or enquiries@bgs.ac.uk for more information.

Plan MP5(b) Nottinghamshire - Mercia Mudstone Brick Clay Resources



Safeguarding options being considered by Nottinghamshire County Council in their background papers.

Case Study 3

Examples of extension of the resource boundary to avoid sterilisation by adjacent development

The boundaries of MSAs may be extended beyond the lateral extent of a mineral resource to avoid sterilisation by adjacent development (Figure 2).

Warwickshire

In a study commissioned by Warwickshire County Council, it was recommended that MSAs should extend beyond the resource boundaries by the following distances:

250 metres for rocks which do not require blasting including shallow coal.

500 metres for rocks which may require blasting and for deep resources.

[warwickshire.gov.uk/Web/corporate/pages.nsf/Links/57B502D48FDE4EB0802575EB004BBF9A/\\$file/Report_065.pdf](http://warwickshire.gov.uk/Web/corporate/pages.nsf/Links/57B502D48FDE4EB0802575EB004BBF9A/$file/Report_065.pdf)
WCC_MSA_OR08

Leicestershire

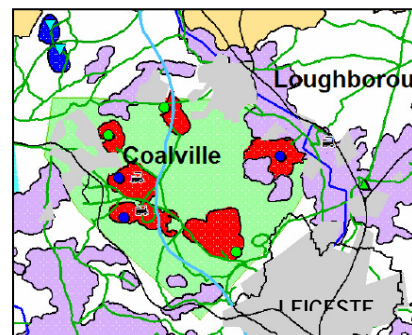
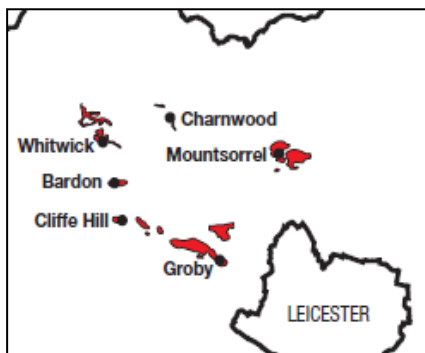
In a study published in 2004 it was recommended that Mineral Consultation Areas in Leicestershire should extend beyond the known resource boundaries by the following distances:

500 metres for the limestone to smooth the outcrop boundary and include some of the resource beneath overburden.

200 metres for sand and gravel to be consistent with buffers previously used by the council.

0 metres for underground resources such as coal and gypsum

Site specific margins for brick clay and igneous rock were decided after consultation with industry.



Igneous rock in Leicestershire from the Mineral resource map (left) and varying site specific margins on the igneous rocks used for the MCAs (right) used in the adopted Core Strategy Key Diagram (available from leics.gov.uk/adopted_mdf_core_strategy-for_web.pdf). In the document it states that MSAs will be delineated more precisely, and on an OS base, on a proposals map as part of a subsequent DPD.

Case Study 4

Warwickshire – An example of an approach to safeguarding in urban areas

In a study undertaken for Warwickshire County Council, the approach is taken to include urban areas as this reflects that the mineral resources are present (no matter what is currently on top of them) and allows minerals to be safeguarded for future generations according to policy.

The sand and gravel MSA overlying Leamington Spa and Warwick (both towns >200ha). This notifies planners and developers of the presence of minerals allowing the mineral to be effectively safeguarded or, potentially, for prior extraction to occur in conjunction with large redevelopments.

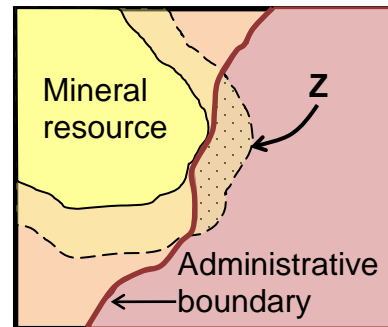


warwickshire.gov.uk/Web/corporate/pages.nsf/Links

Case Study 5

Considering MSAs across county boundaries

Although mineral planning responsibilities stop at administrative boundaries, it is important to remember that the actual mineral resources do not. MPAs are encouraged to look outside of their boundaries to ensure any developments sited close to their boundaries do not sterilise resources in the neighbouring county. It also enables a broader view of the size of possible adjacent deposits.



Sketch showing a zone (dotted, Z) where mineral resources could be sterilised in the county on the left if resources just outside the county on the right were not considered.

Case Study 5 continued...

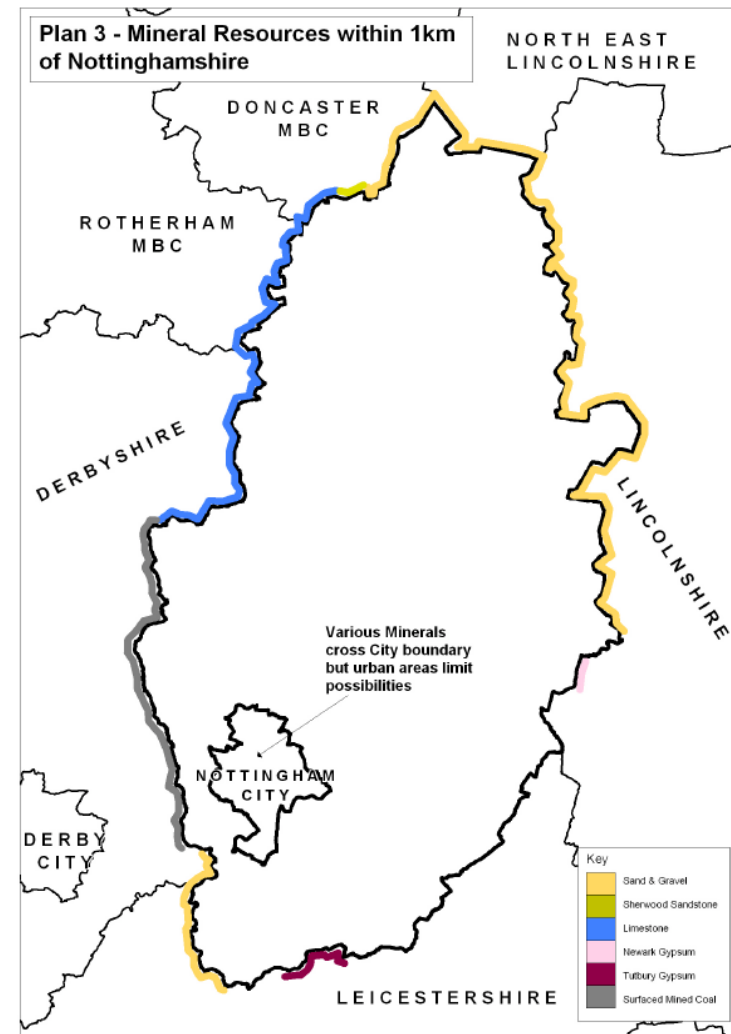
Nottinghamshire – an example of dealing with resources that are close to or straddle MPA boundaries.

In Nottinghamshire, resources up to 1 kilometre from the county boundary were considered and mineral resources within that area were shown in the pre-publication draft of the Mineral Safeguarding background paper (part of the evidence base which will support the Core Strategy). The neighbouring MPAs were consulted where a mineral resource crossed or was less than 1 kilometre inside the Nottinghamshire county boundary. This was to ensure that other counties were aware of mineral resources that might be safeguarded in Nottinghamshire and also to find out if they had already initiated any MSAs in their areas which might affect Nottinghamshire. A summary of the responses was also documented as part of the Mineral Safeguarding background paper (link below).

Para 2.9, 2.10, Plan 3 and table 3 (pp 14 - 16) in the pre-publication draft of the Mineral Safeguarding background paper:

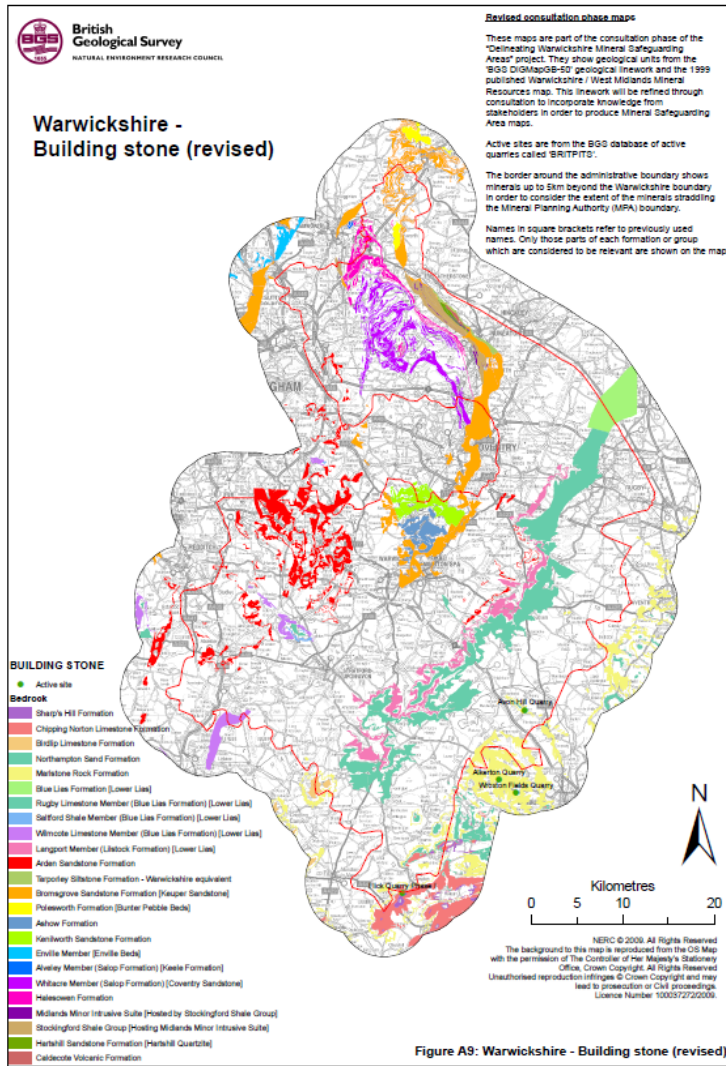
<http://www.nottinghamshire.gov.uk/mineralsafeguardingbgpaper.pdf>

Right: Map of Nottinghamshire with mineral resources within 1 kilometre of the county boundary shown in colour (Plan 3).



Case Study 6

Warwickshire – an example where additional information was used to supplement BGS mineral resource information



Until the Strategic Stone Study information is released (Para. 4.1.4, vi), 22 geological units have been identified as worthy of safeguarding in Warwickshire for building stone. This was achieved through consultation with building stone experts at Warwickshire County Council, Warwickshire Geological Conservation Trust and the BGS as part of the study to define Warwickshire's Mineral Safeguarding Areas. The line work for these geological units was sourced from the BGS DiGMapGB-50 dataset.

www.bgs.ac.uk/data/services/digmap50wms.html

Left: Warwickshire building stone consultation map from the report 'Mineral Safeguarding Areas for Warwickshire' available from

www.warwickshire.gov.uk/Web/corporate/pages.nsf/Links/57B502D48FDE4EB0802575EB004BBF9A

Case Study 7

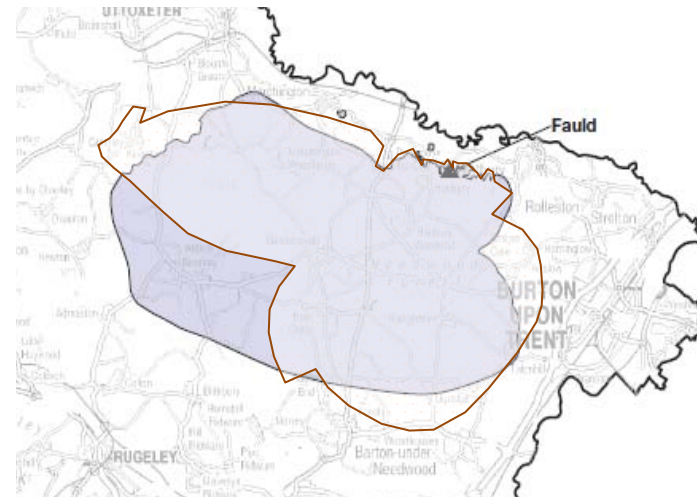
Staffordshire – an example where BGS mineral resource information was modified through discussion with industry

Staffordshire is one of the few areas in Britain where gypsum/anhydrite is currently extracted. The main use of gypsum is to make plaster and plaster board although in Staffordshire the gypsum/ anhydrite mixture is principally used as a retarder in the manufacture of cement.

Through consultation with the mine operator, British Gypsum, the previous digital BGS mineral resource information was refined to reflect their more detailed local knowledge.

East of the current mine location, experience has shown that the gypsum is not present as originally predicted by the BGS information as it has been removed through dissolution. That area was consequently removed from the recommended MSA. However, the gypsum formation is now known to extend further to the west, so that area has been added to the recommended MSA.

Right: The brown polygon shows the original mineral resource digital data for gypsum, the grey polygon shows the modified data used for the recommended MSA after discussion with industry. Source: 'Provision of Geological Information and a Revision of Mineral Consultation Areas for Staffordshire County Council', British Geological Survey, 2006. CR/06/133 (the full report is not available).



Case Study 8

West Sussex – an example where it was not necessary to supplement information to the BGS mineral resource information

In West Sussex, the proposed MSA maps were sent to industry for consultation based on the published BGS Minerals Resources map (1999). Consultation took place by telephone and site visit and the resources defined were discussed.

Consultation responses did not highlight any additional information that could supplement the BGS information and in the case of sand and gravel (below), the industry were generally in agreement that the mineral resources as they appear on the published map were appropriate for safeguarding. This was justified and documented in the report.

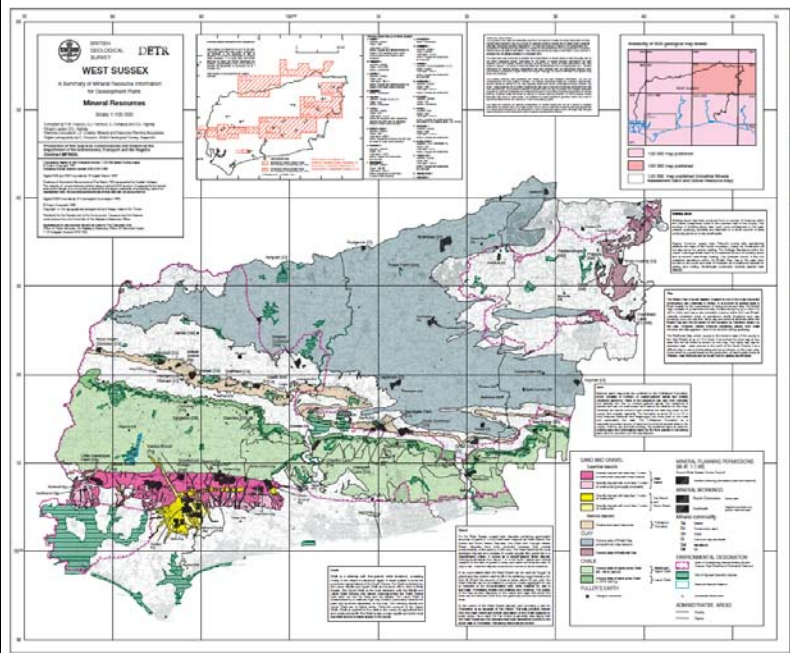


FIGURE 4: WEST SUSSEX MINERAL RESOURCES (1999) (MODIFIED 1999)

Published Mineral Resource map (top) and final MSA map for sand and gravel showing the unmodified BGS digital data (with 250 metres proximal development buffers) (bottom).

The West Sussex MSA definition study is part of the evidence base which will form the basis of a policy to safeguard mineral resources:

www.westsussex.gov.uk/mwdf

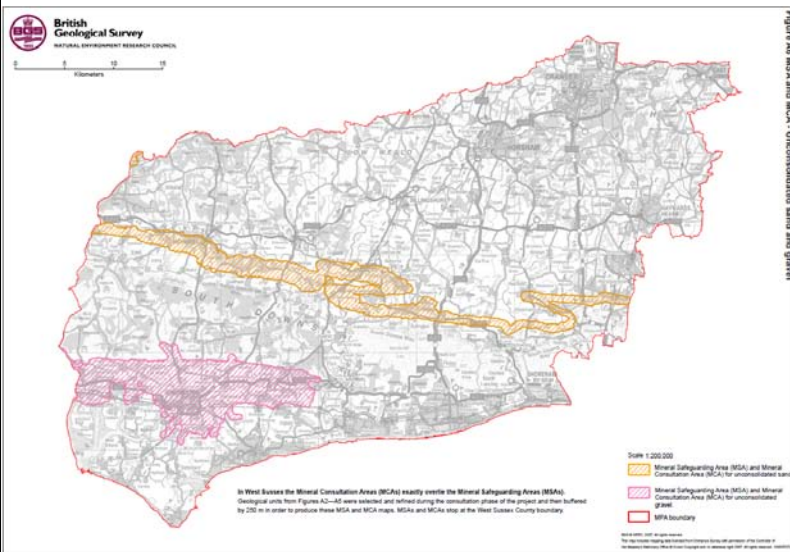
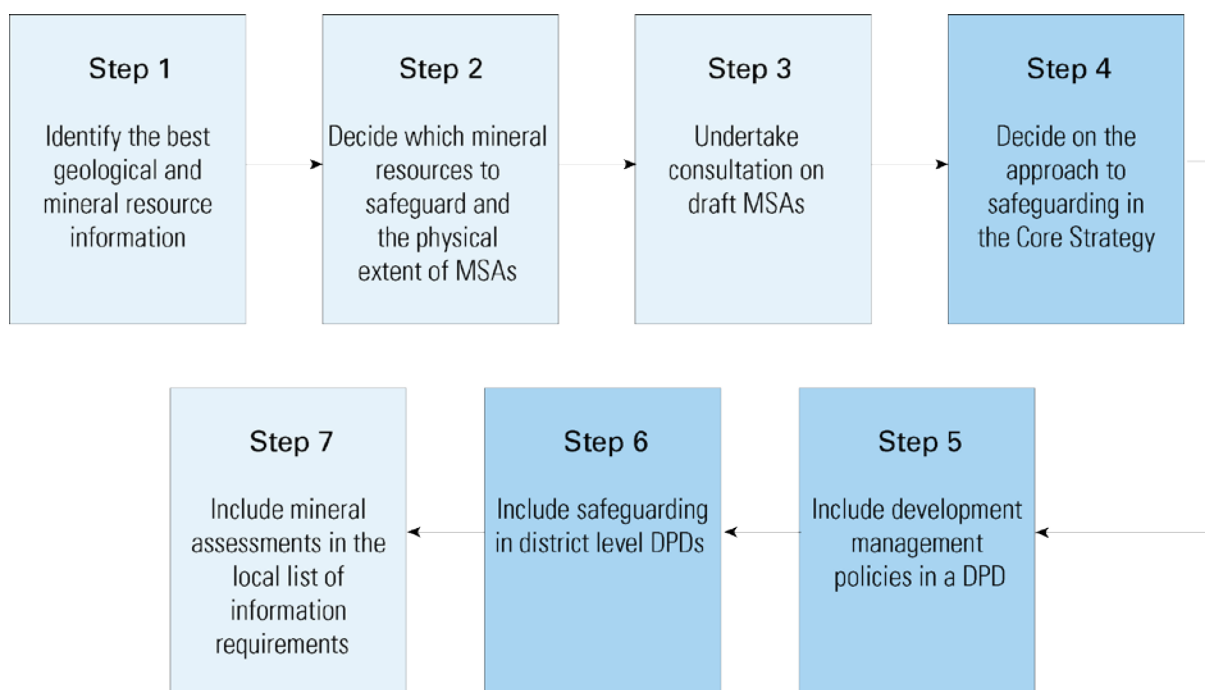


FIGURE 5: MSAs and MCAs – Unconsolidated sand and gravel

5 Development Plan Documents: policy and development management

5.0.1 To provide an effective system of mineral safeguarding, it is important that it becomes an integral part of the LDF. The safeguarding process within an LDF should:

- state the general approach that has or will be taken to defining MSAs and the management of development proposals in MSAs in the Core Strategy;
- include the detailed definition of MSAs, presenting their spatial extent on an accompanying proposals map; and
- include policies for practical implementation so that it is clear what an application in a MSA should include and how an application that is submitted in a MSA will be determined.



5.0.2 There are two approaches to integrating safeguarding within a LDF:

1. Defining the largest part of the safeguarding process in the Core Strategy i.e. include the approach to the definition of MSA boundaries and policies for the management of development proposals in MSAs. This could include the submission of a proposals map to show the detailed boundaries of MSAs; or
2. Outlining the general approach that will be taken to the definition of MSAs and development management within MSAs in the Core Strategy then defining the MSAs in a subsequent DPD (such as the Site Allocations DPD, or another suitable DPD as selected by the MPA).

Whichever approach is taken, safeguarding should be addressed effectively at every stage so that it is a functional mechanism.

5.0.3 The production of DPDs should aim to identify issues through consultation and address them. Paragraph 4.26 of Planning Policy Statement 12 expresses the importance of involving the community in the process of refining and improving the options available to

address such issues. As the definition of MSAs is based primarily on geological factors which are locationally specific the production of options for public consultation, as would take place ordinarily with spatial planning issues in a DPD, may not be appropriate. It may, for example, be misleading to suggest any options that are not consistent with the obligation to safeguard. MSA boundaries must be based on the presence of mineral resources. Consultation with industry however, is essential. Minerals operators are likely to hold detailed information on the economic factors needed to define local resources. Whilst broad public consultation may not be appropriate, MSAs should not be defined in isolation of other stakeholder expertise.

5.1 STEP 4: DECIDE ON THE APPROACH TO SAFEGUARDING IN THE CORE STRATEGY

Safeguarding policy in the Core Strategy

- 5.1.1 **It is essential that the approach that will be taken to define MSAs in the LDF is set out in the Core Strategy.** The Core Strategy is the lead DPD and the strategic framework for the production of any subsequent DPDs. A clear strategic objective on which to base safeguarding policies should be identified in the Core Strategy, linking the strategy with the principle of sustainable development. An example of a strategic objective produced by Leicestershire County Council is to “safeguard mineral resources from unnecessary sterilisation”.
- 5.1.2 MSAs should influence other policy documents which will ultimately form the overall spatial strategy. It is important to include as much of the safeguarding process as possible in the Core Strategy. This will ensure that difficult decisions about the approach and management for proposals within a MSA are not left for a subsequent DPD. The outcomes of Steps 1, 2 and 3 will inform the justification for the intended approach (or approach taken) in the Core Strategy.
- 5.1.3 The spatial element of the Core Strategy should be developed before moving on to policy detail that will put the strategy into effect (see Step 5). Where an authority takes the approach to define the largest part of their safeguarding process within the Core Strategy, development management policies should be included.
- 5.1.4 The same principles in this section apply for those MPAs that choose to take a joint approach to the preparation of core strategies.

Core Strategy example policy and accompanying text

Policy

Mineral Safeguarding Areas [insert either 'will be' or 'are' as applicable] defined around all mineral resources in Exfordshire that are considered to be of current or emerging economic importance. In Exfordshire, all mineral resources within Mineral Safeguarding Areas will be protected from unnecessary sterilisation by other development.

Accompanying text

Mineral resources are finite, and in accord with the basic principles of sustainable development, they must be protected to give future generations the best possible chance of meeting their own needs. The mineral resources of Exfordshire include sand, gravel, brick clay, limestone and shallow coal. Building stone resources will be identified in consultation with English Heritage and safeguarded. The broad extent of mineral resources that occur in the area are shown on the Key Diagram.

Detailed boundaries of MSAs will be defined in the forthcoming [insert DPD name] DPD. The MPA will work with the minerals industry and others to ensure that the best available information is made available to support these principles.

Development management policies will be set out in [insert DPD name] which will support the practical implementation of determining development proposals in these areas.

[Further information may be given as appropriate, including the methodology used for defining MSAs if they are defined within the Core Strategy and shown on an accompanying proposals map].

Core Strategy Key Diagram and Proposals Map

5.1.5 Where defined, MSAs should be shown on the Key Diagram and on the Proposals Map that accompanies the Core Strategy. Where the largest part of the safeguarding process is to be set out in a subsequent DPD, the broad extent of the mineral resources should be shown on the Key Diagram.

5.2 STEP 5: INCLUDE DEVELOPMENT MANAGEMENT POLICIES IN A DPD.

5.2.1 **The definition of MSAs will not in itself safeguard mineral resources. Effective safeguarding will only be achieved by outlining criteria against which planning applications for land use and development in MSAs will be considered.** Development management policies can be tailored to suit the requirements of individual MPAs. These should define the special criteria that need to be applied to the consideration of potentially sterilising development within MSAs.

5.2.2 Depending on the approach to integrating safeguarding within the LDF, county or unitary MPAs should set out any development management safeguarding policies in the Core Strategy or in a separate DPD (see Case Study 9). If development management policies are to be set out within a separate DPD, the Core Strategy should refer to that accompanying or forthcoming DPD and it should be produced as soon as possible.

Case Study 9

Leicestershire Minerals Development Framework, Core Strategy and Development Control Policies up to 2021 – an example of development management policy including exemption criteria

The Leicestershire Minerals Core Strategy includes an individual chapter setting out the development management policies for minerals development. The chapter outlines 28 core policies of which two (Policy MDC8 and MDC9) relate to mineral safeguarding. The supporting text refers to MPS1, which sets the safeguarding of minerals resources as one of the national objectives for minerals planning and requires MPAs to define MSAs.

Policy MDC8 is an example of a criteria based safeguarding policy which controls development within MSAs. The policy clearly sets out for mineral and non-mineral developers how applications within MSAs will be treated. The criteria describe the circumstances where non-minerals development would, as exceptions, be permitted within MSAs and provides guidance to Local Planning Authorities. The inclusion of this policy provides a basis to ensure that the County's mineral resources are adequately considered in land use planning decisions.

Policy MDC8: Safeguarding Mineral Resources

“Planning permission will not be granted for any form of development within a Mineral Safeguarding Area that is incompatible with safeguarding the mineral and significant infrastructure such as rail linked facilities unless:

- *the applicant can demonstrate to the satisfaction of the Local Planning Authority that the mineral concerned is no longer of any value or potential value; or*
- *the mineral can be extracted satisfactorily prior to the incompatible development taking place; or*
- *the incompatible development is of a temporary nature and can be completed and the site restored to a condition that does not inhibit extraction within the timescale that the mineral is likely to be needed; or*
- *there is an overriding need for the incompatible development; or*
- *it constitutes ‘exempt development’, namely householder applications; development already allocated in a statutory plan; infilling in existing built up areas.”*

5.2.3 A criteria based safeguarding policy which controls development within MSAs is advised. This should set out the circumstances where non-minerals development would be permitted within MSAs and provide guidance to LPAs and developers on how applications falling within MSAs will be treated.

5.2.4 The MPA could include a policy which states that applications for permission for development in a MSA must include an assessment of the effect of the proposed development on the mineral resource beneath or adjacent to the site of the development (termed a Mineral Assessment). This would oblige an applicant to provide available information with the planning application to demonstrate to the satisfaction of the MPA that the mineral resource has been adequately considered. Further details on Mineral Assessments are provided in Section 6.

5.2.5 An example of a criteria-based safeguarding policy is provided:

Development management example policy

Planning permission will not be granted for non-mineral development that would lead to the unnecessary sterilisation of mineral resources within a Mineral Safeguarding Area, as defined on the Proposals Map unless:

- *The applicant can demonstrate to the satisfaction of the MPA that the mineral concerned is not of economic value; or*
- *The mineral can be extracted to the satisfaction of the MPA without unacceptable community and environmental impacts prior to the development taking place; or*
- *The development is exempt as set out in accompanying exemption criteria.*

Alternative development management example policy

All applications for permission for development in a MSA, except those types of development set out in the list below, must include an assessment of the effect of the proposed development on the mineral resource beneath or adjacent to the site of the development.

5.2.6 For some types of non-mineral application, the sterilising effect on mineral resources may be negligible (e.g. a house extension within a built-up area). It is recommended that MPAs adopt a policy that specifies those types of proposed development that lie within a MSA but do not need to be considered on minerals grounds. The setting of exemption criteria will be of particular value in reducing the number of applications that need to be considered in urban areas where the majority of small householder applications are received.

5.2.7 Example exemption criteria include:

- *applications for householder development;*
- *applications for alterations and extensions to existing buildings and for change of use of existing development, unless intensifying activity on site;*
- *applications that are in accordance with the development plan where the plan took account of the prevention of unnecessary mineral sterilisation and determined that prior extraction should not be considered when development applications in a MSA came forward;*
- *applications for advertisement consent;*
- *applications for reserved matters including subsequent applications after outline consent has been granted;*
- *prior notifications (telecoms, forestry, agriculture, demolition);*
- *Certificates of Lawfulness of Existing Use or Development (CLEUD) and Certificates of Lawfulness of Proposed Use or Development (CLOPUD);*
- *applications for works to trees;*
- *applications for temporary planning permission.*
- *development types already specified in a DPD as exempt from the need for consideration on safeguarding grounds*

5.2.8 Size thresholds as exemption criteria should be avoided in most cases, as the effect of sterilisation from a small development in a MSA can be significant. If size thresholds are applied, careful consideration would need to be given to which minerals the exemptions will apply to. For example, coal is one of the few minerals which is extracted successfully from relatively small sites in advance of development (Section 7). The MPA, if aware of the application, may decide to waive the need for consideration on mineral grounds, should this be appropriate in a circumstance.

Presentation of MSAs on the Proposals Map

5.2.9 The evidence gathered to support and inform the preparation of the Core Strategy (Steps 1 to 3) should be used to define MSAs. MSAs should be presented on a Proposals Map that accompanies the relevant DPD (either within the Core Strategy itself or within a subsequent DPD).

5.2.10 An authority may choose to define MSAs outside the Core Strategy. In this alternative approach, evidence gathered to support the Core Strategy (Steps 1 to Step 3) is highly likely to be useful for defining the MSAs without much alteration. For further guidance see pas.gov.uk/pas/core/page.do?pageId=109844.

5.2.11 As part of this process, the Proposals Map may be linked with policies that are prepared as part of the context alongside other land use policies.

5.3 STEP 6: INCLUSION OF MINERAL SAFEGUARDING IN DISTRICT DPDS.

The role of the districts in two-tier areas in the safeguarding of mineral resources

5.3.1 **On formal adoption of MSAs by the county a clear procedure for consultation should be set out in a county DPD and acknowledged in a district DPD. A policy, which may include any exemption criteria, could be included in a district DPD.** This could also incorporate the general approach that the district will take when determining proposals for non-minerals development within, or close to, MSAs. On adoption of MSAs by the county, districts should re-issue their Proposals Map presenting the MSA boundaries. These should be shown in their entirety and not exclude any areas that have been previously been allocated for non-mineral development. This will highlight any potential for prior extraction of the mineral in those areas previously designated for other land uses.

5.3.2 Where policies and proposals in the district DPD predates the adoption of MSAs by the MPA, or where new ones are put forward by the district for development within a MSA, the district should consult the county. This is to ensure that policies relating to safeguarding set out in the County Core Strategy are complied with before permission is granted (MPS1, Para. 13).

Example of a County DPD policy

District Councils should consult the County Council on any planning applications they receive for non-minerals development which fall within the boundary of a MSA. The district should ensure that county procedures set out in policy [refer to the safeguarding development management policies] are followed.

Proposed allocations for new development in LDDs should take account of safeguarding policy and should seek to avoid the sterilisation of underlying minerals in accordance with these policies.

Example of a District DPD policy

Planning permission will not be granted for any non-exempt development [refer to County Policy] within a MSA unless the MPA has been formally consulted on the proposal and any requirements set out in the mineral safeguarding policies of the MPA have been met.

Mineral Consultation Areas

- 5.3.3 MCAs are part of a statutory mechanism which have their origins in the Town and Country Planning Act 1990. The objective behind the establishment of these areas was to ensure that in two-tier authority areas consultation takes place between county and district planning authorities when minerals interests could be compromised by proposed non-minerals development.
- 5.3.4 Legislation setting out MCAs only provides for their use in two-tier authorities and does not oblige them to be defined. However, should a County Council choose to define MCAs, it obliges the District Council to consult the County Council on any planning applications it receives within them. MCAs are a consultation mechanism and are not a safeguarding mechanism. They do not carry any presumption against permission being granted for development on a mineral resource and there is virtually no sanction should planning permission be granted within one. Primarily, the level of safeguarding that MCAs can provide is not comparable to that which can be afforded through a MSA-based process.
- 5.3.5 A simpler approach to safeguarding in two-tier authorities is through the use of planning policies in the County Council DPD which oblige the District Councils to consult the County Council on any planning applications it receives within a MSA. This approach avoids any confusion or lack of clarity to the district which might be created by the parallel use of both MSAs and MCAs. Step 6 sets out the proposed approach together with an example policy through which it would have effect.
- 5.3.6 Figures 4 and 5 provide example flow diagrams showing the broad steps to be followed in both two-tier and single tier authorities upon receiving a planning application within a MSA. Mineral safeguarding is just one of many factors which should influence the spatial planning process.

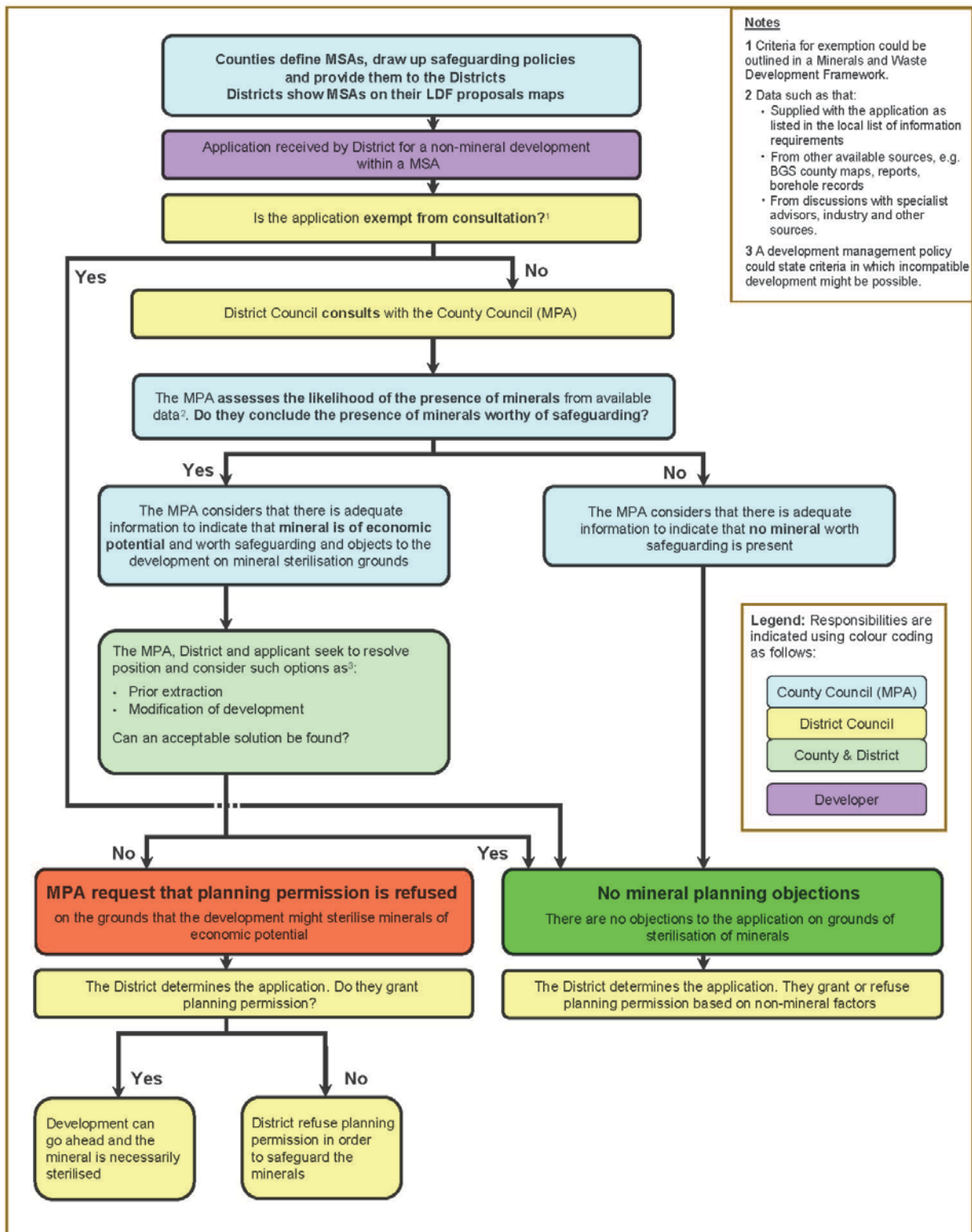


Figure 4: Planning application guidance: two tier planning areas

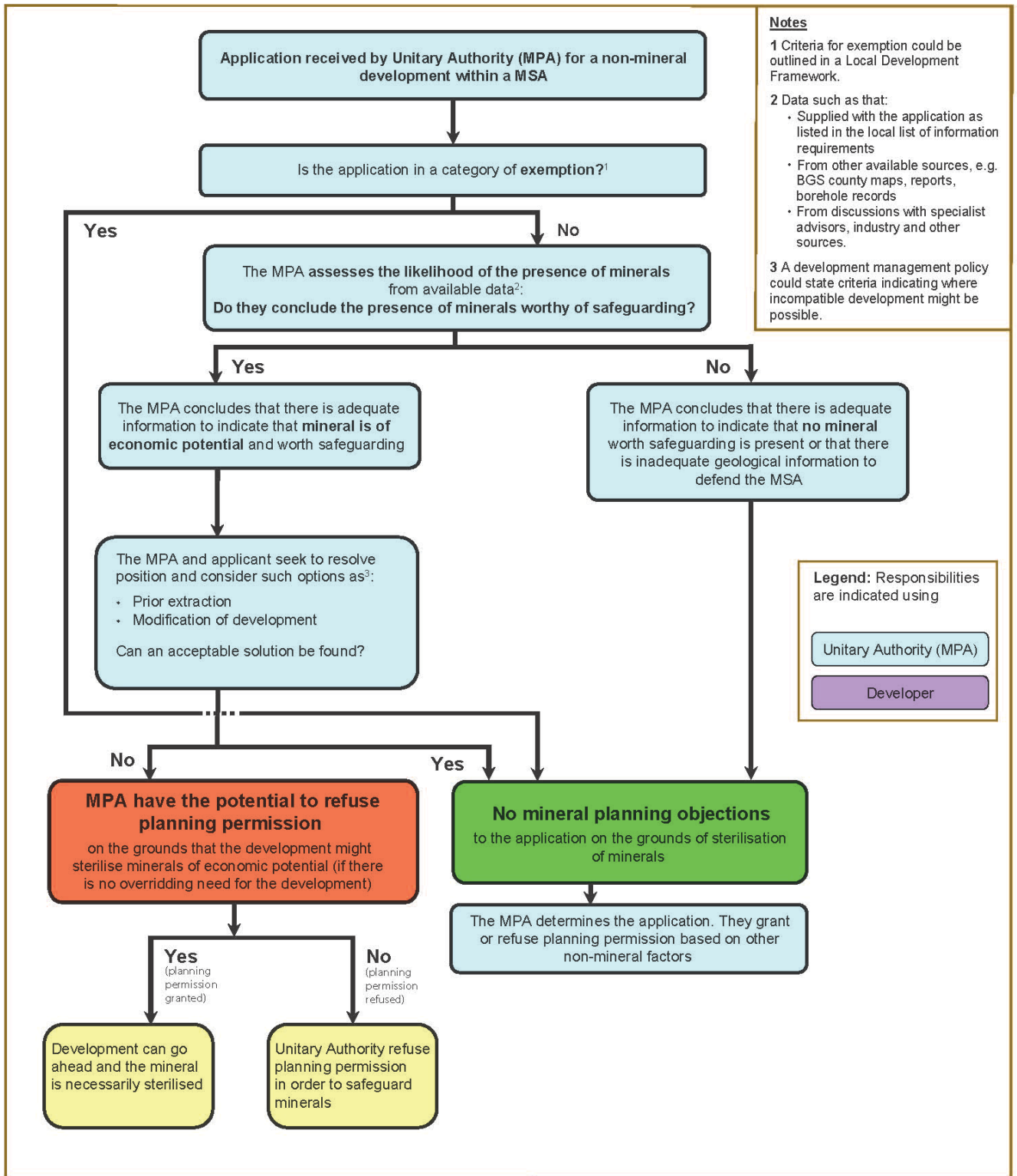
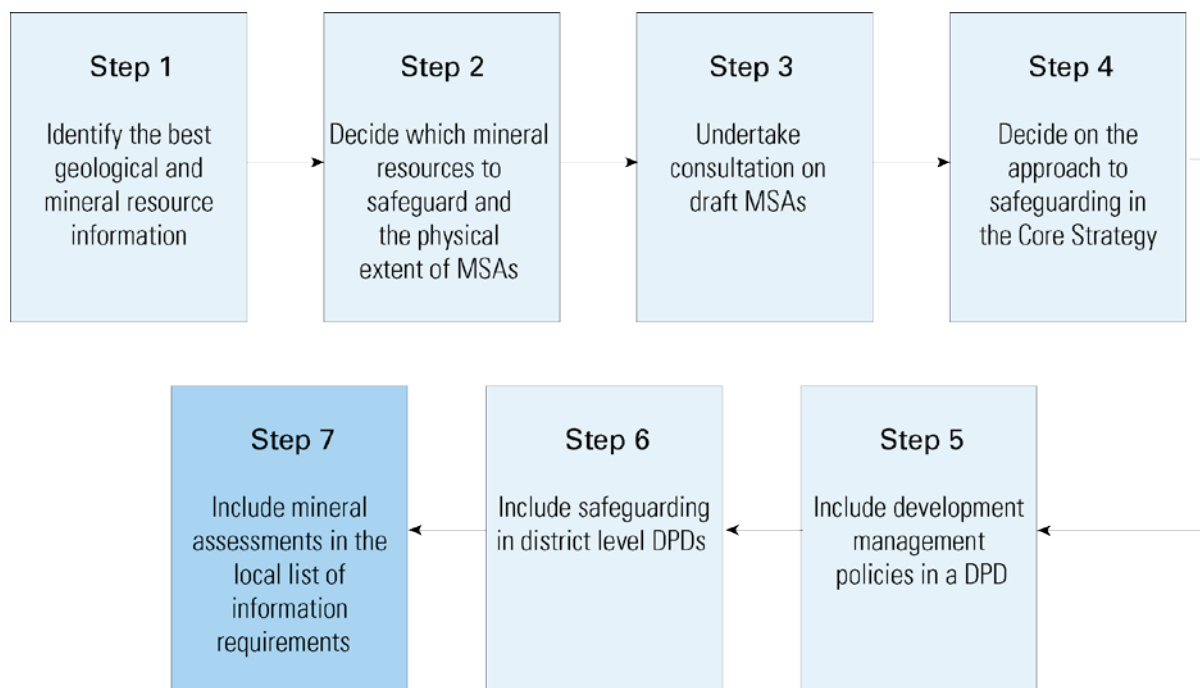


Figure 5: Planning application guidance: single tier planning areas

6 Development Plan Documents: planning applications

6.1 STEP 7: INCLUDE MINERAL ASSESSMENTS IN THE LOCAL LIST OF INFORMATION REQUIREMENTS



- 6.1.1 Sufficient information on mineral resources is necessary for local authorities to determine non-mineral planning applications submitted in MSAs. The requirement for a Mineral Assessment to accompany these applications could be administered through inclusion on the local list of information requirements (see ‘Development management policy annex: *Information requirements and validation for planning applications*’ and ‘*Guidance on information requirements and validation*’, published by DCLG).
- 6.1.2 Including Mineral Assessments in the local list of information requirements ensures that all the necessary information required to determine the application is provided on submission. This approach would avoid unnecessary delays when the application is being considered.
- 6.1.3 All applicants for planning permission are encouraged to undertake pre-application discussions with the LPA. Mineral Assessment should be considered in this process. Following pre-application discussions, the LPA should decide what level of Mineral Assessment is required, with advice from the MPA in two-tier areas. In the case of two tier areas, pre-application discussions may also establish that there is no need for assessment.
- 6.1.4 The justification for an LPA to include Mineral Assessments on the local list of information requirements is provided in the table below.

JUSTIFICATION

Table 1: Principles and criteria for local list preparation and review

Necessity	All local list requirements should be based on statutory requirements, national or adopted local policy or on published guidance which explains how policy should be implemented.	<p>MPS1 (Para.13) identifies the need to define Mineral Safeguarding Areas (MSAs) in LDDs. Policies and proposals for safeguarding are included in DPDs. One of the main sources of data for defining MSAs is the BGS mineral resource dataset. Other sources of information can include The Coal Authority, mineral operators, Mineral Planning Authority records and the development plan evidence base. Whilst the BGS dataset depicts areas within which potentially workable minerals may occur the economic potential of specific sites can only be proved by a more detailed assessment.</p> <p>In order for the mineral safeguarding process to be effective and for informed decisions on land use to be made, a way of assessing the economic potential of the mineral within a MSA must be introduced. The provision of a Mineral Assessment by applicants for non-mineral development in a MSA will provide this mechanism to ensure that minerals are not unnecessarily sterilised.</p>
Precision	It should be clear what types of development require the provision of particular supporting information. Where appropriate, the LPA should also identify specific areas where the information requirement arises.	<p>The delineation of MSAs will be undertaken by the MPA and shown on a development plan proposals map.</p> <p>Planning applications should be accompanied by a Mineral Assessment, except the following:</p> <ul style="list-style-type: none"> • Applications for householder development. • Applications for alterations and extensions to existing buildings. • Development types already specified in a DPD as exempt from the need for a Minerals Assessment. <p>Where the development plan has taken account of the need to prevent unnecessary mineral sterilisation and determined that prior extraction should not be necessary, no Mineral Assessment should be required for applications which are in accordance with it</p>
Proportionality	The information required is likely to be dependent on the nature and scale of the proposal and the sensitivity of its location. Where possible, the LPA should identify size thresholds below which certain information is not required or where only limited information is	<p>Exemption criteria as identified above will define those types of application that are exempt from the requirement of accompaniment by a Minerals Assessment in the interests of proportionality (<i>It is considered that a size threshold should not be used as an exemption criterion as a small development in a MSA has the potential to sterilise a large area of mineral resource</i>).</p> <p>All applicants that are not exempt are encouraged to undertake pre-application discussions on any</p>

	required.	<p>planning application. A Mineral Assessment should be considered in this process. Following pre-application discussions, the MPA should decide what level of Mineral Assessment is required, if any, taking into consideration: the sterilisation potential of the development proposed and the mineral resource being considered.</p> <p>This may range from:</p> <ul style="list-style-type: none"> • No requirement to provide further information. • A site specific desk based assessment of the existing surface and solid geological and mineral resource information • Analysis of the site specific information. <p>The analysis of the site specific information should be prepared by a suitably qualified and competent person.</p>
Fitness for purpose	It should be clear what information is required to satisfy the requirement – with a strong emphasis on a proportionate approach and succinct documents.	<p>The requirements of a Mineral Assessment are not onerous – they will focus purely on the matters needed to ensure a balanced assessment of the mineral resources within the site at an early stage to ensure that they are not being unnecessarily sterilised.</p> <p>A team lead by BGS, deliver updated guidance to both Planning Authorities and developers on the issues that will need to be considered and addressed within Mineral Assessments. This will help to ensure that all necessary information is provided in order to allow planning applications to be properly assessed in accordance with MPS1. It will also help to ensure that developers are clear about what is expected of them.</p>
Assistance	For each element of the list it should be clear where further information or answers to queries can be obtained.	<p>Minerals Policy Statement 1: <i>Planning for Minerals</i> and its associated practice guide.</p> <p>For information on mineral resources and mineral resource datasets:</p> <p>British Geological Survey (BGS) Keyworth, Nottingham, NG12 5GG. Tel: +44 (0)115 936 3143 (9am-4.30pm) Fax: +44(0)115 936 3276 (24 hours) Email: enquiries@bgs.ac.uk</p> <p>Relevant trade associations (see section 2 for contact details).</p> <p>For information on coal resources and coal</p>

		<p>datasets:</p> <p>The Coal Authority <i>Non-Departmental Public Body under Department of Energy and Climate Change</i> 200 Lichfield Lane Berry Hill Mansfield NG18 4RG Telephone Mining Reports: 0845 762 6848 Email: groundstability@coal.gov.uk www.groundstability.com</p> <p>For other planning related queries:</p> <p>Planning Officers Society PO Box 842 Aylesbury HP20 9DY Telephone: 01296 422161 Email: secretariat@planningofficers.org.uk</p>
--	--	--

(Table based on 'Guidance on information requirements and validation' published by DCLG, 2010)

RECOMMENDED TEXT FOR INCLUSION IN THE LOCAL LIST OF INFORMATION REQUIREMENTS

Information item

Mineral Assessment

Policy drivers

The safeguarding of mineral resources and prevention of unnecessary sterilisation of minerals as required by Minerals Policy Statement 1: *Planning for Minerals* (MPS1), paragraph 13 (or any replacement statement of minerals planning policy relating to mineral safeguarding) together with relevant policies adopted in any Development Plan Documents (DPDs) or saved plans covering the area.

Types of application that require this information

Planning applications should be accompanied by a Mineral Assessment, except the following:

- Applications for householder development
- Applications for alterations and extensions to existing buildings and for change of use of existing development, unless intensifying activity on site
- Development types already specified in a DPD as exempt from the need for a Minerals Assessment

Where the development plan has taken account of the need to prevent unnecessary mineral sterilisation and determined that prior extraction should not be necessary, no Mineral Assessment should be required for applications which are in accordance with it.

Geographic locations where this information is required

Mineral Safeguarding Areas (and Mineral Consultation Areas in two-tier authority areas, if defined) as shown on the development plan proposals maps.

The information that is required

Information should be relevant, necessary and material to the application in question

All applicants are encouraged to undertake pre-application discussions on any planning application. A Mineral Assessment should be considered in this process. Following pre-application discussions, the MPA should decide what level of Mineral Assessment is required, if any. The MPA should take into consideration the sterilisation potential of the development proposed and the mineral resource being considered.

The two levels of Mineral Assessment are:

1. A site-specific desk-based assessment of the existing surface and solid geological and mineral resource information. This may comprise information on the mining and quarrying history, mineral assessments and market appraisals, boreholes, site investigations, geological memoirs, technical reports, mining plans and the thickness of superficial geological deposits.
2. Analysis of the site-specific information derived from level 1 including:
 - * An estimate of the economic value (for example quality and quantity) of the mineral

resource.

- * Its potential for use in the forthcoming development and an assessment of whether it is feasible and viable to extract the mineral resource ahead of development to prevent unnecessary sterilisation.
- * Where prior extraction can be undertaken, an explanation of how this will be carried out as part of the overall development scheme.

Level 2 should be prepared by a suitably qualified and competent person. Should an applicant believe that some or all of the information is not necessary, advice should be sought from the MPA.

Where to look for further assistance

National planning policy for minerals can be found on the DCLG website.

Minerals Policy Statement 1: *Planning for Minerals*

communities.gov.uk/documents/planningandbuilding/pdf/152993.pdf

communities.gov.uk/documents/planningandbuilding/pdf/153421.pdf

Organisations that can assist

For information on mineral resources and mineral resource datasets:

British Geological Survey (BGS)

Keyworth,

Nottingham,

NG12 5GG. Tel: +44 (0)115 936 3143

Fax: +44(0)115 936 3276

Email: enquiries@bgs.ac.uk

For information on coal resources and coal datasets:

The Coal Authority

(Non-Departmental Public Body under Department of Energy and Climate Change)

200 Lichfield Lane

Berry Hill

Mansfield

NG18 4RG

Telephone Mining Reports: 0845 762 6848

Email: groundstability@coal.gov.uk

groundstability.com

For other planning related queries:

Planning Officers Society:

PO Box 842

Aylesbury

HP20 9DY

Telephone: 01296 422161

Email: secretariat@planningofficers.org.uk

7 Prior extraction of minerals

- 7.0.1 To comply with national policy, a prior extraction policy should be included in an appropriate DPD to indicate the approach to be taken when prior extraction is considered.
- 7.0.2 The prudent use of natural resources is a key element in the Government's sustainable development strategy. MPS1, Para. 13, encourages the prior extraction of minerals, where practicable, if it is necessary for surface development to take place within MSAs. This ensures that mineral resources are not unnecessary sterilised.
- 7.0.3 In MSAs there will be a need for developers to talk to the LPA, in consultation with the MPA in two tier areas, about the information requirements necessary to determine the application. Prior extraction should be the subject of these pre-application discussions in order for an approach to be agreed for development and for the expectations of the developer to be managed. If District Councils receive any enquiries from potential applicants about the process, the District Council should seek the advice of the County Council.
- 7.0.4 Where an applicant proposes development within a MSA, the planning authority should ensure that the applicant has considered all options to avoid the unnecessary sterilisation of minerals. This will include the consideration of other locations for the development in areas that are outside the MSA. If this has been considered by the applicant, there is a need for the development and the Mineral Assessment (see section 6) has identified that the mineral is economic to extract in terms of quality and quantity the planning authority should ensure that the applicant has considered the possibility of prior extraction of the mineral resource ahead of the proposed development.
- 7.0.5 An assessment of the viability of prior extraction will need to take account of whether the environmental conditions are suitable to support extraction operations and whether extraction is achievable within an acceptable timescale. Additional considerations may include the availability of a market to deal with the increase in supply and the financial outlay required to develop the subsequent excavation. Certain minerals, such as coal, can be economically extracted from very small sites and over a very short period of time so development is not unduly delayed by prior extraction.
- 7.0.6 Provision should be made in any planning consent for the eventuality that the proposed non-mineral development may not proceed following the extraction of the mineral. For example, a large housing estate may be permitted but after prior extraction has been undertaken, the economics of the development may have changed and the developer may decide not to proceed.

Example prior extraction policy

Prior extraction will be encouraged in MSAs if it is necessary for non-mineral development to take place as long as such extraction can be achieved:

- a) Without unacceptable community and environmental impacts; and*
- b) Within a reasonable timescale.*

Where planning permission is granted, conditions may be imposed to ensure that the site can be

adequately restored to a satisfactory after-use should the following development be delayed or is not implemented.

Prior Extraction - Coal

- 7.0.7 Coal is an example of a mineral which can be extracted in advance of development. From 1995 to 2008 Coal Authority records show that in urban areas specifically 48 cases of prior extraction took place on site sizes ranging from 0.06 hectares up to 28 hectares; 67% of these recorded sites are under 1 hectare or 2 hectares in size.
- 7.0.8 Although it may be argued that prior extraction is a constraint on viability and delivery of development, coal is a valuable mineral and can provide additional cross-subsidy income after licensing and royalty payments. In the smallest site of 0.06 hectares, 346 tonnes of coal were extracted in one month; even with the largest site of 28 hectares approximately 5,226 tonnes were extracted in only five months.
- 7.0.9 The Coal Authority is actively encouraging the need for prior extraction through responses to individual planning applications where surface coal resource is present within the application site. Not only does this prevent unnecessary sterilisation, but this also can address any land stability problems.

Case Study 10: An example of the prior extraction of sand and gravel prior to development

An application submitted to Warwick District Council (WDC) in March 1992 proposed the phased erection of B1 (business), B2 (general industrial) and B8 (distribution and storage) floorspace, service roads, car parking, landscaping, associated infrastructure and ancillary developments on land at Stratford Road, Warwick. On 11 October 1995 the application was withdrawn by the applicant and an appeal was made against the failure of WDC to give within the prescribed period, their decision on the application.

An Inquiry was held between 13-16 August and 21 October 1996 and the Inspector's interim decision letter of 21 August 1997 minded to allow the appeal subject to conditions. The appeal was allowed on 21 October 2000 subject to conditions, one of which allowed for the extraction and utilisation of the mineral prior to the development taking place.

Case Study 11: An example of the prior extraction of sand prior to development

A good example of the potential positive sustainable outcomes, but also of the limitations of prior extraction, is provided by the development of a business park on the outskirts of Exeter over an area of Dawlish Sandstone. The Dawlish Sandstone is a thick deposit of weakly indurated Permian sand which has been worked primarily for building sand for many years. Devon County Council had designated a Mineral Consultation Area (MCA) over part of the outcrop on the outskirts of Exeter. This designation 'washed over' an existing quarry and when first made, extended over agricultural land. The expansion of Exeter gradually brought development towards the MCA and in 1977 construction of the M5 motorway involved works across part of the designation.

In 1990, following renewed development pressure, an application was prepared for an area of some eight hectares to allow development as a business park but also to enable recovery of some of the underlying mineral resource. The application was for both the business park and the removal of sand. The application was subsequently approved with a condition requiring details of the removal of the sand to be submitted.

The application area consisted of an area of land sloping to the north where the groundwater table was below the lowest level of the excavation. The development consisted of sand extraction at two levels

which left behind suitable development platforms which could be drained without major engineering.

The sand was deeper than the development levels but neither the application nor the permission sought to recover materials at depth because that would have both delayed development and put excessive costs on making the deeper excavation capable of being developed. Subsequently a range of commercial units have been built on the development platforms. With these structures at a lower level their visual and noise impact has been reduced.

In excess of 0.5 million tonnes of 'sand' was extracted from the development site and stockpiled, mainly in a void, in the existing quarry. That material has over the years gradually been consumed in the production of building sand although the stockpiling of the material changed the character and processing potential of the sand such that a proportion is no longer viable as a mineral resource. That process has clearly helped sustainability in that the need to disturb other virgin areas has been postponed.

This example displays how a sustainable compromise can be achieved enabling both development and the recovery of some of the resource. It also demonstrates that factors such as topography, drainage, timing, depth of deposit and development costs, can impinge on the mineral recovery potential.

8 Abbreviations/Acronyms

BGS	British Geological Survey
DCLG	Department for Communities and Local Government
DPD	Development Plan Document
GIS	Geographical Information System
LDD	Local Development Document
LDF	Local Development Framework
LPA	Local Planning Authority
MCA	Mineral Consultation Area
MPA	Mineral Planning Authority
MPG	Mineral Planning Guidance
MPS	Mineral Policy Statement
MSA	Mineral Safeguarding Area
NPPF	National Planning Policy Framework
PPS	Planning Policy Statement

9 Glossary

Mineral resource	<p>Mineral resources are natural concentrations of minerals in or on the Earth's crust that are or may become of economic interest because they are present in such form, quality and quantity that there is the potential for eventual economic extraction.</p> <p>Generally a mineral resource is known to exist within the boundaries outlined by geological mapping, which may be supplemented by more in depth geological data. The BGS mineral resource linework, for example, shows the surface extent of mineral resources, inferred from available geological information. With the exception of Industrial Minerals Assessment Unit surveys (IMAU), they have not been evaluated by drilling or by other sampling methods on any systematic basis. Mineral resources defined delineate areas within which potentially workable minerals may occur. What may be of potential economic interest may change over time, and is dependent upon a number of factors, such as mineral markets and extraction technology.</p>
Area of Search	<p>These are broader areas where knowledge of mineral resources may be less certain than in Preferred Areas, but within which planning permissions could be granted to meet any shortfall in supply if suitable applications are made. MPAs should not solely identify Areas of Search as the public, mineral and non-mineral developers need a degree of certainty regarding the location and timing of areas to be worked that is not provided by this designation.</p>
Preferred Area	<p>These are defined as areas of known resource where planning permission might reasonably be anticipated providing the proposals are environmentally acceptable or appropriate conditions can be applied to mitigate adverse impacts. In selecting Preferred Areas it is suggested that sites that could be most sustainably worked are selected in preference to less sustainable sites.</p>
Specific Sites	<p>These are areas with viable mineral resources within which the landowners are willing to allow mineral development, and in which granting of planning permission may be more likely to be acceptable in planning terms than in a Preferred Area.</p>
Mineral Safeguarding Area	<p>Area of land overlying or in the immediate vicinity of a mineral resource, that is defined on a map and is recognised through policy as an area that needs consideration if a non-mineral development is submitted for determination.</p>
Mineral sterilisation	<p>Sterilisation can occur as a result of surface development directly overlying the mineral resource, or by development that is situated on or close to the boundary of a resource, and is where access to the mineral is restricted or prevented.</p>
Mineral Consultation Area	<p>The statutory basis for Mineral Consultation Areas lies in the Town and Country Planning Act 1990. The Act makes it compulsory for the district authority, in two tier authority areas, to consult the MPA if a development is submitted in an area which the County has notified the district authority as an area in which development is likely to affect the winning and working of minerals. Legislation setting out MCAs only provides for their use in two-tier authorities and does not oblige them to be defined. MCAs are a consultation mechanism and are not a safeguarding mechanism. They do not carry any presumption against permission being granted for development on a mineral resource and there is virtually no sanction should planning permission be granted within one.</p>

