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1.0 Introduction

1.1. Minerals such as sand and gravel, clay and coal play an important role in our everyday life, being used in construction to build roads and buildings and to generate energy, as well as being used in more diverse industrial applications such as medicines, fertilisers, glass and cosmetics.

1.2. Importantly minerals can be worked (i.e. extracted from the ground) only where they occur. It is also the case that they are a finite resource and are not found everywhere and sometimes they are present in areas that may be valued for other purposes. Moreover, where they do occur they may not always be present in economically workable quantities.

1.3. This means that where minerals are located it is important to protect them from other forms of incompatible development that could impinge on or ‘sterilise’ resources and hence reduce any scope for that mineral to be 'worked' either now or in the future. A simple example would be a new housing estate built on an area of sand and gravel; once the housing has been built there is no way the sand and gravel can be extracted and used. However, it could be removed before the housing was built (a procedure referred to as ‘prior extraction’).

1.4. In addition it may also be necessary to safeguard important handling and distribution facilities for minerals such as aggregate processing plant, rail depots and wharves.

1.5. The main part of this paper deals with how the County Council, as Mineral Planning Authority (MPA), proposes to safeguard mineral resources but the protection of ancillary facilities and the prior extraction of minerals is also considered.

1.6. There are two main ways in which mineral resources can be safeguarded from other forms of development; through the use of Mineral Safeguarding Areas (MSAs) and Mineral Consultation Areas (MCAs).

1.7. The second and third sections of this report set out the background to safeguarding mineral resources i.e. the reasons for doing this and the current policy context. They explain the role and purpose of Mineral Safeguarding Areas (MSAs) and Mineral Consultation Areas (MCAs). This is followed by section four which describes the methodology that the Council proposes to use and section five which provides a description of the mineral resources in the county.

1.8. How safeguarding is proposed to be taken forward in Gloucestershire by a combination of proposals and policies is described in section six. This is followed by sections seven and eight which elaborate on this approach by explaining how it can be implemented with the co-operation of District Councils and the use of development management considerations.
1.9. This evidence paper will form part of a series of technical evidence papers that have been prepared in support of the emerging Minerals Local Plan (MLP).

1.10. Between 4th December 2013 and 28th January 2014 the County Council sought comments from a range of stakeholders (Appendix 1) on this draft Technical Evidence Paper which contains draft options and policies for safeguarding mineral resources in Gloucestershire. This targeted exercise resulted in comments from the following planning authorities and organisations:

- Forest of Dean District Council;
- Cotswold District Council;
- Tewkesbury Borough Council;
- West Oxfordshire District Council;
- Wiltshire County Council;
- Gloucestershire County Council (Archaeology);
- Herefordshire Council;
- Coal Authority;
- Deputy Gaveller’s Office;
- David Glenn for Huntsmans Quarries Ltd;
- Nicholas Johnston for Johnston Quarries Group
- David Jarvis Associates acting on behalf of their clients, Huntsmans Quarries Ltd and Johnston Quarries Group in respect of two quarries in the Cotswolds, Huntsmans Quarry and Oathill Quarry;
- English Heritage;
- Natural England.

1.11. Comments made by Natural England do not specifically relate to the policies and proposals in the safeguarding paper and Natural England has no specific comments to make on the resource types or descriptions for the mineral types that have been identified within Gloucestershire. Natural England’s key concern would be the adverse impacts on designated sites and/or landscapes. These considerations are not relevant in relation to safeguarding resources from non mineral development but are relevant with regard to the identification of proposed areas for future working; this is dealt with elsewhere in the MLP.

1.12. These initial responses have been summarised and a preliminary response to the points made by the above respondents is shown in the respective box as appropriate within this document. Those more detailed comments relating to other mineral planning matters not directly related
to safeguarding will be considered in the round alongside the formal consultation anticipated to take place in June-July 2014.

1.13. Overall there was general support for the proposals and respondents accepted the principle of safeguarding limestone; sandstone; clay and coal resources and the need for a mineral consultation area (MCA) process to be implemented in Gloucestershire in order to ensure that the potential effect on mineral resources is considered during the processing and determination of planning applications for non minerals development. There was also support for the use of an ‘exemptions’ list to avoid consultations on ‘minor’ developments. Additionally there was support for further ongoing dialogue between the County Council and the various parties in order to flesh out the Council’s proposals and policies as the MLP develops towards adoption.

1.14. At this preliminary stage the extent of safeguarding areas for some mineral resources and ancillary activities e.g potential transportation facilities such as a rail link at Ashchurch, appears to be among the main issues.

1.15. For instance, the Coal Authority considers that all shallow coal resources in Gloucestershire, including those beneath urban areas, should be safeguarded and, as proposed in the paper, that the deeper coal resources in the east of the County and any hydrocarbon resources should not be safeguarded. The agent for the operators of the two Cotswolds limestone quarries and the operators themselves, although having a preference for safeguarding the entire limestone resource area, but failing that have proposed that in both cases (Oathill Quarry and Huntsman’s) that specific safeguarding areas adjacent to the two quarries should be included in the MLP; plans identifying these areas were submitted for the Council’s consideration. Wiltshire County Council have suggested it might not be necessary to do that but have suggested a greater MSA distance around individual quarries.

1.16. It is likely that further responses may be made by some of these consultees when the formal consultation programme is carried out by the County Council. The purpose of this targeted engagement was to assess whether the County Council is moving in the right direction with development of a policy framework for MSAs. From this engagement some minor amendments have been made as appropriate to assist with robustness. Amendments are shown as by strikethrough or underline so stakeholders can see what content has been amended. However there
was not sufficient response provided to move towards and preferred option for any MSA at this stage. Rather it is considered that the MSA options should be included for wider public consultation after which the MPA will consider how preferred MSA approaches should be taken forward. However, following wider public consultation the County Council will move towards a formal policy framework for MSA designations.
2.0 Background

2.1. Mineral resources are finite, they are not limitless and as such sustainable management of important resources to safeguard and to conserve them is needed to ensure that they remain available for the foreseeable future. A similar consideration applies to the infrastructure that is necessary to handle, process and distribute minerals to markets. The principle of minerals safeguarding is applicable to resources that outcrop at the surface of the land and to underground minerals and 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. Where appropriate, the prior extraction of minerals is encouraged so that they can be taken from the ground before development takes place, thereby avoiding unnecessary sterilisation.

2.2. Although mineral resources can be worked only where they occur this does not mean that every resource will be economical to work as this will depend on a host of factors such as the demand for the mineral and the costs of extraction and transport to market. Accordingly a particular mineral resource may not be favoured for extraction today but may become so at some time in the future. Consequently, where proven and viable mineral resources are identified, a sound policy framework is needed to ensure these resources are not lost to competing and / or incompatible development. If applicants for non mineral development are not aware of the presence of a mineral resource below the site when applications are made then the opportunity to extract some or all of the mineral before development takes place may be missed.

2.3. It must be emphasised that the process of safeguarding mineral resources does not mean that extraction will be automatically allowed or that non mineral development cannot take place. These decisions will be taken at the appropriate time. Moreover, it should be noted that not all mineral resources or infrastructure will merit safeguarding.

2.4. In this context a policy mechanism is required to safeguard mineral resources from potential sterilisation by other forms of development. Furthermore, a complementary and workable strategy is needed for those circumstances where prior extraction of the mineral may be appropriate.

2.5. Safeguarding mineral resources is also not precluded by the presence of environmental designations or other land uses as its purpose is to draw

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attention to the presence of known locations of specific minerals resources of local and national importance for their consideration with other issues in the determination of planning applications or proposals for non mineral development. In the course of such considerations it may be found that the need to protect the minerals is in fact less than the need for the non mineral development or indeed vice versa.

2.6. In most cases the full extent of the resource should be covered by an MSA and in some circumstances it may also be necessary to extend the area of the MSA beyond the resource boundary to cater for the possibility that development outside the boundary of the resource which, if permitted, may prevent extraction of the minerals. Conversely it may be pragmatic and appropriate for extensive resources areas within an MPA to be reduced in size. The MPA has therefore to make a judgement on what resources should be safeguarded and the extent of the safeguarded area in light of the information to hand.

**What is a Mineral Safeguarding Area? (MSA)**

Mineral Safeguarding Areas (MSAs) are areas of known mineral resources of economic or conservation value that are identified and defined in a development plan\(^2\) so that they may be protected for generations to come. They are safeguarded in order to ensure that proven resources are not needlessly sterilised by non-mineral development. It is important to note, however, that although an area may be defined as a MSA, this will not create a presumption that all the defined resources will be worked in the future. It will still be necessary to demonstrate that any proposal for mineral working is environmentally acceptable. It is also important to note that the purpose of a MSA is not to automatically preclude other forms of non-mineral development such as housing, but to ensure that mineral resources are adequately and effectively considered in all land-use planning decisions. MSAs are generally based on a known mineral resource area and may be further refined following discussions with the industry and other stakeholders.

The areas of the resources that are safeguarded in this MLP are generally those that are exposed at the surface but some that are concealed can be accessed by the removal of overlying waste materials (overburden). The amount of overburden that is economical to extract depends on the circumstances on site and the value of the mineral and will therefore vary between minerals and between sites thus no one depth of overburden is appropriate to all resources.

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\(^2\) A Development Plan provides the planning framework for an area and is used to inform the determination of planning applications. The Minerals Local Plan is an example of a Development Plan Document (DPD).
What is a Mineral Consultation Area? (MCA)

In 'two-tier' local authority areas, such as in Gloucestershire, some planning decisions are made by the County Council including those relating to minerals and waste. These are known as 'County Matters'. Applications for other forms of development, such as housing and employment, are made by the District Councils. To be fully effective the safeguarding of mineral resources can therefore be achieved only through co-operation between the County and District planning authorities. Mineral Consultation Areas (MCAs) provide the mechanism through which this can be achieved.

For example, when a District Council receives a planning application for new development such as housing or employment within an area defined as an MCA, it should consult the County Council where the proposal would be likely to affect the winning and working of the mineral.

Conversely, where the County Council receives a planning application for mineral development that may impact on another existing or proposed land use, such as housing, it should consult the relevant District Council.

In terms of the extent of the MCA, all parts of, or marginally more than an MSA can be defined as a Minerals Consultation Area but MPAs should seek advice from the minerals industries operating in their areas when they are considering the delineation of MCAs. As with MSAs, there is no presumption that resources in MCAs will actually be worked...

MSAs and MCAs should be identified on any development plan Proposals Map. This will include Proposals Maps produced by District Councils as part of their Development Plan Documents as well as Proposals Maps accompanying Minerals Local Plans.

Stakeholder responses February 2014

Coal Authority: The approach towards mineral safeguarding follows the general approach as set out in the 2011 BGS/Coal Authority Guide to Mineral Safeguarding in England. The general proposal to use both MSAs and MCAs follows the advice in paragraph 143 of the NPPF and importantly recognises that mineral sterilisation is an issue for all LPAs not just the MPA and that the policies maps of the District Councils should show MSAs and MCAs.

GCC response: Noted.
Deputy Gaveller: The Dean Forest (Mines) Act 1838 continues to regulate mining activities within the Hundred of St Briavels through the Deputy Gaveller. If a Freeminer wishes to work minerals ON GRANT, assuming planning conditions are met and licences obtained, permission cannot be refused. Safeguarding in this instance is through dwindling numbers of eligible registration.

GCC response: Mineral safeguarding is intended to identify and protect mineral resources for potential working. This may be done by whoever obtains the necessary legal right and planning permission to win and work the relevant mineral(s).

Cotswold District Council: Page 6 states that District Authorities should identify MSA and MCA as part of LDF. Suggest this is changed to Local Plan or Development Plan Document

GCC response: Noted and amendments made accordingly.

Cotswold DC: Page 8 paragraph 3.7 ‘Country’ should read ‘County’

GCC response: Noted and amendment made accordingly.
3.0 Section 3 Policy Context

National Policy

3.1. Planning guidance has for many years sought to protect mineral resources from sterilisation. National policy relating to this is currently set out in paragraph 143 of the National Planning Policy Framework\(^3\) which requires Local Planning Authorities, in preparing Local Plans, to define MSAs and to adopt appropriate policies in order that known locations of specific mineral resources of local and national importance are not needlessly sterilized by non-mineral development, whilst not creating a presumption that defined resources will be worked. The guidance also requires policies to be set out to encourage prior extraction of minerals, where practicable and environmentally feasible, if it is necessary for non-mineral development to take place. The guidance also requires the identification of MCAs based upon MSAs.

3.2. The NPPF requires plans to safeguard minerals infrastructure such as existing, planned and potential railheads, rail links to quarries, wharfdge and associated storage, handling and processing facilities for the bulk transport by rail, sea or inland waterways of minerals, including recycled, secondary and marine dredged materials, existing, planned and potential sites for concrete batching, the manufacture of coated materials, other concrete products and the handling, processing and distribution of substitute, recycled and secondary aggregate material. Additionally, the NPPF, at paragraph 146, requires MPAs to plan for a steady and adequate supply of industrial minerals by encouraging safeguarding.

3.3. The NPPF replaced much of the earlier guidance that had been published for minerals planning purposes, specifically MPS1. National Planning Practice Guidance (NPPG) was published in March 2014 which has been considered in the preparation of this technical evidence paper, but for the time being its associated Practice Guidance has not been cancelled. In a report commissioned by DCLG the cancellation of the Practice Guide to MPS1 has since been recommended. However, the report also acknowledges that it includes guidance on many minerals issues, though these are not specifically identified, and therefore that any relevant guidance should be incorporated into revised guidance. Any references to safeguarding in the Practice Guide are therefore still believed to be relevant to the approach to safeguarding being proposed in the MLP until revised guidance is issued.

Regional Policy

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\(^3\) National Planning Policy Framework. DCLG March 2012

3.4. By an Order made on the 19th April 2013 the Secretary of State confirmed the abolition of the Regional Spatial Strategy (RPG10) for the South West. The draft RSS for the period 2006-2026 was never adopted. The combination of these factors means that strategic policy is provided by the NPPF.

Local Policy

3.5. At the local level, safeguarding policy was set in the Gloucestershire Structure Plan 1999 (Policy M6) and in the adopted Gloucestershire Minerals Local Plan (2003) but by the Order made on the 19th April 2013, which confirmed the abolition of the RSS for the South West (see above), the County Structure Plan also ceased to have effect. Thus, until replaced by this MLP, the principal extant mineral safeguarding policies for the county are those in the Adopted MLP. However, the policies of the MLP (Policies SE3 Sterilisation of Mineral Resources and SE4 Extraction of Minerals prior to other development) were drafted before the publication of later guidance on safeguarding which was published in Mineral Planning Statement 1. The wording of the Policy SE3 did not conform to MPS1 and in the case of Policy SE4 it repeated national policy therefore these policies were not ‘saved’ for the transitional period leading up to the proposed adoption of a Mineral Core Strategy, now to be replaced by the new Minerals Local Plan.

3.6. Due to this set of circumstances the only formal policy currently in place is the NPPF which is fairly broad and therefore there is in effect a ‘policy gap’ for MSA issues which needs to be addressed through the MLP.

3.7. The Issues and Options Report that was produced for public consultation in 2006 as part of the initial work on the Minerals Core Strategy considered the approach to be taken by the County Council to conserving and safeguarding finite mineral resources from unnecessary sterilisation by other forms of development. Following consultation on a subsequent draft preferred option Preferred Option MPO13 (overleaf) was identified as having considerable support.

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5 SI 2013 No. 935. The Regional Strategy for the South West (Revocation) Order 2013
6 SI 2013 No. 935. The Regional Strategy for the South West (Revocation) Order 2013
7 Transitional arrangements were prepared to help manage the change to the planning system. They involve the approval from the Secretary of State (SoS) to retain or ‘save’ existing adopted local planning policies until they are formally replaced by new style development plan documents. No local policies can be saved without SoS approval after Sept 2007 (three years from the new planning act) or after three years from the date of their original adoption within a particular local plan.
**MPO13**

Preferred Option MPO13 supports the delineation of Mineral Safeguarding Areas (MSAs) for the county’s mineral resources of limestone used as a crushed rock (aggregate); sand and gravel; building stone and coal, which are considered to be of current and future economic or building conservation importance. It proposes the assessment of mineral resources to form part of a strategic policy for the MCS. In terms of delineating MSAs, this will take place in the future as part of the MWDF Proposals Map to accompany the Development Control Policies (DPD).

Gloucestershire is a two tier planning area, which already has a Mineral Consultation Area (MCA) in the Upper Thames Valley. Consequently, preferred option MPO13 proposes a review of the existing MCA along with the consideration of new MCAs for other parts of the county. The review will take place alongside the delineation of MSAs, and all future MCAs will form part of the MWDF Proposals Map.

Preferred Option MPO13 also supports the principle of prior extraction of minerals, where new development is proposed. It will seek to deliver this in the future through suitable development control policies, which highlight specific prior extraction criteria for certain locations, developments or mineral resources.

The final part of Option MPO13 is concerned with efficient mineral working—maximising value, usefulness and reducing waste. These matters will be covered by an overarching policy that will seek the highest value and usefulness of minerals and working practices that will minimise the amount of mineral waste being generated.

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**Stakeholder responses February 2014**

Wiltshire CC: Collaborative working to review the MCA in the UTV is endorsed and they wish to see continued dialogue on cross boundary issues.

GCC response: Noted.

3.8. Although the consultation response report (Summer 2008) identified this as the preferred approach to take forward, the framework clearly needs to be fully developed now in the context of a comprehensive MLP covering all policies for minerals.
4.0 Safeguarding Methodology

4.1. The methodology that the County Council is using to identify MSAs is set out in a report by the British Geological Survey (BGS), Mineral Safeguarding in England; good practice advice.

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<td>Step Two: Decide which mineral resources to safeguard and the physical extent of MSAs</td>
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<td>Step Three: Undertake consultations on draft MSAs</td>
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<td>Step Four: Decide on the approach to safeguarding in the MLP</td>
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<td>Step Five: Include development management policies in a DPD.</td>
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<td>Step Six: Include safeguarding in district level DPDs</td>
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<td>Step Seven: Include mineral assessments in the local list of information requirements</td>
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4.2. At this draft stage the results of consultations with stakeholders on the issue of safeguarding, in particular with industry, have not been incorporated but from published geological information and the investigations that have already been carried out by the County Council in connection with the preparation of a Minerals Core Strategy (now subsumed into this MLP which will replace the adopted MLP 2003), five mineral resources have been identified as being of economic significance warranting safeguarding. Other mineral resources are known to be present in the county, some of which have been worked in the past, but specific safeguarding for these is not proposed for the reasons given. The five mineral resources proposed to be safeguarded are:

- Carboniferous and Jurassic limestones
- Devonian and Carboniferous sandstones
- Unconsolidated and consolidated sand and gravel
- Carboniferous and Jurassic clays
- Coal
4.3. Draft MSA maps of the full extent of the five resources have been prepared which also indicate the locations of the existing mineral workings. These provide the starting point for the final MSA for each resource; the potential options for safeguarding each are shown below. It is anticipated that revisions to these and the possible, though unlikely, need to include other minerals may be required following further consultations on safeguarding. In all cases it is proposed that existing urban areas or other defined settlements should be excluded from the MSAs; this is considered to be a pragmatic and proportionate approach to safeguarding the geologically extensive resources in the county.

4.4. The BGS guidance was initially prepared to assist with the implementation of national policy as set out in MPS1 and its associated practice guide (itself superseded by the NPPF). The NPPG (2014) contains guidance on MSA and particularly signposts the BGS good practice advice of 2011. The guidance is specifically focused upon the practical application of MSAs and provides a step-by-step approach to creating an effective safeguarding system. These steps are followed in this report (see Table 1 above).

4.5. In addition to the BGS report on Safeguarding, the MPA has had regard to the following reports which are of particular relevance to the minerals industry in the county and which provide valuable information on the county’s mineral resources.

- *British Geological Survey. Mineral Resource Information in Support of National, Regional and Local Planning. Gloucestershire (comprising Gloucestershire and South Gloucestershire) 2006.* This report presents information on the geological distribution of mineral resources which is also shown on a 1:100 000 scale map. The map defines areas within which potentially workable mineral may occur and may be found at [http://www.bgs.ac.uk/mineralsuk/home.html](http://www.bgs.ac.uk/mineralsuk/home.html). These are a robust and credible starting point for defining MSAs.

- *British Geological Survey geological map data and relevant geological memoirs and reports e.g. for the sand and gravel resources in the Upper Thames Valley*

- *British Geological Survey (BGS) – Mineral Planning Factsheets* A series of mineral factsheets have been provided by BGS that set out baseline information on the supply of minerals that are deemed to be of economic important to Britain. They are data sources for assessing the economic importance of mineral resources in the foreseeable future within an MPA area. The factsheets are also linked to the advice given in the Practice Guide to MPS1.

- *ODPM Commissioned Report – Planning for the Supply of Natural Building and Roofing Stone in England and Wales*
This report was published in 2004 and its contents were focused upon planning issues affecting the future supply and demand of building and roofing stone resources. The report also provided background information on the state of different stone resources and remaining reserves. This information will form part of the evidence base in assessing the value of Gloucestershire’s building stone resources.

- **Strategic Stone Study (SSS) and English Building Stone Pits (EBSPits) Website and Atlas of Building Stones in Gloucestershire**
  English Heritage (EH) has worked with the British Geological Survey (BGS), local geologists and historic buildings experts from each county in England to produce the 'Strategic Stone Study'. Funded by English Heritage and DCLG, the study identifies the stone used in historic buildings, ranging from castles and cathedrals to houses, walls, roofs, bridges, kerbs, paving etc. An initial report for Gloucestershire was published on the Minerals UK website, but at the present time has been withdrawn for revisions.

- **DDTR Commissioned Report – Brick Clay: Issues for Planning**
  The former ODPM (now DCLG) commissioned the BGS to carry out research into planning issues related to the supply of clay raw materials to the brick industry in mainland Britain. The report, *Brick Clay: Issues for Planning* details recommendations for a number of changes to the planning process for the supply of brick clay, which aim to provide the brick industry with a sustainable supply of raw materials at the least cost to the environment.

- **The Cotswold Design Code**
  This was produced by Cotswold District Council in March 2000 and forms Supplementary Planning Guidance to the Cotswold District Plan. It amplifies Policy 40 which was saved; therefore the Design Code is a material consideration in the determination of planning applications. The Code is aimed at developers, architects and builders and covers issues such as the *Cotswold Style and Materials*. It lists just six stone colours as being acceptable for use within the Cotswolds (Eastleach, Southrop, Guiting, Chipping Campden, Dowdeswell and Sapperton). There is also a specific insert, Cotswold *Stone Slate Roofing: Technical guidance for owners and occupiers*, which gives specific instructions on the type of slates permitted for new buildings and restoration purposes (Forest Marble and Stonesfield).

- **Coal Authority Safeguarding map for Gloucestershire and information from the Deputy Gaveller which forms the basis for the Coal Resource Map in the current MLP (adopted 2003)**

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8 It is likely that this policy will be subject to revision through the revised Cotswold Local Plan process.
5.0 Overview of Mineral Resources of Gloucestershire

5.1. Developing a good understanding of the local geology and the availability of mineral resources is vital to achieving a deliverable mineral safeguarding policy. This section of the report provides a brief overview of Gloucestershire’s geology and its principal mineral resources.

5.2. Gloucestershire is a geologically diverse and complex county, which gives rise to rich and varied mineral resources of local, regional and national significance. Many types of minerals have been exploited in the county, some of which are no longer worked and are considered unlikely to be of economic interest today e.g. iron. Accordingly these are not proposed to be safeguarded in the MLP. Today the only minerals considered to have any current or future economic importance are: the limestones that are quarried for use as aggregate, building stone and for use in industrial processes, sandstones for use as building stone, sand and gravel, which is quarried for use as aggregate, clay which is won for brick making and for engineering purposes and coal, which is now only mined on a small scale by Freeminers in the Forest of Dean.

5.3. Limestones are primarily quarried for use as aggregates but they are also used to produce agricultural lime on a small scale and, in the case of some high purity Carboniferous limestones, they are used as a flux in smelting. The proportions of limestone used for these purposes is, however, low when compared to their use as aggregates and varies according to market demand; there has, however, been a recent increase in the production of industrial limestone. Because of the uncertainty surrounding these uses, limestones will not be specifically safeguarded for them: the approach taken in the plan is to safeguard limestone resources as a whole in the knowledge that they can be used for a wide range of applications.

5.4. Hydrocarbon resources, both conventional and non conventional such as Coal Bed Methane, may assume some significance in the longer term but the county has a limited history of commercial interest in oil and gas and, as recent exploration results have not been encouraging –to the extent that there has been no subsequent appraisal or development of any resource-, the resource is not specifically safeguarded. To some extent areas that are identified to safeguard coal resources may also safeguard some hydrocarbons within them but this is not their primary purpose. For many years the most intensively worked mineral resources in Gloucestershire have been the sand and gravel deposits of the Upper Thames Valley and the limestones of the Forest of Dean and Cotswolds.

5.5. The schedules in the following sections consider each mineral resource, providing more detailed comments on the resource, the quarrying history associated with the resource and the options for safeguarding. The maps included for each resource show the main extent of the economic
resources mapped by BGS. All current extant planning permissions are also shown. These maps provide a starting point for mappable safeguarding options to be considered for each resource type.
6.0 Mineral Resource: Limestone

Predominantly Aggregate
Aggregate and Non-Aggregate
Non-Aggregate only
Dormant/Inactive
Jurassic Limestone
Carboniferous Limestone
Resource description

6.1. Limestone is a very common resource within Gloucestershire comprising rocks of varying ages including those of Silurian, Carboniferous and Jurassic age. It is an important resource for crushed rock for aggregate purposes, but it also has many other uses including use as a building stone and as roofing slate, and it is processed to produce agricultural lime, mortar and for use in various other industrial applications. There are two main areas of limestone in Gloucestershire: the Forest of Dean (Carboniferous limestones) and the Cotswolds (Jurassic limestones).

6.2. The thick (c.400-450m thick) Carboniferous Limestone Series of the Forest of Dean, which in part abuts or extends into Herefordshire and Monmouthshire, is characterised by the development of hard massive grey-pink dolomitic limestones on the flanks of a saucer shaped downfold but includes basal shales and limestones and overlying sandstones which together form an elevated mass rising above the River Severn plain. The limestones which also extend in a broad belt southwards along the flanks of the River Wye towards Chepstow, where they form a distinctive plateau like upland area, are considered to represent a strategically important mineral resource of county and sub-regional significance for use as concrete aggregate, roadstone and for industrial and agricultural purposes.

6.3. Within the Forest of Dean the Carboniferous limestone resources that have the greatest potential for future production of aggregates are the Lower Limestone Shales, which extend over the plateau-like area from Clearwell to Hewelsfield and Bream, and the overlying and more economically significant Lower Dolomite which has a linear outcrop around the periphery of the Forest of Dean and which extends southwards down the edge of the River Wye valley. The distribution and nature of these resources and their aggregate properties are reasonably well known and documented and, subject to detailed site investigations of the type normally associated with proposals for quarrying, it can be confidently expected that their distribution, as shown on published geological maps, is an accurate record of the presence of this crushed rock aggregate resource within the county. The limestones generally have consistent aggregate properties but the presence of interbedded shales within the Lower Limestone Shales formation gives this resource greater economic uncertainty. In the case of the Lower Dolomite it is the linear outcrop, steepness of dip of the limestone beds and the degree to which its aggregate properties have been affected by weathering and alteration that affect the value of this resource.

6.4. The Jurassic limestones of the Cotswolds are the second important source of limestone in the county. Here they are divided into Inferior and Great Oolite Groups within which there is a varied sequence of cream coloured oolitic and shelly limestone formations but including some clays and marls. Older limestones (Lias limestones) are to be found in the Severn Vale, a
wide, low lying area situated between the eastern edge of the Forest of Dean and the Cotswold escarpment to the east; these have been worked in the past for use as building stone and as a source of lime.

6.5. There are numerous different limestone formations that vary in thickness, nature and occurrence throughout the Cotswolds, often with a local name. Together the limestones form most of the Cotswold Hills that in Gloucestershire rise to a height of c.300m to cap the pronounced, indented escarpment on the eastern flank of the Severn Vale and which extends northwards into Warwickshire, eastwards into Oxfordshire and to the south into Wiltshire. The older Inferior Oolites comprise a varied sequence of mainly oolitic limestones, ranging from less than 20m thick in the east and south of the county to over 100m in the Cheltenham-Cleeve Hill area; these are relatively soft and porous and generally provide building stones, low grade aggregates and limestone for agricultural uses.

6.6. A number of distinctive rock types can be distinguished; for example the Pea Grit which takes its name from the presence of rounded algae growths (pisoliths) set in a matrix of shell debris and fine grained carbonate cement. In addition there are prominent freestones including the Cheltenham Building stone (up to 50m thick at Leckhampton Hill), Campden Stone (found at Chipping Campden); yellow and white Guiting Stone (found in the Temple Guiting-Stanway-Bourton-on-the-Hill area) and the Notgrove Freestone (widely distributed in the north and central Cotswolds).

6.7. The limestones of the Greater Oolite Group form much of the upland area of the Cotswolds and show an even greater variety of formations than the Inferior Oolite. They are up to 90m thick with formations that thicken, thin and die out laterally but are generally more frost-resistant than the Inferior Oolites. Some formations e.g. the Stonesfield Slates (a flaggy sandy oolitic limestone up to 8m thick that is present in the mid and north Cotswolds) are considered suitable for use in concrete and as roadstone. Again, various beds have local names, particularly where used for building stone purposes; for example the Minchinhampton and Taynton Freestones.

6.8. The Inferior and Great Oolite limestones are an important source of building stone providing the materials required to maintain the characteristic "Cotswold Style" buildings and dry stone walls. They also contain stone ‘slate’ beds which are an important resource for maintaining the special character of the roofing found within the Cotswolds; the two most important beds listed in the "Cotswold Design Code" for roofing are "Forest Marble" and "Stonesfield Slate".

6.9. As is common with building stones, a wide variety of Jurassic limestones especially, but not only those from the more popular Inferior and Great Oolite, were formerly worked for this purpose, initially for supply to local
markets, villages often have been built with stone from a nearby but today long since abandoned quarry. Following improvements to the transport network, however, some of these and other stones may have been supplied to markets much further afield, often for prestigious buildings. But most recently with changes to building techniques and building preferences the industry has been reduced to far fewer quarries than previously, with those that remain tending to supply specialist markets. Nevertheless because it is desirable to use natural, indigenous stones for sympathetic new build and for restoration work, and because building stones come in and out of fashion on an almost cyclical basis, a continuing demand for these limestones can be envisaged, though these days the industry as a whole faces competition from cheaper imported building stones. These will of course have no local provenance; will not directly match local stones and may be of lower quality but they have found some favour with architects and builders and they have widened the available choice to consumers.

6.10. The overall extent of the Jurassic limestones of the Cotswolds is similarly well known and understood but the actual limestone formations and horizons that were and are used for building stone purposes show considerable variation in the properties that make them attractive for building stone purposes in particular. The properties of the stone are often peculiar to individual beds within a formation or to a bed of stone that is worked and which may only present at a particular quarry. Unpredictable and variable thickness of beds and the variety of colour, texture and composition that they exhibit are therefore factors that combine to limit the ability to identify the same resources in an area that extends much beyond the immediate boundaries of an existing quarry thus mitigating against the identification of specific resources over the wider area.

6.11. A similar consideration applies to the identification of Jurassic limestones that are suitable for use as a crushed rock aggregate. Virtually all the Inferior and Great Oolitic limestones of the Cotswold could be used for low grade aggregate purposes, and small amounts are indeed recovered for this use as a by-product at some building stone quarries, but only a few of the limestone resources have physical properties that meet the required specifications for higher end uses such as roadstone or concrete: the Stonesfield Slate is a particular example. However, two quarries (Huntsmans and Daglingworth) have been developed to work Jurassic limestones specifically for some aggregates purposes.

6.12. Another Jurassic limestone that is being worked for low grade aggregate purposes is found in the UTV where the Cornbrash, which lies at the top of the Great Oolite Group, has been exposed in the base of a sand and gravel pit. This impersistent bed of shelly, rubbly limestone with mudstones is between 2m and 6m thick resource is not the principal aggregate resource, its presence is not commonplace at sand and gravel pits where underlying clays are more often encountered and it has little
significance as an aggregate resource on a strategic level. Accordingly no proposals are made to specifically safeguard it though some safeguarding may be achieved by the safeguarding proposals for the overlying sand and gravels in this area.

**Quarrying History**

6.13. Over recent years approximately 70% of Gloucestershire’s total crushed rock aggregates output has been supplied from Forest of Dean Carboniferous limestone quarries, and approximately 30% from the Cotswolds’ Jurassic limestone quarries.

6.14. Within the Forest of Dean resource area there are currently two active working quarries (Stowfield and Clearwell/Stowe Hill) and one 'mothballed' quarry with extant (still valid) planning permissions (Drybrook). Several other quarries have either ceased operations permanently or, although having an extant planning permission, have been classified by the County Council as dormant under the Environment Act 1995, and which will require new operating conditions in order to be able to work.

6.15. Quarrying the Carboniferous limestones involves the use of blasting and where strata dip beneath other rocks (overburden) the thickness of the overburden limits how far quarrying can economically extend to access the underlying limestones. The Jurassic limestones are near horizontal and their extraction does not normally involve blasting for aggregates production or for the production of building stone. The combination of these two economic and amenity considerations will influence the boundary of the MSA.

6.16. Since the Second World War over 70 quarries have been permitted within the Cotswold resource area. Of these, 14 were active in 2012 and a further 7 have extant permissions, but are dormant or inactive, and around 50 have ceased operations and no longer have valid permissions. Of the active quarries, there are two principal quarries for aggregate production (Huntsmans and Daglingworth) and two (Nayles Barn and Tinkers Barn) which predominantly produce Cotswold Stone roofing slates. The remaining quarries produce a mixture of natural building stone, predominantly building stone, walling stone and masonry for use in the local architecture and elsewhere, agricultural lime and relatively small amounts of by-product, low grade aggregates.

6.17. The Strategic Stone Study for Gloucestershire has recorded in excess of 200 sites (quarries) that have been worked for building stone. These are spread over a wide area in the Cotswolds but in order of popularity (number of sites) the most popular was the Birdlip Limestone followed by the Coppice Limestone, the Forest Marble and the Taynton Stone, these sites accounting for some 65% of the Jurassic building stone sites in the study. The study identified about 15 active quarries most of which worked the Birdlip Limestone with the others between them working the Cotswold
Slates, Taynton Stone, Forest Marble, White Limestone and Great Oolite. Today, however, there are an estimated 9 active sites which again primarily work the Birdlip Limestone (5 sites), with the remainder working between them the Cotswold Slates, White Limestone, Great Oolite and Taynton Stone. This is not to say that these are the only sites and types of stone that are worked as working is often intermittent and details may not be caught by surveys.

6.18. The two Jurassic limestone quarries that produce aggregates work rocks of the Great Oolite Group (White Limestone and Cotswold Slates).

6.19. The distribution of these limestones and of most quarries in the Cotswolds is along its west scarp; to the north of Northleach and the A40 and to the west of Cirencester and the A429.

**Options for Safeguarding Limestones**

1. Safeguard the entire limestone resource areas.
2. Safeguard the main individual limestone formations which have historically been worked.
3. Safeguard a buffer zone around existing quarries, other strategic limestone resource areas and any former quarries considered to be of importance for the preservation of historic buildings and monuments that are referred to the MPA. (500m buffer zone for sites where blasting would be involved in extraction and 250m at other sites).
4. Safeguard a buffer zone of up to 1km around existing quarries, other strategically important limestone resource areas and any former quarries considered to be of importance for the preservation of historic buildings and monuments that are referred to the MPA.

**Key Stakeholders for Limestone MSA engagement**

- All mineral operators currently working a limestone resource in the county
- English Heritage
- Natural England
- County Ecologist
- County Archaeologists
- Gloucestershire Geology Trust
- Forestry Commission
- Mineral Products Association
- British Aggregates Association
- Stone Federation
- CBI
- All District Councils
- AONB Boards
- Neighbouring Authorities to the resource blocks
### Stakeholder responses February 2014

**Forest of Dean DC:** The approach to safeguarding the limestone resource is partially supported. In view of the limited reserves situations at the three limestone quarries in the FoD (Clearwell, Stowfield and Drybrook) and that 70% of crushed rock aggregate (mainly limestone) is expected to come from the FoD the resource could suggest further searching for an additional site or expansion of existing operations, or both. It is likely that a significant MSA will be identified for crushed rock aggregate and while there is no expectation that all areas within it will be suitable for extraction the area identified will be very likely to include large expanses within the AONB and Forest.

It is accepted that safeguarding planning policies for reserves (for the production of crushed rock) are likely to be necessary and that the MLP can be expected to identify more precise areas and that more precise policies will work alongside the MSA/MCA approach. The MLP will need to identify the resource. In the FoD it is expected that non mineral development proposals in MSAs which are environmentally constrained will not be adversely affected by the MSA itself.

**GCC response:** Development proposals that fall within identified MSAs would be considered against draft Policy A. The extent of the limestone resource to be safeguarded will be identified and safeguarding will not be precluded by the presence of environmental designations as the purpose of safeguarding is to flag up the presence of mineral resources of local and national importance in the consideration of proposals for non mineral development.

**Huntsmans Quarries Ltd/Johnston Quarries Group/David Jarvis Associates:** Ideally the entire limestone resource area should be safeguarded as proposed by Option 1. It is, however, understood that this option is unlikely to be selected due to draft Policy A because it would represent a significant burden on applicants for non minerals development.

Option 2 would be less extensive than Option 1 but would safeguard a large proportion of the mineral resource. This option is preferable to option 3.

Option 3 is restrictive and a 250m buffer zone would limit opportunities for the extension of sites. In some instances this zone is less than the preferred areas identified in the current MLP around existing quarries. At the very least this buffer should be extended and apply to all quarries including historic quarries; an additional buffer zone should also be added to account for the effect of mineral development on residential amenity and the environment. Ideally more detailed geological information should be used regarding the realistic location of
economic mineral resources as a generic buffer zone may fail to protect significant reserves proximate to existing quarries.

GCC response: Consideration of a wider buffer zone for both active and inactive aggregate and non aggregate limestone quarries such as Huntsmans and Oathill quarries may be appropriate but the NPPF would appear to offer some discretion to the MPA as to how extensive MSAs should be in practice. The NPPF advises (para 143) that Mineral Safeguarding Areas are to be defined in order that “known locations of specific minerals resources of local and national importance are not needlessly sterilized by non mineral development—“. The NPPF glossary defines local and national importance as “Minerals which are necessary to meet society’s needs including aggregates---and local minerals of importance to heritage assets and local distinctiveness”.

Limestone in Gloucestershire fall within these categories. Mineral Safeguarding Areas are defined in the NPPF as “An area designated by MPAs which covers known deposits of minerals which are desired to be kept safeguarded from unnecessary sterilisation by non mineral development”. A buffer zone around a particular mineral resource would be necessary to maximise its potential for working; the extent of the zone being determined by the nature of the mineral operation e.g a 500m zone if blasting would be routinely employed. Potentially a safeguarded area around an individual working would have the same protection but the actual area of the mineral resource to be safeguarded would take account of the extent of the resource.

Unless a planning permission boundary coincided with the geological boundary of the resource the 500m or 250m zone would be in addition to the resource area. In this case a safeguarded resource area would be defined which could either follow a geological boundary or if the certainty of a potentially economic mineral could not be established in such cases as building stone or brick clay a resource radius around a working could be identified; a radius of perhaps 1km might be appropriate in these circumstances.

For the purpose of public consultation a 4th option has therefore been suggested that expands on Option 3 and provides for a buffer zone of up to 1km around existing limestone sites and other areas of potentially strategic importance. (NB respondents will not have commented on this additional proposed option as it has been added subsequent to the targeted consultation; references to ‘options’ by the respondents therefore should be construed accordingly)

West Oxfordshire DC: The approach to options is partially supported. Support for the delineation of a buffer zone around existing quarries and other known areas of importance. A blanket approach whereby the entire resource area for
limestone is safeguarded would not be supported as this is likely to be excessive and could impact on the ability to deliver new development in some areas.

GCC response: This response is believed to have been made in respect of the Cotswold limestone resource which extends into Oxfordshire and which is quarried in Gloucestershire to supply building stones and aggregates. Quarries work several formations across the Cotswolds, some more extensively than others, and many other formations were worked in the past, especially for the supply of building stones. Original Options 2 or 3 or additional option 4 would meet this respondent’s concerns.

Cotswold DC: The approach to options is supported. Ongoing engagement to identify a preferred option would be welcomed. Option 1 would have significant implications for Cotswold District’s Local Plan and Site Allocation process

GCC response: Noted

Wiltshire CC: The approach to options is supported. The BGS advises MPAs to take account of the potential for sterilisation of mineral resources by proximal development and that where practicable the resource in its entirety needs to be taken into account, including land beyond the resource boundary itself. Where the safeguarding of an entire resource is impractical (as in the case of extensive limestone resources in Gloucestershire) an extended buffer from the boundary of existing mines and quarries greater than a distance of 250m or 500m may be more appropriate as an MSA should allow for the possibility that the boundaries of a mine or quarry (active or dormant) could extend a number of times in the future; the MSA needs to build in capacity to encompass longer term growth for minerals development. Other MPAs have used a buffer zone of between 1-5km.

We would wish to see continued dialogue between authorities with regards cross boundary issues, including MSAs, to ensure that resources are adequately protected.

GCC response: Noted. See also responses above. The respondent does not say why safeguarding an entire resource is impractical and the comments may allude only to the very extensive limestone resources, though it is possible e.g in the case of building stones, that only some formations within the overall resource are of local or national importance. The more extensive ‘buffer’ of 1-5km may be used to safeguard a volume of mineral sufficient for long term supply or to include an area of potential resource for which there is little detailed information on the mineral content but with a reasonable expectation of mineral being present. A further option (Option 4) of a buffer zone of up to 1km is suggested as a result of these comments.
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<thead>
<tr>
<th>Gloucestershire County Council (Archaeology): The approach to options is supported.</th>
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<td>GCC response: Noted.</td>
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<tr>
<th>Tewkesbury District Council: The approach to options is supported. An approach that only identifies zones around existing quarries/pits where these are considered of potential importance is preferred.</th>
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<tr>
<td>GCC response: This restricted approach might not then include the same resources elsewhere or other potential limestone resources that should be protected for possible future working.</td>
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<th>English Heritage: The approach to options is supported. Due to the amount of resource either safeguarding initiative would secure future traditional building material. The caveat that safeguarding does not presume future permission will be granted is noted particularly where the significance of finite heritage assets would be adversely affected; it is essential that policy reflects this important consideration.</th>
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<td>GCC response: Noted.</td>
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<th>Deputy Gaveller’s office: The approach to options is partially supported.</th>
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<td>GCC response: Noted.</td>
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<th>Herefordshire Council: The approach to options is supported. Support for Option 1 as mineral resources will only become more scarce and pressured in the future.</th>
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<td>GCC response: Noted.</td>
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7.0 Mineral Resource: Sandstone

- Active
- Dormant/Inactive
Resource description:

7.1. Sandstones of many ages have been quarried in the county for use as building stone but the most extensive use has been made of the Devonian and younger Carboniferous sandstones that are to be found in the Forest of Dean (FoD), an elevated mass of much disturbed thick sandstones and limestones sandwiched between the Rivers Wye and Severn; most commonly the sandstones are won at small, low output quarries. Devonian sandstones extend north of the FoD to Herefordshire and west into Monmouthshire: the BGS mineral resources map does not indicate recent workings here but from discussions with the relevant MPAs it is understood there is a site in Herefordshire, near the border with Monmouthshire. The suitability and popularity of the rock formations for quarrying and their enduse may be localised due to factors such as their extent and bed thickness, the dip of the strata (low dips aid working), discontinuities and the degree of cementation and their texture and colour which affect their workability and use in buildings.

7.2. The sandstones include the purple-red and green Devonian Brownstones that encircle the outcrop of the younger Carboniferous Limestone Series rocks, and within the Series the brown sandstones of the Cromhall Sandstone Formation and the overlying and much more extensive blue/grey-brown sandstones of the Carboniferous Pennant Sandstone formation. The Carboniferous sandstones form a self contained resource area within the Forest of Dean Coalfield area. Younger, softer sandstones and conglomerates of Permian and Triassic age have also been worked, the latter extending over a broad front into Worcestershire but today only the Devonian and Carboniferous sandstones are quarried.

7.3. Other older and younger rocks near and within the Forest of Dean have also been worked for use as building stone including igneous rocks, Silurian sandstones, some of the Carboniferous limestones and Triassic sandstones. Indeed it has been said that almost every rock type reasonably resistant to weathering or abrasion has been quarried locally for building, walling or road surfacing.

7.4. As is common with Jurassic limestones that are used as building stone, a wide variety of these sandstones were formerly worked for building stone purposes to supply local markets but with changes in building techniques and building preferences the industry has been reduced to far fewer quarries than previously, with those that remain also tending to supply specialist markets. However, because it is desirable to use natural stones for sympathetic new build and for restoration work a revival in the industry can be envisaged.

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**Quarrying History**

7.5. At the present time, all sandstone quarried from the Forest of Dean is extracted for building purposes such as dimension stone, walling and paving. In the period 2005-2010, sandstone extracted from building stone quarries in the Forest of Dean contributed towards 15-20% of the county's total building stone production. Historically, 'waste' sandstone has also been crushed to produce aggregates and one former quarry (Hangerberry) previously crushed sandstone to produce silica sand which is a higher value sand used in glassmaking and a wide range of other horticultural and industrial uses.

7.6. Since the Second World War there have been over 30 sandstone quarries permitted (excluding the Sandpits at Bromsberrow Heath in the north of the county), but of the remaining permitted sites only 12 were active in 2012. There were another 4 inactive sites in 2012 but it is questionable whether they will ever become operational again. Several formations are currently being worked including the Devonian Brownstones but the principal sources of sandstone are the Pennant Sandstones. The Strategic Stone Study for Gloucestershire has recorded in excess of 50 sites in the Forest of Dean area at which building stones were or are being produced.

7.7. Building stone quarries, by the very nature of the stone that is required do not normally use explosives to extract the stone. Where these might be used is at quarries where the building stone is a by-product of quarrying for aggregates, i.e. at the Carboniferous limestone quarries (see above for safeguarding Carboniferous limestones for aggregate use. Devonian and Pennant sandstones are worked by excavators/hand as appropriate and this type of excavation can potentially take place near settlements.

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**Options for Safeguarding**

1. Safeguard all Devonian sandstone resources *
2. Safeguard all Pennant sandstone resources*
3. Safeguard a 250m buffer zone around existing Devonian and Pennant sandstone quarries and any former quarries considered to be of importance for the preservation of historic buildings and monuments.
4. Safeguard a buffer zone of up to 1km around existing quarries, other strategically important limestone resource areas and any former quarries considered to be of importance for the preservation of historic buildings and monuments that are referred to the MPA.

* The map shows a resource area that includes the bulk of the Devonian and Pennant sandstones but also some other sandstone formations.
Key Stakeholders for Sandstone MSA engagement

- All mineral operators currently working a sandstone resource in the county
- English Heritage
- Natural England
- County Ecologist
- County Archaeologists
- Gloucestershire Geology Trust
- Stone Federation
- CBI
- Forestry Commission
- Forest of Dean District Council
- Wye Valley AONB Boards
- Monmouthshire
- Neighbouring Authorities to the resource blocks

Stakeholder responses February 2014

Tewkesbury BC: No comments on the resource description or quarrying history.

GCC response: Noted.

Deputy Gaveller’s Office: The approach to options is partially supported.

GCC response: Noted.

English Heritage: The approach to options is supported. Due to the amount of resource either safeguarding initiative would secure future traditional building material. The caveat that safeguarding does not presume future permission will be granted is noted particularly where the significance of finite heritage assets would be adversely affected; it is essential that policy reflects this important consideration.

GCC response: Noted

Gloucestershire County Council (Archaeology): The approach to options is supported.

GCC response: Noted.

Herefordshire Council: The approach to options is supported. Support for Option 1 as mineral resources will only become more scarce and pressured in the future.
GCC response: Noted but Option 1 would not include Gloucestershire’s important Pennant sandstones.

Wiltshire CC: The approach to options is supported. The BGS advises MPAs to take account of the potential for sterilisation of mineral resources by proximal development and that where practicable the resource in its entirety needs to be taken into account, including land beyond the resource boundary itself. Where the safeguarding of an entire resource is impractical (as in the case of extensive limestone resources in Gloucestershire) an extended buffer from the boundary of existing mines and quarries greater than a distance of 250m or 500m may be more appropriate as an MSA should allow for the possibility that the boundaries of a mine or quarry (active or dormant) could extend a number of times in the future; the MSA needs to build in capacity to encompass longer term growth for minerals development. Other MPAs have used a buffer zone of between 1-5km.

We would wish to see continued dialogue between authorities with regards cross boundary issues, including MSAs, to ensure that resources are adequately protected.

GCC response: Noted. The respondent does not say why safeguarding an entire resource is impractical and the comments may allude only to the very extensive limestone resource. In the case of the County’s extensive sandstones that are most commonly used on a relatively small scale as building stones not all of the overall resource may be of local or national importance; only some parts of the resource may fall into this category. The more extensive ‘buffer’ of 1-5km may be used to safeguard a volume of mineral sufficient for long term supply and/or to include an area of potential resource for which there is little detailed information on the mineral content but with a reasonable expectation of mineral being present.

For the purpose of public consultation a 4th option has therefore been suggested that expands on Option 3 and provides for a buffer zone of up to 1km around existing limestone sites and other areas of potentially strategic importance. (NB respondents will not have commented on this additional proposed option as it has been added subsequent to the targeted consultation; references to ‘options’ by the respondents therefore should be construed accordingly)

Forest of Dean DC: The approach to safeguarding is partially supported. There are many sites within the FoD of former building stone extraction and several in use. The resource is extensive and it is considered essential to maintain suitable sources for building stone of appropriate types in the area. Individual sites tend to be small and planning policies can introduce appropriate controls. Given this and the difficulty of predicting locations it is logical to have a relatively
wide MSA for sandstone, but all areas may not need to be protected from development.

It is accepted that a MSA should be identified for sandstone for building stone. MSA consultations should take into account the small scale and relatively low impact of sandstone building quarries in considering non mineral applications and a policy to set this out will be necessary. Most non mineral development will also be constrained by the same environment factors that apply over the bulk of the MSA.

The District Council also states that an MSA for sandstone would be useful but because the extraction is localised and small in scale over a relatively wide area it will not be necessary to safeguard large areas from other development. In any event the areas of resource are unlikely to be suitable for other types of development.

GCC response: Noted.
8.0 Mineral Resource: Unconsolidated and consolidated Sand & Gravel
Resource description:
8.1. Sand and gravel resources in the county are either bedrock deposits or superficial deposits that overlie the solid geology and which in turn are classified as either river terrace deposits, which are the eroded remnants of formerly extensive alluvial deposits laid down by rivers, or sub alluvial deposits. There are varying differences in the thickness and composition of sand & gravel deposits throughout the county, which depending on their origin comprise in varying quantities sandstone, limestone, quartzite, igneous rock, flint, chert, quartz, silt and clay. Four terraces are recognised in the Upper Thames; here all are of roughly similar composition and grading and comprise mainly sandy oolitic limestone gravels with varying proportions of other rocks including flint and ironstone silt layers.

8.2. The Upper Thames Valley, which lies at the base of the Cotswold dip slope, is a strategic mineral resource area for sand and gravel extraction with extensive river terrace deposits extending south into Wiltshire and eastwards into Oxfordshire. Sub-alluvial deposits are found mainly along the northern bank of the River Thames where they are saturated. The resources here have been the subject of detailed assessment by the BGS and industry and information on their extent and nature is better known than for deposits elsewhere in the county.

8.3. There is also an extensive patchwork of river terrace sands & gravels throughout the Severn Vale from Stonehouse near Stroud through Gloucester and Cheltenham to Tewkesbury and thence beyond the county’s northern boundary. The deposits are an important resource since they are generally clay-poor. Widespread areas of inferred sub alluvial resources have also been identified between Gloucestershire and Tewkesbury but also at Stonehouse and further to the south at Berkeley. In most places these are also saturated and in most cases would therefore involve wet working if they were to be exploited. Less extensive river terrace deposits and inferred sub alluvial deposits are also present in the east of the Cotswolds associated with the Rivers Evenlode and Windrush and extending into Oxfordshire. It is possible that these have higher clay content and may be too thin to be commercially exploited today. There are also river terrace deposits in the Leadon Valley in northeast Gloucestershire.

8.4. Individual river terrace sand and gravel deposits vary in thickness up to c.8m thick but are commonly much less than this and tend to thin progressively towards their margins but with the deposits in the younger terraces generally being more continuous. They occur at several levels flanking the present river floodplain with the older terraces being elevated and dry. Younger lower terraces may be saturated at their base. In the UTV terrace deposits more generally range from 1m to 4m in thickness.
8.5. Sub alluvial deposits have a similarly variable thickness but are generally thinner than river terrace deposits though locally thicknesses of 5-10m have been recorded. Their composition is similar to that of the terrace deposits which in turn also exhibit significant compositional differences between the Severn and the Thames. The deposits in the UTV area consist mainly of Jurassic oolitic limestone.

8.6. Although superficial resources of sand and gravel are widespread in the county and the location of river terrace deposits are relatively well known, the nature of these minerals is such that their quality and quantity may vary considerably even within a short distance. The river terrace deposits and the indicated underlying sub alluvial deposits of the intensively worked UTV merit safeguarding more so perhaps than other less well commercially documented resources elsewhere. The Severn Vale in particular and also the north east of the county, are characterised by a pattern of scattered, often limited spreads of sand and gravel, but widespread deposits are also present in some parts. In the Severn Vale, however, deposits are frequently urbanised e.g. deposits in Gloucester and in Cheltenham; this is also the area of most growth and therefore the area that is likely to face most pressure for sterilisation of resources by non mineral development.

8.7. Discussions with stakeholders may eliminate some known deposits from safeguarding or identify others because more detailed information might then become available. Important considerations to justify inclusion in an MSA would be the thickness and extent of overburden and of the sand and gravel and the quality of the latter. However, the prior extraction of sand and gravel is a realistic option for even low yield or poor quality deposits which would suggest that the known deposits as mapped by the BGS and others that might be identified in consultations should be included in safeguarded areas.

8.8. In the north west of the county the Triassic Bromsgrove Sandstone Formation and Permian Bridgnorth Sandstone Formation, which extends into Herefordshire, is currently worked on a small scale as a source of red building sand and red asphalt sand.

Quarrying History

8.9. The majority of sand and gravel extracted in the county originates from the river terrace deposits in the Upper Thames Valley Resource Area. By contrast, sand & and gravel extraction from the Severn Vale and elsewhere in Gloucestershire represents on average less than 5% of the county’s output.

8.10. At present there are three sites permitted to work sand and gravel from river terrace deposits in the Severn Vale (Shurdington and Bishops Cleeve near Cheltenham and at Frampton-on-Severn) and there is one site permitted to work the Bridgnorth Sandstone at Bromsberrow Heath.
These are all small scale production units. There are no current workings in the Evenlode or Windrush valleys.

8.11. There have been post-war workings in the Severn Vale at Twyning, Deerhurst & Apperley, Cheltenham, Shurdington, Brockworth, Innsworth and Gloucester.

8.12. There have also been some small scale post-war workings at Evenlode, Ditchford and Bourton-on-the-Water in the Cotswolds which ceased in the 1970's.

**Options for Safeguarding**

1. Safeguard all river terrace and known sub alluvial sand & gravel deposits countywide.
2. Safeguard only the river terrace deposits county wide
3. Safeguard only sand & gravel deposits in the Upper Thames Valley
4. Safeguard all of the Triassic and Permian sandstone formations in the northeast of the county.
5. Safeguard a 250m buffer zone around the existing quarries and other sand and gravel resource areas considered to be of potential importance for the future supply of aggregates.

**Key Stakeholders for Sand & Gravel MSA engagement**

- All sand & gravel operators currently working sand & gravel resources in the county
- English Heritage
- Natural England
- County Ecologist
- County Archaeologists
- Gloucestershire Geology Trust
- Forestry Commission
- Mineral Products Association
- British Aggregates Association
- CBI
- All District Councils
- AONB Boards
- Neighbouring Authorities to the resource blocks

**Stakeholder responses February 2014**

Tewkesbury BC: The approach to options is supported. An approach that only identifies zones around existing quarries/pits where these are considered of potential importance is preferred.

GCC response: The approach advocated might not then include the same economic sand and gravel resources elsewhere which could be potentially protected for possible future working. It is noted elsewhere in the evidence base
that the supply of sand and gravel from Gloucestershire is important locally and strategically within the south west and beyond. However this is balanced with a relatively limited distribution of these resources in the county. This is important given the shallow nature of the sand and gravel resources and the relatively short timescales within which these resources can be worked. Sand and gravel has much different characteristics both in terms of its geology and its importance in terms of current need compared to some of the other minerals in the county. Therefore the approach advocated by TBC is potentially not consistent with the NPPF given the need to ensure the safeguarding of the supply of minerals. No amendments are made to the MSA options on the basis of this response although the MPA will be mindful of this proposal when moving towards a preferred option for sand and gravel.

Deputy Gaveller’s Office: The approach to options is partially supported.

GCC response: Noted

English Heritage: Unsure about the approach to policy options but note the important caveat that safeguarding does not presume that future permissions and consents will be approved particularly where the significance of finite heritage assets would be adversely affected.

GCC response: Noted.

Gloucestershire County Council (Archaeology): The approach to options is supported.

GCC response: Noted.

Herefordshire Council: The approach to options is supported. Support for option 1 since there are and will be increasing pressure on mineral extraction and viability issues once the extraction process has begun. For example variable mineral quality, quantity and accessibility, amount of overburden etc.

GCC response: Sand and gravel deposits of the types worked in Gloucestershire commonly vary in their extent, nature and mineralogy suggesting that MSAs should be extensive in order to account for these economic considerations and provide for long term supply.

Cotswold DC: The approach to options is supported. On going engagement to identify a preferred option would be welcomed. Some options would have implications for the Cotswold District Local plan and site Allocations process.

GCC response: Noted.
Wiltshire CC: The approach to options is supported. The adoption of Option 5, the safeguarding of sand and gravel resources with the addition of a 250m buffer zone, is supported to take account of the potential sterilisation of mineral resources by proximal development.

GCC response. Noted.

West Oxfordshire DC: The approach to options is partially supported. Support for the delineation of a buffer zone around existing quarries and known areas of importance. We would not support a blanket approach whereby the entire resource area for sand and gravel is safeguarded as this is likely to be excessive and could impact on the ability to deliver new development in some areas.

GCC response: This response is believed to have been made in respect of the sand and gravel resources in the Upper Thames Valley and other resource areas on the east side of Gloucestershire, some of which extend into Oxfordshire and North Wiltshire. Option 5 would meet this respondent’s concerns.
9.0 Mineral Resource: Brick and Engineering Clays
Resource description:

9.1 Solid bedrock clays and other similar materials (shales, mudstones and marls) predominantly range in age from Devonian to Jurassic and are widely found in the county with Triassic and Jurassic resources especially being prominent through the Severn Vale extending northwards into Worcestershire. Those ‘clays’ suitable for brick-making but also for the manufacture of roof tiles and clay pipes are collectively termed ‘Brick Clays’. These clays are also sometimes also used in cement making, for landfill engineering and as construction fill. The suitability of these relatively soft rocks for the manufacture of bricks depends principally on their behaviour during shaping, drying and firing. Manufacturers seek predictable and consistently performing deposits.

9.2 Fireclays, which are used as a refractory material and which were previously identified in MPS1 as a mineral resource to be specifically safeguarded, are found in association with particular coal seams such as those in the Coal Measures of the Forest of Dean. There are also other Coal Measures clay resources to be found within former colliery spoil heaps in the Forest of Dean. Identified clay formations suitable for brick making in the county are the Cinderford member of the Carboniferous Grovesend Formation and part of the Jurassic, Charmouth Mudstone Formation in the Cotswolds and the Lower Lias clays found in the Severn Vale which have potential for both brick making and engineering purposes.

9.3 Along the Severn Vale there are also much younger Drift deposits of soft alluvial clay which overlie solid geology and extend southwards into South Gloucestershire where they have been used in the manufacture of bricks.

9.4 Discussions with stakeholders will help define the clay (and fireclay) resources that should be safeguarded, some of which may overlap with the coal resource area.

Quarrying History

9.5 There are now only two operational brickworks and clay pits in the county. Until recently there were two brickworks in the Cinderford area, one now inactive brickworks extracted clay from colliery spoil heaps and the other brickworks quarries Carboniferous clays in situ (although the planning permission for extraction at the latter has expired). The second active brickworks is located at Blockley in the North Cotswolds where Jurassic (Lias) clays are worked. The two active brickworks also provide specialist services offering bespoke hand made replica bricks for use in restoration projects. Post-war there was one other operational brick works at Aston Magna in the Cotswolds, but this had closed by the mid-1970s.

9.6 From time to time other clay extraction operations have been permitted for engineering or landfill purposes or in association with sand & gravel extraction.
9.7 For instance, existing landfill sites in the Bishops Cleeve area extract clays for on site landfill and engineering purposes, some of which are also sold off site. The principal purpose of this activity is to use on site clay for engineering purposes on site and not for supply of clay to the open market, although at one site the use of clay is not restricted and it has been supplied for use off site for lining water courses and for flood defences. With a decreasing landfill component for future waste management and a tendency for any landfill site to be sited in areas of impermeable bedrock in the first instance or to accept only inert residual wastes it can be anticipated that the need for engineering clays at landfill sites is unlikely to warrant clay pits elsewhere in the county to provide material specifically for landfill projects. Accordingly it is considered that specific safeguarding of clay resources is needed only for the purposes of brick manufacture.

### Options for Safeguarding

1. Safeguard clays in the Forest of Dean (linked to the Coalfield MSA),
2. Safeguard a 250m buffer for the Lias clay resources in the north east of the county around the existing brickworks.
3. Safeguard other existing clay extraction sites and resource areas identified by stakeholders.
4. Safeguard a buffer zone of up to 1km around existing quarries, other strategically important limestone resource areas and any former quarries considered to be of importance for the preservation of historic buildings and monuments that are referred to the MPA.

### Key Stakeholders for Clay MSA engagement

- All brick clay and landfill operators currently working a clay resource, or manufacturing clay products in the county
- The Brick Development Association
- British Ceramics Confederation (BCC)
- CBI
- English Heritage
- Natural England
- County Ecologist
- County Archaeologists
- Gloucestershire Geology Trust
- Forestry Commission
- All District Councils
- AONB Boards
- Neighbouring Authorities to the resource blocks
Stakeholder responses February 2014

Cotswold DC: The options for safeguarding are supported. The approach to outlining the options is robust and logical. On going engagement to identify a preferred option would be welcomed. Some options would have implications for the Cotswold Local Plan and Site Allocations process.

GCC response: Noted

Wiltshire CC: The approach to options is supported. The BGS advises MPAs to take account of the potential for sterilisation of mineral resources by proximal development and that where practicable the resource in its entirety needs to be taken into account, including land beyond the resource boundary itself. Where the safeguarding of an entire resource is impractical (as in the case of extensive limestone resources in Gloucestershire) an extended buffer from the boundary of existing mines and quarries greater than a distance of 250m or 500m may be more appropriate as an MSA should allow for the possibility that the boundaries of a mine or quarry (active or dormant) could extend a number of times in the future; the MSA needs to build in capacity to encompass longer term growth for minerals development. Other MPAs have used a buffer zone of between 1-5km.

We would wish to see continued dialogue between authorities with regards cross boundary issues, including MSAs, to ensure that resources are adequately protected.

GCC response: Noted. The respondent does not say why safeguarding an entire resource is impractical and the comments may allude only to the very extensive limestone resource. In the case of the County’s extensive and various clay resources only some are used for brick making and not all of a particular resource may suit for bricks and be of local or national importance; only some parts of the resource may fall into this category. The more extensive ‘buffer’ of 1-5km may be used to safeguard a volume of mineral sufficient for long term supply and/or to include an area of potential resource for which there is little detailed information on the mineral content but with a reasonable expectation of mineral being present.

For the purpose of public consultation a 4th option has therefore been suggested for a buffer zone of up to 1km around existing clay sites and other areas of potentially strategic importance. (NB respondents will not have commented on this additional proposed option as it has been added subsequent to the targeted consultation; references to ‘options’ by the respondents therefore should be construed accordingly)
Forest of Dean DC: The approach to safeguarding clay is partially supported. Suggested that because of its local and particular circumstances and site specific needs the identification of a broad MSA is not appropriate. Policies to enable the continued extraction of clay for brick making and more precise defined area(s), possibly a preferred area or areas could be defined an approach that is supported by the resource being heavily constrained by environmental factors.

The adopted Core Strategy and AAP for the FoD both already contain policies for the protection of mineral resources.

GCC response: MSAs are identified according to the extent and nature of the mineral resource and are not influenced by environmental designations/factors. In the FoD the resources are inextricably linked with the areas of shallow coal resources which are also to be safeguarded (but see GCC response to representations made in respect of coal). The identification of preferred areas is a separate part of the MLP.
10.0 Mineral Resource: Coal

![Coal Resource Map]

Derived from 1:100,000 scale BGS Digital data under Licence 2011/015 British Geological Survey © NERC.
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Resource description:

10.1 The Forest of Dean Coalfield contains one of the earliest areas in Britain where coal has been worked. This coalfield is self contained and is almost completely exposed at surface with the outcropping coal seams forming a distinctive concentric pattern between Lydney in the south and Drybrook in the north and from Coleford in the west to Ruspidge in the east. By contrast, the Oxfordshire-Berkshire coalfield, whose western margins extend up to 7km inside the county’s eastern boundary, is wholly concealed and lies at depths of up to 1500m; coal seams there are comparatively thin and are not considered to be of economic interest by the BGS. The small Newent Coalfield is not considered to be of economic significance by BGS but is, however, safeguarded by the Coal Authority.

Mining History

10.2 Coal working has taken place in the Forest of Dean for over 700 years and has shaped the history and culture of the area. Coal working in the Forest of Dean is subject to its own unique mining tradition and law with local Freeminer Rights dating back to at least the 14th century. The industry in the area has been in decline from the early 20th century and most larger and deeper mines had closed by the 1960s. However, small-scale shallow drift mining, which produces a few thousand tonnes a years, continues through local miners operating under the ancient Freeminer rights. Between the 1960s and the mid 1980s a relatively small amount of coal was also worked by opencast methods and the extent and depth of the coal deposits from time to time continues to attract the interest of the opencast industry as the economic fortunes of the coal industry fluctuates.

10.3 Although coal activity in the Forest of Dean is relatively historic, the mineral resource is unique in that the Coal Authority prepares maps which it considers indicates resources that are worthy of safeguarding for possible working in the event that the economic and political climate changes and the working of coal becomes a realistic proposition once again. Discussions with stakeholders may refine the area that might be safeguarded but the Coal Authority map of the coalfield is considered to be a sufficient starting point for safeguarding purposes at the moment.

10.4 The Oxfordshire-Berkshire Coalfield is not safeguarded on the Coal Authority map and no coal has ever been mined.
Options for Safeguarding:
1. Safeguard the area shown on the Coal Authority safeguarding map i.e. the entire Forest of Dean coalfield
2. Safeguard the coalfield area as shown on the BGS Mineral Resource Map for Gloucestershire.
3. Safeguard the Newent Coalfield as shown on the Coal Authority safeguarding map

Key Stakeholders for Coal engagement
- The Coal Authority
- The Freeminers Association
- CBI
- The Deputy Gaveller
- All Freeminers currently working coal resources in the county
- Natural England
- County Ecologist
- County Archaeologists
- Gloucestershire Geology Trust
- Forestry Commission
- Forest of Dean District Council/Cotswold District Council
- Wye Valley/Cotswold AONB Boards
- Neighbouring Authorities to the resource blocks

Stakeholder responses February 2014

Forest of Dean DC: The approach to safeguarding is partially supported. The coalfield remains a resource albeit heavily constrained by practicalities but the traditional small scale extraction will continue and will do so whether or not there is an identified MSA. Whilst the identification of the resource as part of the evidence base for the MLP is accepted it is suggested that safeguarding policies would not be necessary as opencasting or large scale extraction is not likely to be permitted and the traditional small scale activity will any event continue. Because of its local importance and particular circumstances an MSA for coal is not appropriate. It is hoped that the traditional small scale mining of coal will continue but this is not dependant on the operation of an MSA. The resource is accessible in all areas where the land (statutory forest) is protected from almost all forms of development. The MLP is expected to make clear that large scale extraction is most unlikely given the environmental constraints (in the FoD). It may be useful for the MLP to consider the practicalities of accessing the resource that is identified and it may be appropriate to amend (reduce) the MSA accordingly.
GCC response: The purpose of the MSA is to protect the geological resource from being sterilised by other development by informing decision makers of its presence during their consideration of planning applications (other than for exempt developments as defined in the paper). Protection afforded by policies relating to development in the statutory forest are for the decision makers to take account of in addition to the MSA areas. Safeguarding will not affect the traditional freeminers’ rights which are not a planning consideration.

Deputy Gaveller: The approach to safeguarding coal resources is partially supported. The rights to work coal within the FoD (specifically the Hundred of St Briavels) are already reserved

GCC response: Noted. The rights to win coal as referred to are the freeminers rights but these do no safeguard the resources.

English Heritage: Unsure about supporting the approach to safeguarding coal. English Heritage note the important caveat that safeguarding does not presume that future permissions and consents will be approved particularly where the significance of finite heritage assets would be adversely affected. It is essential that any MSA policy reflects this important consideration.

GCC response: Noted

Gloucestershire CC (Archaeology): The approach to safeguarding coal resources is supported.

GCC response: Noted

Herefordshire Council: The approach to safeguarding coal is supported. Support for Option 1 as mineral resources will only become more scarce and pressured in the future.

GCC response: Noted but Option 1 would not include all resources as it does not cover the Newent Coalfield.

Cotswold DC: Unsure about the approach to safeguarding coal resources. Relevant information is set out but there appears to be little benefit in safeguarding an area if the coal industry and the Coal Authority see no potential in extracting deep coal resources.

GCC response: Noted. The areas identified for possible safeguarding are the shallow coal resources which potentially could be sterilised by non mineral development. CDC should also note the Coal Authority response below.

Wiltshire CC: The approach to options is supported. The BGS advises MPAs to take account of the potential for sterilisation of mineral resources by proximal
development and that where practicable the resource in its entirety needs to be taken into account, including land beyond the resource boundary itself. Where the safeguarding of an entire resource is impractical (as in the case of extensive limestone resources in Gloucestershire) an extended buffer from the boundary of existing mines and quarries greater than a distance of 250m or 500m may be more appropriate as an MSA should allow for the possibility that the boundaries of a mine or quarry (active or dormant) could extend a number of times in the future; the MSA needs to build in capacity to encompass longer term growth for minerals development. Other MPAs have used a buffer zone of between 1-5km.

We would wish to see continued dialogue between authorities with regards cross boundary issues, including MSAs, to ensure that resources are adequately protected.

GCC response: Noted. The respondent does not say why safeguarding an entire resource is impractical and the comments may allude only to the very extensive limestone resource. In the case of the County’s extensive and well delineated coalfields within which there are many variable but relatively well documented coal seams and numerous old mines (especially the FoD) that have worked some of the seams or left other seams (for a variety of reasons) it is considered that the coalfields lend themselves to this approach more so than safeguarding particular coal seams or discrete areas of previous mining.

Coal Authority: The Coal Authority welcomes the recognition that coal is a mineral proposed to be safeguarded but the proposal to exclude urban areas from MSAs is unnecessary and unjustified. Urban areas should not be excluded from shallow coalfield MSAs as this does not reflect the requirements of the NPPF, is contrary to good practice advice and is inconsistent with the approach being adopted by MPAs elsewhere. The NPPF makes it clear that MSAs should be based on geological considerations and that prior extraction should be promoted where non mineral development will take place on mineral resources. The Coal Authority universally objects to the exclusion of urban areas from MSAs. The MSA for surface coal should be amended to cover the whole geological resource without exception i.e the FoD and the Newent Coalfield.

Excluding urban areas will demonstrate a lack of commitment of the Authority towards ensuring that mineral resources are not needlessly sterilised contrary to the NPPF as excluding them will mean that all site allocations for example to develop sites or extend the urban area by urban extensions will not need to consider mineral sterilisation as they would be outwith the MSA.

If the NPPF only intended for the countryside to be included within MSAs, then the actual need for the use of MSAs could be questioned given that the countryside is generally protected from built development in any event.
The possibility of speedy prior extraction of coal in advance of other development or alongside other groundwork activities is possible. Prior extraction may not therefore delay development and may also have advantages such as the remediation of legacy coal workings and financial benefits to the developers by generating an additional revenue stream. Prior extraction is considered to be the most sustainable option as it requires the minimum of intervention and deals with the issue completely; site remediation not involving prior extraction e.g. by grouting will permanently sterilise minerals and can be extremely costly.

The prior extraction of surface coal can readily take place on very small sites in urban areas without any adverse environmental impacts and there are many examples of this having taken place in other parts of the country. The Coal Authority does not in any way support the use of any site size thresholds without any sound evidence base but does accept that such a requirement should plainly not for example apply to householder development.

Excluding urban areas would exclude urban extensions to Cinderford which may prejudice the rest of the development plan objectives; the respondents would potentially need to reconsider whether it is willing or not to support some of the proposed allocations in the County as the deliverability of those sites with legacy may be threatened without the required consideration of prior extraction brought about by the designation of an MSA.

The Coal Authority concurs that the deep Oxfordshire-Berkshire coalfield does not need to be safeguarded as it only seeks the safeguarding of licensed areas of which there are none in Gloucestershire and then safeguarding only needs to relate to highly sensitive non-mineral development, not all development generally.

GCC response: The respondents refer to the NPPF and good practice advice making it clear that MSAs should be based on geological considerations but also consider that safeguarding is a very long policy tool and that over time economic considerations can and will invariably change. However the respondent does not then seek to safeguard the deep coal resources that are present in the Oxfordshire Berkshire Coalfield in the east of the County because there are no licensed coal areas there thus an ‘economic’ reason has been presented by the respondent for not safeguarding this particular resource. Although unlikely to be sterilised by any general surface development sterilisation of this deeper resource could happen as is recognised, though probably only in the case of highly sensitive non-mineral development.

If the logic of the respondent is followed then all mineral resources in the county would be safeguarded and the safeguarded areas would then cover the bulk of
Gloucestershire. However, it is debateable as to whether this is a pragmatic approach bearing in mind the clearly diminishing importance of coal in the UK and the wide extent of the surface deposits in the FoD. Protection of all resources may be unnecessary in some urban settings which have recently been developed and any such mineral safeguarding issues may have previously been resolved.

The Glossary to the NPPF defines a MSA as an area designated by the MPA which covers known deposits of minerals which are desired to be kept safeguarded from unnecessary sterilisation by non mineral development. The NPPG (2014) suggests that it may be appropriate to safeguard mineral resources in designated or urban areas where necessary to do so (*underline emphasis*). The NPPG provides examples of safeguarding resources beneath large regeneration projects in brown-field areas to ensure the suitable use of the mineral and for the stability of potentially unstable land. Given this caveat there may need to be more work undertaken with the District Council, any regeneration initiatives/bodies and the Coal Authority to try and identify any such areas where such objectives could be met. The outcome would be to try and identify those areas which could form the MSA for coal and conversely those that might not. Therefore at this stage the County Council will present the MSA options in the current form for the wider public consultation, as widely different views have been expressed to date. However, the County Council will continue to have dialogue with those interested parties in order to develop an appropriate coal MSA format in the MLP.
11.0 Other Mineral Resources: Igneous Rock; Iron ore and Ochre; Hydrocarbons,

*Pre Cambrian and younger rocks:*
11.1 A very small area of intrusive igneous rock occurs in northern Gloucestershire extending northwards over the county boundary to form the Malvern Complex. In addition to the particular limestones, sandstones and clays mentioned earlier there are also extensive, sometimes widely distributed resources of similar rocks of varying age. There is no history or current interest in working these resources therefore there are no proposals for safeguarding them.

*Iron Ore:*
11.2 Iron ore exists as irregular bodies in the Lower Carboniferous limestones that dip beneath the Coal Measures on the flanks of the Forest of Dean. Resources are effectively exhausted and no longer considered to be of economic interest and therefore no proposals are made to safeguard them.

*Hydrocarbons:*
11.3 Hydrocarbons are essentially oil and gas which may be recovered through boreholes. Although Gloucestershire does contain potential reservoir and source rocks, it is likely that the source rocks are neither thick enough nor likely to have been buried deep enough for the generation of hydrocarbons. Gas can also be found in abandoned coal mines (Abandoned Mine Gas Methane-AMM) or within coal beds (Coalbed Methane-CBM) but in the case of AMM the prospects for this are negligible because of low gas levels, flooding and the lack of extensive workings. In the case of CBM there is little potential due to low gas levels in the coal seams. In addition to normal planning requirements, a licence from the Department for Business, Innovation and Skills is required to explore for and exploit all oil and gas resources. Licensees wishing to enter or drill through coal seams for coalbed methane and coal mine gas must also seek the permission of the Coal Authority.

11.4 Rock formations which might contain methane that could be recovered by fracturing the rocks to release the gas (fracking) may exist but to date the recent commercial interest in this recovery technique in England has not been extended to Gloucestershire.

11.5 National Planning Practice Guidance (March 2014) only requires that petroleum licence areas are shown on the MPA proposals map. The recent DCLG guidance on hydrocarbons (July 2013) only requires the safeguarding of any above ground processing plant associated with wellheads. As there are no wellheads or other facilities in Gloucestershire there is no current requirement for a MSA.
Key Stakeholders for other resources engagement

- United Kingdom Onshore Operators Group (UKOOG)
- The Coal Authority
- The Freeminers Association
- CBI
- Mineral Products Association
- British Aggregates Association
- The Deputy Gaveller
- Natural England
- County Ecologist
- County Archaeologists
- Gloucestershire Geology Trust
- Forestry Commission
- District Councils
- Neighbouring Authorities
- AONB Boards

Stakeholder responses February 2014

Deputy Gaveller: The approach to safeguarding other mineral resources is partially supported.

GCC response: Noted.

Wiltshire CC: The approach to options is supported. The BGS advises MPAs to take account of the potential for sterilisation of mineral resources by proximal development and that where practicable the resource in its entirety needs to be taken into account, including land beyond the resource boundary itself. Where the safeguarding of an entire resource is impractical (as in the case of extensive limestone resources in Gloucestershire) an extended buffer from the boundary of existing mines and quarries greater than a distance of 250m or 500m may be more appropriate as an MSA should allow for the possibility that the boundaries of a mine or quarry (active or dormant) could extend a number of times in the future; the MSA needs to build in capacity to encompass longer term growth for minerals development. Other MPAs have used a buffer zone of between 1-5km.

We would wish to see continued dialogue between authorities with regards cross boundary issues, including MSAs, to ensure that resources are adequately protected.

GCC response: Noted. The respondent does not say why safeguarding an entire resource is impractical and the comments may allude only to the very extensive limestone resource. In the case of these other mineral resources
although the nature and location of the Pre Cambrian and other rocks is generally well known little interest has been shown in working them and they have little importance is Gloucestershire; similarly iron ore is considered to be only of academic interest. There are no wells or other facilities in Gloucestershire of any petroleum and exploration development licence areas (PEDL) therefore there is no current requirement for a MSA for these minerals.

English Heritage: Unsure about supporting the approach to safeguarding other mineral resources. English Heritage note the important caveat that safeguarding does not presume that future permissions and consents will be approved particularly where the significance of finite heritage assets would be adversely affected. It is essential that any MSA policy reflects this important consideration.

Gloucestershire CC (Archaeology): The approach to safeguarding other mineral resources is supported.

GCC response: Noted

Herefordshire Council: The approach to safeguarding other mineral resources is not supported. The general approach is of concern since although the resource may not currently be viable or required the future may bring new options and technologies which would make its winning an economic possibility (e.g fracking). Once a resource has been built over it is usually not possible to regain it. Perhaps more investigation into the safeguarding of such mineral resources and further survey work should be undertaken by either GCC or other appropriate organisations.

GCC response: The geological extent of most of the minerals currently or most recently worked in the County is fairly well known and option proposals for safeguarding those that are considered to be of local and national importance are made. If other minerals are agreed to require safeguarding following consultation on the MLP further safeguarding policies may be developed.

Cotswold DC: Support the proposal not to safeguard these other mineral resources.

GCC response: Noted.

The Coal Authority: The Coal Authority endorses the proposed approach that hydrocarbons do not require an MSA to be defined. The safeguarding of surface coal will safeguard some of the potential hydrocarbon resource and will cover AMM and CBM. UCG would be likely to occur in deep coal resources and as exploration and production can often involve numerous options for the locating of surface infrastructure the resource is not sterilised as such by non mineral development.
Petroleum Exploration and Development Licence areas should be shown on the plan if any are present in the County. Indicating a PEDL is not safeguarding, however, as the paper makes clear at paragraph 11.5.

GCC response: Noted.
12.0 The approach to safeguarding

12.1 Step Four of the BGS publication *Guide to Mineral Safeguarding in England: good practice advice* is to decide on the approach to safeguarding. The County Council’s proposed approach is to use a combination of the identified MSAs and supporting policy that will prevent development taking place which would otherwise be likely to sterilise a mineral resource together with plans and supporting policies for MCAs that will facilitate liaison between the County Council and District Councils in Gloucestershire. Under this procedure District Councils within Gloucestershire and local planning authorities in adjoining areas would consult the County Council on any planning applications they receive for non minerals development which fall within the boundaries of an MSA other than for exempt developments as listed in Policy A. The planning authorities should ensure that the considerations set out in Policy A are followed in the determination of the application. The MCA process will therefore provide additional protection for mineral resources and ancillary facilities and will ensure that mineral activities will not impact adversely on other development.

12.2 The prior extraction of minerals is required by the NPPF where it is practicable and feasible, if it is necessary for non mineral development to take place within an MSA. It is a fall back scenario that will help to ensure that minerals would not be sterilised but would apply only if the development is considered to be necessary in the first instance and then if this test is passed whether prior extraction is possible; this will depend on such factors as the nature of the mineral deposit and the method of working.

12.3 In the case of small quantities of readily saleable mineral that is easily won and which will leave the development site in a state that is conducive to the proposed re development or which can be remediated at acceptable costs, then prior extraction is possible. Instances of this are not, however, widespread and tend to be associated with sand and gravel and opencast mined coal.

12.4 The guidance given in the NPPF has been followed and the county’s initial approach to safeguarding is set out in this report. However, it is also necessary to have policies that support the use of the defined MSAs and the practical implementation of determining development proposals in them. The following policies are therefore proposed for use following the identification of MSAs in the MLP.
Draft Policies

Policy A.

Mineral Safeguarding Areas are defined in the accompanying Proposals Map for the sand and gravel, limestone, sandstone, coal and brick clay resources in Gloucestershire that are considered to be of current or future economic importance. These areas of mineral resources will be protected from unnecessary sterilisation by other development. Unless the applicant makes provision for the prior extraction of the mineral, planning permission for other development that would result in the direct or indirect sterilisation of the identified mineral resources in the defined MSAs will not be permitted unless:

- the applicant for planning permission can demonstrate to the satisfaction of the MPA by way of a minerals assessment (MA) that the mineral that would otherwise be sterilised is not of economic value therefore neither feasible nor practicable to work; or
- the mineral can be extracted to the satisfaction of the MPA without unacceptable community or environmental impacts prior to the incompatible development taking place; or
- the incompatible development is of a temporary nature and can be completed and the site left in a condition that does not inhibit later mineral extraction or mineral extraction elsewhere within the MSA; or
- there is an overriding need for the incompatible development that outweighs the need for the mineral; or
- the development constitutes ‘exempt development’, namely the following development:
  - householder development within the curtilage of a residential property
  - the alteration or extension to existing buildings or for a change of use of an existing building whose use would not be incompatible with mineral extraction
  - minor developments such as walls, fences and works to trees
  - advertisements
  - reserved matter development unless the MPA required to be consulted at this determination stage
  - Conservation or Listed Building consent
  - Certificates of lawfulness
**Stakeholder responses February 2014**

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotswold DC:</td>
<td>Partial support for the approach in Policy A. The general approach is supported but it is difficult to comment until the actual sites are identified and can be correlated with the emerging Local Plan. On going engagement would be welcomed in the identification of preferred options, sites and policies.</td>
</tr>
<tr>
<td>GCC response:</td>
<td>Noted.</td>
</tr>
<tr>
<td>Coal Authority:</td>
<td>The approach in Policy A is supported. The Coal Authority endorses the proposed policy as being justified and effective. The criteria follow the advice in the 2011 BGS/Coal Authority Guide.</td>
</tr>
<tr>
<td>GCC response:</td>
<td>Noted.</td>
</tr>
<tr>
<td>Wiltshire CC:</td>
<td>The approach in Policy A is supported and is consistent with the approach taken in Wiltshire and Swindon.</td>
</tr>
<tr>
<td>GCC response:</td>
<td>Noted.</td>
</tr>
<tr>
<td>Tewkesbury BC:</td>
<td>The approach taken in Policy A is partially supported. The last bullet point could be rephrased: “the following development constitutes exempt development”. The list that then follows could be augmented to include change of use applications for land e.g. agricultural land to horticulture type activities.</td>
</tr>
<tr>
<td>GCC response:</td>
<td>No change to the bullet point is proposed. The list is intended to cover minor or insignificant developments and changing the use of agricultural land to horticulture or another such use (where not classed as minor development) could potentially sterilise minerals permanently depending on whether there were permanent structure proposed. Therefore no change is proposed.</td>
</tr>
<tr>
<td>Forest of Dean DC:</td>
<td>MSA and MCAs will introduce an additional process in dealing with planning applications. The policy illustrates the way in which the MSA and MCAs will operate. The principle of protecting sites for mineral extraction and identification of future reserves is supported but requirements for minerals need to be assessed against demands for other competing land uses. This can be achieved by for instance the amendment of policy to refer to other plans, the use of MSAs tailored to the individual mineral and which take account of the likely overall policy stance to their extraction in the circumstances that apply.</td>
</tr>
<tr>
<td>GCC response:</td>
<td>Of particular interest in respect of protected/safeguarded areas is the development of policies that make the link between the MSAs showing the</td>
</tr>
</tbody>
</table>
entire resource and those that define the practical constraints and opportunities to work the minerals required.

GCC response: The comments about additional process are noted. Using the MSA/MCA process to protect mineral resources from non mineral development for possible future use is a high level safeguarding methodology that is not be influenced by the presence of other considerations such as development that is ‘allocated’ in the Development Plan or environmental designations or indeed other practical constraints unless these relate to the viability of extraction; an example of the latter would be geological factors. In the case of a planning application for non mineral development within an MSA an option in the policy allows for the development to take place if it can be demonstrated that it outweighs the need for the mineral. However, in the identification of proposed MSAs a degree of pragmatism could be exercised to account for other planning policy proposals for the development of land and which form part of the development plan, again if it is considered that the need for the development outweighs the need for the mineral. This might be an appropriate decision to reach for minerals which are extensive or whose extraction prior to any development in accordance with a blanket prior extraction policy would render the development of the site untenable and would not meet the objectives of its identification for development. This might be the case where extraction would be unduly prolonged to the detriment of planned development or would result in a deep excavation or otherwise unacceptable landform e.g flooded pit.

12.5 Advice in the BGS report is to include a buffer around MSAs that should account for the nature of the resource (e.g. the extent to which it might dip below an increasing thickness of overburden which will impact on the workability of the mineral resource) and its scarcity, whether it crosses or is close to county boundaries and the way in which it would be worked (e.g. by blasting) to ensure that the workable mineral would not be sterilised by development and that neighbouring authorities are aware of the mineral resource. With regard to adjacent areas some adopted or emerging plans (such as the Wiltshire and Monmouth Core Strategies) identify MSAs in those areas which should, in theory, ensure that sterilising development which might affect resources extending across into Gloucestershire does not take place. For MPAs without a mineral plan dialogue on a suitable approach might be required depending on the approach for MSAs that is taken formally by Gloucestershire. This might dictate that a cross boundary buffer zone is required. It is anticipated that this dialogue will take place as part of the consultation process.
12.6 Ancillary facilities

The NPPF requires local planning authorities to safeguard existing, planned and potential sites for bulk handling of minerals; for value added primary aggregates facilities and for alternative aggregates facilities, though no guidance is given on how this should be achieved. The County Council considers that this can best be done by using a combination of safeguarding areas and policies. MSA’s are not appropriate for this as their remit is limited to the winning and working of minerals and does not cover value added processing plant and storage and distribution infrastructure.

12.7 NB. The location and nature of the facilities are summarised in Table 2. There are no specific proposals for facilities identified in the MLP or by District Planning Authorities. District Plans may make provision for industrial development but the nature of that development is uncertain and because of this it is not appropriate to identify buffer zones around generic industrial sites; potential sites for mineral related development cannot be identified until the MLP progresses through consultation and any proposals by stakeholders are identified. However, in practice any ancillary plant for mineral workings usually comes forward at a later stage than mineral working and is considered against relevant development control criteria.

Table 2 Mineral Facilities to be safeguarded

<table>
<thead>
<tr>
<th>Facility for bulk transport of minerals</th>
<th>Existing</th>
<th>Planned by the Councils</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rail Head</td>
<td>None</td>
<td>None</td>
<td>Spurs from the main line exist at Ashchurch and Sharpness</td>
</tr>
<tr>
<td>Rail link to quarry</td>
<td>None</td>
<td>None</td>
<td>Some quarries in the FoD were historically rail linked but further rail links within the MLP period seem unlikely</td>
</tr>
<tr>
<td>Wharfage with storage/handling/processing facilities</td>
<td>1. Sharpness Docks Discuss with SDC/BWB 2. Nettlebridge Gloucester on Gloucester Sharpness Canal</td>
<td>None</td>
<td>See existing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Site for value added and alternative aggregate facilities</th>
<th>Existing</th>
<th>Planned by the Councils</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete batching plant site</td>
<td>Huntsmans Quarry, Naunton Chelmix, Gloucester MC Cullimore, Netherhills</td>
<td>None</td>
<td>Other than listed sites most likely to be sited at</td>
</tr>
</tbody>
</table>
12.8 In due course potential sites for inclusion in the MLP may be identified. These and any existing sites and facilities are the site of industrial activities and therefore, and notwithstanding controls to mitigate any impacts, they have potential to generate disturbance through, for example, noise and dust emissions. To further minimise potential disturbance it is proposed that an appropriate safeguarding zone should be drawn around them. This would be an area within which there should be no new incompatible development; a draft policy to achieve this protection is set out below. The extent of the zone might vary but it is proposed that this is established through the consultation process. Clearly it needs to take account of existing uses, any controlling conditions in place and likely risk from adjacent competing uses. A guide might be a radius of 100m but in some cases the zone might need to be more or less.

Stakeholder responses February 2014

Tewkesbury BC: The MoD land at Ashchurch and land to the north is identified as a strategic allocation in the draft JCS for around 2,700 houses and 20ha employment land of which 2,125 are expected to be delivered within the plan period. Consultation was undertaken on the draft JCS Oct-Dec 2014 and although the County Council responded there was no comment in respect of safeguarding the railhead. It is my understanding that to safeguard the railhead for mineral use could leave the largest brownfield site in the borough uneconomic to develop for other uses. Consequently, whilst the importance of rail freight is acknowledged we would not wish to see the railhead at Aschurch safeguarded for mineral use at the expense of comprehensive Redevelopment of the MOD site. The MoD have prepared a feasibility study, the methodology of which was supported by GCC, for rail freight concluding that it is not
economically viable to retain. I understand that this feasibility study was not expected to consider the potential with regards to mineral usage. If the MoD Site were to be redeveloped for housing/employment land there may be a scenario in which contaminated soils/materials could be transported by rail out of the site and aggregates railed back in prior to the railhead being removed. But it is unclear whether this is ultimately feasible and/or desirable. The Council would be happy to discuss possible approaches that could be taken to address this issue.

GCC response: The development of the MLP Safeguarding paper has overlapped with that of the JCS. The site is a potential railhead for aggregates but its re development as proposed in the JCS may warrant its non inclusion as a safeguarded facility. In view of its location with respect to aggregate quarries in the County it is likely that any use as a railhead would be for importing aggregates for local construction rather than for export. Rail delivery through a spur to this facility from the main line would take some HGVs off the local road network and could deliver aggregates to the main construction market of Gloucester. The economic consequences of this for the site have not been demonstrated and as stated above the MOD feasibility study did not consider this possibility. But as no quarry companies use the existing facilities and other developments are planned for the site it is unlikely to become or be proposed by industry as a deliverable transport facility for aggregates during the period of the MLP. Moreover, as the County’s aggregates industry is capable of supplying most of the County’s construction needs and the nearest importing quarries are only in South Gloucestershire and the historic proportion of imported aggregates is low, the case for a railhead for aggregates in the county at this location is debatable. Table 2 requires no amendment following this response as Ashchurch is not formally identified as an ‘existing’ or ‘planned’ proposal for bulk transfer of minerals at this stage.

In addition it should be clarified to TBC that there are sand and gravel resources present within the bulk of the Joint Core Strategy strategic allocation for Ashchurch. Notwithstanding the approach the MPA takes forward with regards the MSA through the MLP this is a matter to consider through the future development proposal. Alongside that there might be scope in such future proposals for use of the rail line for example by moving construction materials to the development which would be more sustainable that road movement.

Policy B. Sites for bulk transportation of minerals and ancillary processing sites for aggregates that are shown on the Proposals Map will be safeguarded from incompatible development that could adversely affect their operation by a
safeguarding zone around the site. Planning permission for such development within the safeguarding zone will not be granted unless it can be clearly demonstrated that there will be no incompatibility between the two uses or that adequate controls can be implemented to ensure this to be the case.

**Stakeholder responses February 2014**

- **Tewkesbury BC:** The approach in Policy B is not supported. See comments in respect of Table 2 above regarding Ashchurch railhead.
  
  GCC response: See comments in respect of Table 2 above regarding Ashchurch railhead. To confirm Ashchurch is not formally proposed for safeguarding at this stage.

- **Deputy Gaveller:** The approach in Policy B is partially supported.
  
  GCC response: Noted.

- **Gloucestershire CC (Archaeology):** The approach in Policy B is supported.
  
  GCC response: Noted.

- **Herefordshire Council:** The approach in Policy B is particularly as the policy shows a considered, longer term approach to the development of such sites.
  
  GCC response: Noted.

- **Cotswold DC:** The general approach in Policy B is supported but until the council can see the actual sites in detail and correlate with the emerging local plan it is difficult to provide a detailed response. On going engagement to identify sites for transportation would be welcomed.
  
  GCC response: Noted. Details of the sites will be provided as engagement with stakeholders continues.

- **Wiltshire CC:** The approach in Policy B is supported and is consistent with the approach taken by Wiltshire and Swindon.
  
  GCC response: Noted.

- **Coal Authority:** Policy B is generally justified and effective.
  
  GCC response: Noted.
13.0 District level plans

13.1 Step six of the *Guide to Mineral Safeguarding in England; good practice advice* is concerned with the role of District Councils in helping to safeguard mineral resources in two tier authority areas, such as Gloucestershire, and the use of a consultation procedure to facilitate this.

13.2 In order for the mineral resources to be protected as appropriate, it will be necessary for the County Council as MPA, to ensure that;

- the District Councils in Gloucestershire and neighbouring District and County Councils are aware of the MSAs and any potential buffer zones that may be adopted in the Gloucestershire MLP
- the District Councils in Gloucestershire show the MSAs on their Proposals Maps in their entirety
- that policies relating to safeguarding mineral resources are complied with before non mineral development is approved.

Section 8 Development Management

13.3 Step 7 of the BGS guidance on safeguarding mineral resources considers how non-mineral planning applications and their potential effect on the resources may be fully assessed by the relevant planning authority. Normally the District Council will deal with these applications but on occasion the County Planning Authority may be the determining authority.

13.4 In both cases the consideration of the potential effect of an application on mineral resources would be aided by the submission of an accompanying minerals assessment (MA) by the applicant. However, the need for an assessment is not automatic as there may be instances when one is not necessary. Moreover if an assessment is needed the amount of information that is required and the nature of the assessment can be identified if there are also pre application discussions with the District Planning Authority/MPA as appropriate and if the District Council seeks the advice of the MPA in the case of an application to be determined by that authority.

13.5 In order to achieve the submission of an assessment and to encourage pre application discussions, the application validation procedure of the planning authorities should include the submission of a mineral assessment where the development proposal falls within an MSA and is not ‘exempt’ development. This would be set out in the local list of information that is required for the application to be registered as a valid application. Minor types of development may be specified in the list as being exempt from the need for an assessment but those that are not should be accompanied by a proportionate assessment.

13.6 The local lists that are used by the planning authorities in Gloucestershire do not currently include the need for a minerals assessment but it is
intended that the identification of MSAs in this MLP will encourage District Councils to review their lists in light of the need to safeguard mineral resources. The principles and criteria for list preparation and review are set out in guidance from DCLG\textsuperscript{10} and with respect to minerals safeguarding are amplified in the BGS report of 2011.

13.7 The identification of MSAs is a major initial step in protecting mineral resources but in order for Policy A to be effective a mechanism needs to be set up for the District Councils in Gloucestershire (and potentially for neighbouring District and County Councils) to consult the MPA on:

a. any application for non minerals development within the area of an MSA and

b. any existing or proposed policy or proposal in a District Plan for non mineral development within the area of an MSA

13.8 Legislation already provides for consultation on planning applications for development within areas of land which an MPA has chosen to notify to its District Councils as being land within which development is likely to affect or be affected by the winning and working of minerals, other than coal. This is provided for under the T&CP Act 1990 but was earlier required in legislation in 1980 which then saw the County Council identify a MCA to safeguard sand and gravel resources in the Upper Thames Valley and give a commitment in the Gloucestershire Minerals Local Plan 2003 to potentially defining additional MCAs for other parts of the county. Under MCA legislation District Councils are obliged to consult the MPA on relevant applications for non mineral development that fall within a MCA.

13.9 MCAs, however, are not a mechanism for safeguarding; they are a separate but complementary consultation process to ensure there is dialogue between the MPA and its District Councils in areas of two tier planning authorities on planning applications for non mineral development within defined MCAs that are not exempt from consultation. However, paragraph 143 of the NPPF requires MCAs to be based on MSAs. The area of MCAs may also be greater or less than that of MSAs because MCAs are also defined to protect other interests that are likely to be affected by the winning and working of minerals, other than coal, from the effects of mineral working e.g. noise, blasting and dust. The boundary of a MCA may therefore extend beyond the actual limit of the mineral resource to cater for this requirement. Emerging practice in more recent minerals DPDs suggests the common approach is simply to adopt MSAs as MCAs. Subject to the outcome of what MSAs are defined in Gloucestershire it is likely that these will also form the basis for MSAs.

\textsuperscript{10}Guidance on information requirements and validation DCLG March 2010
13.10 Subject to the finalisation of the MSAs taken forward and the exact form of the safeguarding policy, the implementation of the MSA approach by District Councils will be through the following standing advice

**Standing Advice for implementation of Policy A.**

District Councils should consult the County Council on any planning application they receive for non minerals development which falls within the boundary of a MSA or within a safeguarding zone of an ancillary minerals facility other than applications for:

- householder development within the curtilage of a residential property
- the alteration or extension to existing buildings or for a change of use of an existing building whose use would not be incompatible with mineral extraction
- minor developments such as walls, fences and works to trees
- advertisements
- reserved matter development unless the MPA required to be consulted at this determination stage
- Conservation or Listed Buildings consent
- Certificates of Lawfulness

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**Stakeholder responses February 2014**

Tewkesbury BC: The approach in Policy A Standing Advice is partially supported subject to additional text being inserted for Policy A. Development Management colleagues may wish to comment on this issue but any such response will be provided separately.

GCC response: See response to respondent’s comments on Policy A. No comments received from the Council’s Development Management officers

Deputy Gaveller: The approach in Policy A Standing Advice is partially supported.

GCC response: Noted.

Gloucestershire CC (Archaeology): The approach in Policy A Standing Advice is supported.

GCC response: Noted

Herefordshire Council: The approach in Policy A Standing Advice is supported.
GCC response: Noted

Cotswold DC: The approach in Policy A Standing Advice is a reasonable approach and is supported. Note there is no longer Conservation Area Consent applications –suggest this is removed from the list.

GCC response: Noted. An appropriate amendment will be made and also to Policy A which has the same reference.

Wiltshire CC: The approach in Policy A Standing Advice is supported and is consistent with the approach taken by Wiltshire and Swindon.

GCC response: Noted.
### Appendix 1: List of Consultees

<table>
<thead>
<tr>
<th>Organisation Details</th>
<th>Organisation Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deputy Gavellers Office Forestry Commission</td>
<td>Herefordshire County Council</td>
</tr>
<tr>
<td>Brick Development Association</td>
<td>South Gloucestershire County Council</td>
</tr>
<tr>
<td>Cotswold Stone Quarries</td>
<td>Euston Park Developments Ltd</td>
</tr>
<tr>
<td>Aggregate Industries UK Ltd</td>
<td>Stratford-on-Avon District Council</td>
</tr>
<tr>
<td>Clearwell Quarries Ltd</td>
<td>Coleford Brick and Tile Company</td>
</tr>
<tr>
<td>Gloucestershire County Council</td>
<td>The Bromsberrow Sand and Gravel Co</td>
</tr>
<tr>
<td>Richard Read Transport Ltd</td>
<td>Stone Supplies Ltd</td>
</tr>
<tr>
<td>Stanleys Quarry</td>
<td>Cotswolds Conservation Board</td>
</tr>
<tr>
<td>Planning Services Forest of Dean District Council</td>
<td>Birch Hill Quarry</td>
</tr>
<tr>
<td>Minerals and Waste Team Leader Gloucestershire County Council</td>
<td>Area Land Agent Forestry Commission</td>
</tr>
<tr>
<td>Stanway Slate Company</td>
<td>Vale of White Horse District Council</td>
</tr>
<tr>
<td>Huntsmans Quarries Ltd</td>
<td>Swindon Borough Council</td>
</tr>
<tr>
<td>Natural England</td>
<td>The Coal Authority</td>
</tr>
<tr>
<td>Copes Quarry</td>
<td>Grundon Waste Management</td>
</tr>
<tr>
<td>Greenfield Associates</td>
<td>Wye Valley AONB Partnership</td>
</tr>
<tr>
<td>Planning Officer Gloucestershire County Council</td>
<td>Gloucester City Council</td>
</tr>
<tr>
<td>Stone Federation Great Britian</td>
<td>Stroud District Council</td>
</tr>
<tr>
<td>Land and Mineral Management Ltd</td>
<td>Astonbridge Quarry</td>
</tr>
<tr>
<td>Smiths (Gloucester) Ltd</td>
<td>Shakemantle Quarry</td>
</tr>
<tr>
<td>Head of Planning Wyachavon District Council</td>
<td>Malvern Hills AONB Partnership</td>
</tr>
<tr>
<td>Cheltenham Borough Council</td>
<td>United Kingdom Onshore Operators Group</td>
</tr>
<tr>
<td>British Aggregates Association</td>
<td>Northcot Brick Ltd</td>
</tr>
<tr>
<td>British Ceramic Federation</td>
<td>Worcestershire County Council</td>
</tr>
<tr>
<td>Hanson Aggregates UK</td>
<td>Forward Plan Forest of Dean District Council</td>
</tr>
<tr>
<td>Organisation Details</td>
<td>Organisation Details</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>-----------------------------------------------------------</td>
</tr>
<tr>
<td>Syreford Quarries &amp; Masonry Ltd</td>
<td>Hills Minerals and Waste Ltd</td>
</tr>
<tr>
<td>Oxfordshire County Council</td>
<td>Senior Planning Officer</td>
</tr>
<tr>
<td></td>
<td>Herefordshire Council</td>
</tr>
<tr>
<td>Cotswold Natural Stone</td>
<td>Freeminers Association</td>
</tr>
<tr>
<td>Nailbridge Quarry</td>
<td>Wiltshire Council</td>
</tr>
<tr>
<td>Gloucestershire Geology Trust</td>
<td>English Heritage - South West Region</td>
</tr>
<tr>
<td>Johnston Quarry Group</td>
<td>Mineral Products Association</td>
</tr>
<tr>
<td>Foward Planning Team</td>
<td>Principal Ecologist</td>
</tr>
<tr>
<td>Cotswold District Council</td>
<td>Gloucestershire County Council</td>
</tr>
<tr>
<td>Clearwell Quarries Ltd</td>
<td>Tewkesbury Borough Council</td>
</tr>
<tr>
<td>Head of Community Services</td>
<td>Monmouthshire County Council</td>
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<tr>
<td>Malvern Hills District Council</td>
<td></td>
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<tr>
<td>Forest of Dean Stone Firms Ltd</td>
<td>Warwickshire County Council</td>
</tr>
<tr>
<td>Farmington Natural Stone</td>
<td>Tarmac Ltd</td>
</tr>
<tr>
<td>Savills (LandP) Ltd</td>
<td>Eliott and Sons Ltd</td>
</tr>
<tr>
<td>Confederation British Industry</td>
<td>Monument Quarry</td>
</tr>
</tbody>
</table>
Appendix 2: Glossary of Terms

AGGREGATES – Sand, gravel, crushed rock and other bulk materials used by the construction industry

ALLUVIAL DEPOSITS – Layer of broken rocky matter, or sediment, formed from material that has been carried in suspension by a river or stream and dropped as the velocity of the current decreases

BUILDING STONE – Naturally occurring rock, which is sufficiently consolidated to enable it to be cut or shaped for use as a walling, paving or roofing material

BROWNSTONE – A type of sandstone used for building stone purposes. In Gloucestershire it occurs as a purple-red and green stone and outcrops in the Forest of Dean

CARBONIFEROUS – A major division of geological time. It approximately covers the period between 330 and 290 million years ago

CORE STRATEGY – Sets the long-term spatial vision and strategy for the local planning authority area and provides the strategic locations for future development opportunities

CRUSHED ROCK – Generic term used to describe mechanically fragmented rock, which can then be used as an aggregate mineral (see aggregates)

DEVONIAN – A geological period from around 400 million years ago

DEVELOPMENT PLAN – Sets out the policies and proposals for development and the use of land within the local planning authority area

DOLOMITE – A carbonate rock rich in Magnesium Calcium Carbonate CaMg(CO3)2

FLUVIAL / FLUVIAL GLACIAL DEPOSITS – Material laid down within a river environment, or as a result of a river environment created by glacial melt water

FREESTONE – A stone that can be freely worked in any direction.

GLACIATION – the condition of being covered with glaciers or masses of ice

ICE AGES – A cold period marked by episodes of extensive glaciation alternating with episodes of relative warmth

JURASSIC – A major division of geological time. It covers the period between 200 and 130 million years ago
LIAS – The term to describe the lowest of the three divisions of the Jurassic period (see Jurassic). In England and Europe it mainly covers marine sediments and clays that underlie Oolitic limestone (see Oolitic limestone).

LIMESTONE – A carbonate rock made up of Calcium Carbonate (CaCO3).

MINERAL PLANNING STATEMENTS (MPS) – Guidance documents, which set out national policy for minerals

OOLITIC LIMESTONE – A carbonate rock made up mostly of ooliths (or ooids), which are sand-sized carbonate particles that have concentric rings of CaCO3 (Calcium Carbonate). These rings are formed around grains of sand or shell fragments that were rolled around on the shallow sea floor, gathering layer after layer of limestone.

PENNANT SANDSTONE – The term used to cover all sandstone quarried from the Carboniferous period that outcrop in South Wales and the Forest of Dean in Gloucestershire.

PERMIAN – A relatively short period of geological time between approximately 290 and 250 million years ago.

RESERVES – Known mineral deposits with the benefit of planning permission for extraction.

RESOURCES – A potential mineral deposit where the quality and quantity of material has not been fully tested. Resources do not benefit from planning permission.

SAND & GRAVEL – A finely divided rock, comprising of particles or granules that range in size from 0.063 to 2mm for sand, and up to 64mm for gravel. It is used as an important aggregate mineral.

SHARP SANDS – coarser sands used in the construction industry for products such as concrete.

SOFT SANDS – finer sands used in the production of mortar and asphalt.

SUPERFICIAL DEPOSITS – refer to all geological deposits of Quaternary age (approximately 3 million years ago to the present day).

TILL – An unstratified, unconsolidated mass of boulders, pebbles, sand, and mud deposited by the movement or melting of a glacier. The size and shape of the sediments that constitute till vary widely.

TRIASSIC – A relatively short geological period from roughly 250 to 200 million years ago.
Appendix 3: Evidence Base

The following texts and information sources have contributed to the geological review and mineral resource assessments carried out: -

British Geological Survey (BGS) Geology of the Country around Tewkesbury
British Geological Survey (BGS) Minerals Planning Factsheets: -
  - Brick Clay;
  - Building and Roofing Stone;
  - Construction Aggregates;
  - Coal and Coalbed methane
British Geological Survey (BGS) Minerals Profiles: -
  - Coal;
  - Building and Roofing Stone
British Geological Survey (BGS) Mineral Resource Information in Support of National,
Regional and Local Planning – Gloucestershire (comprising Gloucestershire and South Gloucestershire) (2006)
Department for Business, Enterprise and Regulatory Reform (BERR) Overview of the work of the UK Coal Forum (2006-2007)
Gloucestershire County Council (GCC) Minerals Local Plan (1997-2006)
Local Heritage Initiative Programme (LHI) The Forest of Dean Local History Society Project Articles (2001-2006)
Stone Atlas for Gloucestershire
T. Oldham The Mines of the Forest of Dean and Surrounding Areas (1999)