



## Minerals Topic Paper 6:

# Mineral Safeguarding Areas

Version 2



**Somerset County Council**

## Minerals and Waste Development Framework

**January 2014**

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Cover photographs: main image of Whatley Quarry (taken by SCC); smaller images top to bottom: View from within the working area of a building stone quarry (taken by SCC); Ham Wall National Nature Reserve (supplied by Natural England); construction using Douling Stone; peat workings (supplied by Natural England).

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For further details of the Somerset Minerals and Waste Development Framework, and to view and download this and other documents, please visit our website.

[www.somerset.gov.uk/mineralsandwaste](http://www.somerset.gov.uk/mineralsandwaste)

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# 1 Introduction

- 1.1 This paper is one of a series of topic papers supporting the Somerset Minerals Plan. These topic papers provide detailed information on key topics; this paper focuses on mineral safeguarding in Somerset.
- 1.2 This paper on mineral safeguarding will consider the geological resource itself (such as limestone) and associated infrastructure/facilities, such as wharves, railheads, and production facilities for concrete and asphalt materials and for the production of alternative materials.
- 1.3 This paper covers the following:
- What 'safeguarding' is, and how it will be used
  - How safeguarding is embedded in national policy, and at a local level
  - Suggested approach for safeguarding minerals
  - Suggested approach for safeguarding minerals infrastructure
  - Timeframes and inclusion of safeguarding within Development Plan Documents
  - Approach to implementing safeguarding in Somerset, and onwards dialogue with key stakeholders.
- 1.4 For further information on the Minerals and Waste Development Framework, and how this paper relates to other parts, please visit

[www.somerset.gov.uk/mineralsandwaste](http://www.somerset.gov.uk/mineralsandwaste)

## 2 What is Safeguarding?

- 2.1 Land, resources and infrastructure can all be safeguarded. This safeguarding process allows planning authorities to limit development that could jeopardise planning options for future generations. Safeguarding is a key component of embedding sustainable development into planning in Somerset. The Government, as part of its commitment to simplify the planning system, and embed sustainable development, published the National Planning Policy Framework in March 2012<sup>1</sup>. The National Planning Policy Framework requires local authorities to safeguard mineral resources and associated infrastructure, while good practice guidance is provided by the British Geological Survey<sup>2</sup>.
- 2.2 Safeguarding mineral resources simply means that the presence of mineral resources is flagged up for consideration alongside all other issues that are taken into account when deciding whether to grant planning permission for non-mineral development. It may be that the non-mineral development can be located in an alternative more sustainable location, or that the mineral can be removed prior to the development being constructed (known as prior-extraction), or, on balance, the overriding need for the development is greater than the need for the mineral.

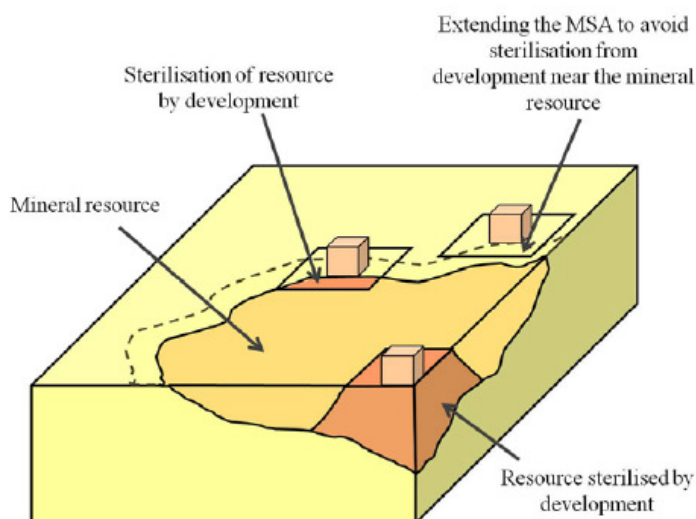


Figure 1: Diagram illustrating sterilisation of near surface mineral resource<sup>3</sup>.

- 2.3 Minerals are a valuable resource in Somerset and as such, require protection from sterilisation. Sterilisation means that the mineral can no longer be worked, or extracted; examples of sterilisation would be if a building was built on top of the resource, or close to it. It is unlikely and impractical to extract minerals after development has taken place.

<sup>1</sup> Communities and Local Government (2012) National Planning Policy Framework.

<sup>2</sup> BGS and the Coal Authority (2011) Mineral Safeguarding in England: good practice guide.

<sup>3</sup> Diagram illustrating sterilisation taken from Mineral Safeguarding in England: good practice guide. British Geological Survey. Available: [www.bgs.ac.uk/downloads/start.cfm?id=2069](http://www.bgs.ac.uk/downloads/start.cfm?id=2069)

- 2.4 Safeguarding of minerals in Somerset applies mainly to surface minerals. There are certain mineral resources, such as coal bed methane which could benefit from safeguarding, but it is difficult to determine the extent of these minerals which occur so deep in the ground. Should a surface access site be developed for a mineral such as this in the future, it may warrant safeguarding. There are no such sites in Somerset at the time of writing.
- 2.5 By safeguarding a mineral resource, **this is not a presumption that this mineral will be extracted**, or that it will prevent non mineral development from occurring. It is an important mechanism for all levels of the planning system to recognise the resource and act accordingly.
- 2.6 Safeguarding can also apply to the infrastructure needed to enable the extraction, processing and transportation of minerals operations. This infrastructure could include railheads, wharves or alternative production facilities. It is equally important that these facilities are not lost to other development which happens close by, and noting that not all infrastructure of this nature will merit safeguarding, just as not all mineral resources will justify a safeguarded status.
- 2.7 It is important to strike a balance when safeguarding infrastructure. It is important not to jeopardise development by 'over safeguarding'. Where sites have a long term future for involvement in minerals operations then they should be considered for safeguarding.

### 3 How safeguarding is embedded in national policy, and at a local level in Somerset

- 3.1 As mentioned Government policy<sup>4</sup> and good practice guidance<sup>5</sup> requires mineral planning authorities (such as Somerset County Council) to adopt appropriate policies to provide protection for proven economic mineral resources of local and national importance; to minimise the opportunity of these resources becoming sterilised and unable to be worked.

#### National policy

- 3.2 The National Planning Policy Framework<sup>6</sup> (NPPF) sets out national policy with regards to minerals safeguarding.
- 3.3 Minerals policy was previously contained in Mineral Policy Statement 1: Planning and Minerals, which has been superseded by the National Planning Policy Framework.
- 3.4 The National Planning Policy Framework<sup>7</sup> contains the following provisions regarding safeguarding:

#### **In preparing Local Plans, local planning authorities should:**

- define Minerals Safeguarding Areas and adopt appropriate policies in order that known locations of specific minerals resources of local and national importance are not needlessly sterilised by non-mineral development, whilst not creating a presumption that resources defined will be worked; and define Minerals Consultation Areas based on these Minerals Safeguarding Areas;
- safeguard:
  - existing, planned and potential rail heads, rail links to quarries, wharfrage 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; and
  - 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.

<sup>4</sup> National Planning Policy Framework (paragraph 143)

<sup>5</sup> BGS and the Coal Authority (2011) Mineral Safeguarding in England: good practice advice.

<sup>6</sup> Available: <https://www.gov.uk/government/policies/making-the-planning-system-work-more-efficiently-and-effectively/supporting-pages/national-planning-policy-framework>

<sup>7</sup> National Planning Policy Framework (paragraph 143)



## **Current Somerset Policy**

### **Adopted Minerals Local Plan**

- 3.5 The Somerset Minerals Local Plan<sup>8</sup> (adopted 2004) sets the current minerals policy for Somerset; information contained within this is used to determine all mineral related applications. The Minerals Local Plan contains policy (M31) which seeks to protect minerals from sterilisation by way of Mineral Consultation Areas; however this policy doesn't necessarily fully reflect the requirements of the National Planning Policy Framework.

### **Somerset Mineral Plan (currently in preparation)**

- 3.6 The Minerals Options Paper consultation (closed 12 February 2012) was published before the National Planning Policy Framework was adopted by National Government. The National Planning Policy Framework introduced new requirements and policy areas for Somerset County Council as Mineral Planning Authority. The National Planning Policy Framework reformed the planning system replacing a suite of National Policy Statements, and Minerals Policy Statements and Guidance thereby requiring greater information to be included in Minerals Plans.
- 3.7 Since the Minerals Options consultation, new research and related developments on policy, such as energy minerals, required further consideration and consultation. Consultation workshops and meetings have been taking place to inform preferred policy. All consultation feedback from the Minerals Options consultation, and research and consultation since the consultation ended has helped to inform the preferred policy included in the Preferred Options document published for consultation from 11 January 2013 to 08 March 2013. This document can be accessed at:  
<http://www.somerset.gov.uk/irj/public/services/directory/service?rid=/guid/b0bcbc12-1bd1-2c10-2681-d4120b79c72d>.
- 3.8 The Preferred Options document was produced to allow Somerset County Council to:
- Consult on new elements such as energy minerals.
  - Consult on elements of the Minerals Options consultation which require further clarity.
  - Consult on the preferred policy options for all minerals within Somerset.
  - Provide an opportunity for further consultation with a wide range of stakeholders, including the general public.
- 3.9 Feedback from the Preferred Options consultation and consultation on this Topic Paper has guided the preparation of information contained in the safeguarding chapter in the Pre-submission Somerset Minerals Plan.
- 3.10 Somerset County Council will continue to work with District and Borough Authorities to firmly embed minerals planning policy across the County, including its approach to minerals safeguarding.

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<sup>8</sup> Available from:

<http://www.somerset.gov.uk/irj/public/services/directory/service?rid=/guid/d03290c0-5336-2c10-439d-df414372f47e>

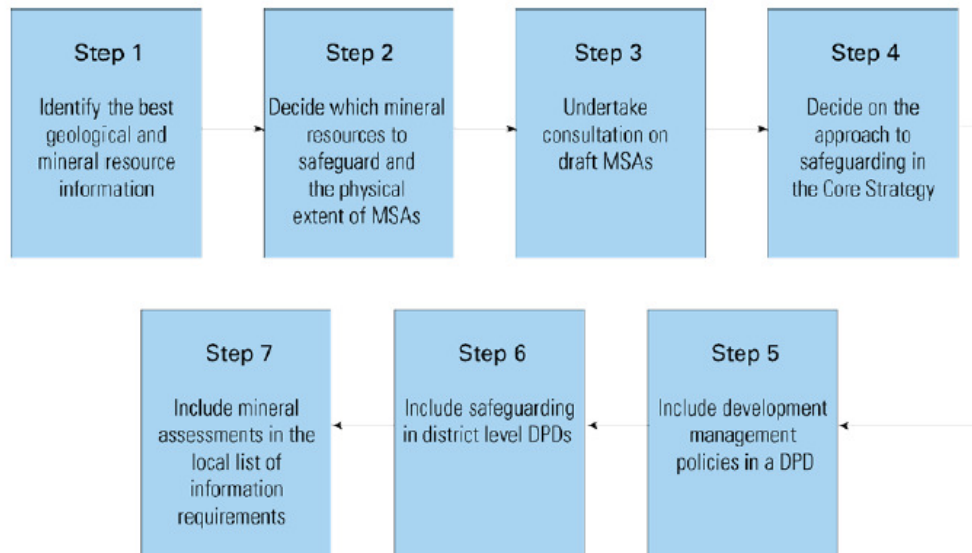


## 4 Which minerals are found in Somerset?

- 4.1 Somerset is one of the biggest mineral producing counties in England – for crushed rock in particular. It extracts aggregate, building stone (there are many different types) and peat. There is also the potential to extract oil and gas. A brief summary of each of these mineral types is provided below.
- 4.2 **Aggregates** – Somerset is the largest producer of crushed-rock aggregate in the south of England with an average of 10 to 12 million tonnes produced over recent years. The vast majority is extracted from the quarries in the east Mendip Hills of which a significant proportion is exported to other counties by rail. Quarries in the Mendip Hills Area of Outstanding Natural Beauty (AONB) and those located close to Bridgwater meet more local markets. Relatively minor quantities of sand and gravel are worked on the Devon border.
- 4.3 **Building Stone** – A variety of stones and stone products are produced to meet local need. Quarries tend to be quite small and are spread across the county. These stones help to contribute to Somerset's local built heritage and character. Examples are Forest Marble, Ham Hill, Doulting and Hadsen building stones.
- 4.4 Building stone has an important role to play in maintaining supply for localised areas of the county, and markets outside of the county for building stones to be used on existing buildings for restoration, conservation and extensions as well as for new building work. This is especially important for Conservation Areas, of which there are in excess of 170 in Somerset. The importance of this local distinctiveness is becoming increasingly recognised and the maintenance of the built heritage is now a significant issue to society. This has led to an increase in the demand for stone.
- 4.5 **Peat** - Peat is an organic soil formed mainly from the remains of plants that are predominantly sedge with limited areas of sphagnum moss in raised peat bogs. Located in the Somerset Levels and Moors - a low lying wetland area within Mendip and Sedgemoor districts. This area is subject to a number of historic environment and environmental designations.
- 4.6 **Energy minerals**, which comprise coal, oil and gas deposits also occur in Somerset. These are generally at a greater depth than the minerals previously mentioned, and are less susceptible to sterilisation from surface development. The Coal Authority is responsible for coalfields, and has provided data to Somerset County Council regarding the Coal resource in Somerset. This will be safeguarded in Somerset, based on Coal Authority data.
- 4.7 All information relevant to the minerals policy work undertaken by Somerset County Council, including additional topic papers on aggregates, building stone, peat, energy minerals and reclamation can be found on the following website: [www.somerset.gov.uk/mineralsandwaste](http://www.somerset.gov.uk/mineralsandwaste)

## 5 Safeguarding justification

- 5.1 In line with the best practice guide developed and published by the British Geological Survey, the following steps have been implemented in the identification of mineral safeguarding areas.



- 5.2 Somerset County Council has used the Mineral Resource map for Somerset. This map was provided by the British Geological Survey to each county in the country for the purpose of identifying mineral safeguarding areas. This map can be found at <http://www.bgs.ac.uk/mineralsuk/search/home.html> (Mineral resource maps, England → South West).
- 5.3 The data contained on this resource map, along with the corresponding report is considered by BGS to illustrate areas of Somerset which contain economically viable mineral resources. In the Minerals Options consultation, run by Somerset County Council in early 2012, the suggested safeguarded minerals were taken from this map and the 1:50,000 scale British Geological Survey digital geological map data, along with local knowledge of mineral reserves. This data forms the base for identifying the Mineral Safeguarding Areas for Somerset.

## 6 Mineral Consultation Areas

- 6.1 Two separate designations are used for mineral safeguarding: Mineral Safeguarding Areas and Minerals Consultation Areas, which are defined as:
- **Mineral Safeguarding Areas** – designate proven economic mineral resources so they are not needlessly sterilised by non-mineral development.
  - **Mineral Consultation Areas** – identify the areas within Somerset County Council where the district and borough authorities are required to consult the Mineral Planning Authority over non-minerals development.
- 6.2 The Mineral Safeguarding Areas identified by the County Council will be presented on proposal maps in the local Development Plan. This enables planning authorities to ensure that mineral resources are not unnecessarily sterilised when they consider planning applications.
- 6.3 For robust safeguarding and to allow for adequate consultation to be carried out between the County Council, and District and Borough planning authorities, the whole of the extent of the Mineral Safeguarding Areas in Somerset will be covered by Mineral Consultation Areas.
- 6.4 When a District or Borough planner receives a planning application they will check which designations apply within the location of that application. Mineral Consultation Areas will be incorporated in their development plans and the district planner will therefore know to notify the Minerals Planning Authority (the County Council) about the proposal. This will allow the Minerals Planning Authority time to comment on the significance of that proposal on the winning and working of minerals before the District or Borough determines the planning application for the non-mineral development.
- 6.5 As such, Mineral Consultation Areas are proposed to highlight the Mineral Safeguarding Areas to all interested stakeholders and promote cross working and a cohesive planning approach to safeguarding. This designation means that should a planning application be submitted, at district level within Somerset for non-minerals development, the County Council will be consulted and required to comment on the application.
- 6.6 For some types of non-mineral development, the sterilising effect on mineral resources may be negligible. As is currently the situation<sup>9</sup> there will be a list of exemptions for those planning applications which, if granted planning permission, would not have a detrimental effect on a mineral resource or infrastructure. The proposed exemption list is detailed below;

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<sup>9</sup> In the current adopted Minerals Local Plan. See Appendix One of the Minerals Local Plan for detail -

<http://www.somerset.gov.uk/irj/public/services/directory/service?rid=/guid/d03290c0-5336-2c10-439d-df414372f47e>

**6.7 Proposed Exemption list:**

- Applications for householder development within the curtilage of a property.
- Applications for extensions or alterations to existing buildings and for change of use of existing development which do not fundamentally change the scale and character of the building/use.
- Development in accordance with allocations of an adopted or deposited local plan where the plan took account of prevention of unnecessary mineral sterilisation and determined that prior extraction should not be considered when development applications in a Mineral Safeguarding Area came forward.
- Minor developments such as fences, walls, bus shelters and works to trees.
- Advertisement applications.
- Applications for temporary planning permission.
- Reserved Matter applications unless the Mineral Planning Authority specifically requested consultation at the outline stage.
- Applications for Listed Building Consent unless specifically requested.

6.8 Preferred Policy to implement this approach to safeguarding is included in the Preferred Options paper, and will be subject to revision in the Pre-Submission Somerset Mineral Plan.

## 7 Extent of the resource to be safeguarded

- 7.1 Within England, the British Geological Survey provide planning authorities with detailed maps showing the mineral resource in the county (see Para 5.2 for more information).
- 7.2 The entire extent of aggregate mineral resource in Somerset is not proposed for safeguarding. Instead, the best current estimate of economically viable resources is proposed for safeguarding for future possible use. Noting the large scale of existing aggregate operations in Somerset, it was considered that safeguarding the entire resource would dilute the effectiveness of the safeguarding process. By concentrating on areas which are currently quarrying, or identified sites which have the potential to in the future, expanded by an appropriate buffer (see below), Somerset County Council consider that the safeguarding mechanism is stronger and more likely to protect these important resource areas.
- 7.3 Following consultation on this approach, industry feedback highlighted additional areas of aggregate resources that should be safeguarded. In particular, these include an extension of the safeguarding area around the Binegar and Gurney Slade quarry complex to safeguard an extra area of buffer to ensure geological resource could, in theory, be worked up to the edge of the resource area, and an extension around the Moons Hill quarry complex. The MSAs have been revised in response to the feedback received.
- 7.4 The concept of using buffers around identified resource areas was tested via the Options and Preferred Options consultations, including suggested buffer widths. These suggested buffers, which are detailed in Table 1, were well received in the consultation, with 60% of respondents agreeing that the buffer zones were appropriate. These buffers have been added to the relevant minerals resource safeguarding areas illustrated in the maps included in Appendix 1.

**Table 1 – Suggested buffer widths for aggregate quarries**

<b>Mineral Working</b>	<b>Minimum buffer</b>
Low output aggregate quarries	200m
Higher output aggregate quarries	400m

- 7.5 For building stone, a revised approach was taken, informed by identification of the range of building stone types that may be needed during the plan period and the need for the County Council to support the extraction of a wider range of stone types (potentially including new locations for small-scale quarrying).
- 7.6 Research has identified stone types already worked in Somerset for which current supply may be sufficient to meet demand over the plan period and those identified as “needed”. Of 17 stone types identified as “needed” only two are currently worked: namely blues and white lias.

- 7.7 Set in this context, MSAs cover the whole of the building stone resource for each listed building stone type, except for blue and white lias, inferior oolite limestones and Lower Carboniferous limestones. Minerals Topic Paper 2 includes a detailed description of the rationale and approach taken.
- 7.8 It is noted that when defining the extent of safeguarding areas the inclusion or exclusion of urban areas and environmental designations needs to be considered; it should be borne in mind that mineral safeguarding is not precluded by the presence of either.
- 7.9 Additionally, defining Mineral Safeguarding Areas in urban areas avoids disputes over the definition of what constitutes an urban area and the need to amend Mineral Safeguarding Areas to reflect urban expansion. Guidance<sup>10</sup> indicates that these areas should only be removed from Mineral Safeguarding Areas in exceptional circumstances, for example where the mineral extraction method would be incompatible with working in a built up area, such as blasting required for hard-rock extraction. The exclusion of any areas from Mineral Safeguarding Areas is justified in Appendix 2.

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<sup>10</sup> BGS and the Coal Authority (2011) Mineral Safeguarding in England: good practice advice.

## **8 Which minerals are to be safeguarded?**

- 8.1 It is proposed that for the purposes of safeguarding all minerals currently worked should be safeguarded for the future. These minerals were proposed for safeguarding in the 2012 Somerset Minerals Options paper consultation, and 88% of respondents agreed with the proposed list.
- 8.2 Safeguarding does not attempt to predict how much resource will be needed over the plan period but safeguards the viable mineral resource. Viability will change over time, whereby resources currently considered non-viable may potentially become viable for working in the plan period due to demand or changing economic circumstances.
- 8.3 It is intended to safeguard the mineral resources listed in Table 2. Table 2 includes resources that are currently worked and those that are not currently worked but may become economic again. Further information regarding building stones to be safeguarded that are not currently worked is presented in Minerals Topic Paper 2. Appendix 2 includes justification for why these resources have been proposed for safeguarding and how their respective geographical areas have been designated as Mineral Safeguarding Areas. Appendix 1 includes detailed maps illustrating the Mineral Safeguarding Areas.
- 8.4 Informed by feedback from Somerset County Council Preferred Options consultation and changes in national policy, it should be noted that some mineral resource areas are proposed to be safeguarded as both aggregate and building stone, as they have been used for both purposes – historically and recently. Therefore they appear in Table 2 in more than one category.
- 8.5 The National Planning Policy Framework's takes the stance that local planning authorities should not identify new sites or extensions to existing sites for peat extraction, nor grant planning permission for extraction from new or extended sites; therefore, in line with this national policy, peat reserves in Somerset will not be safeguarded.
- 8.6 Preferred Policy to safeguard these resources is included in the Preferred Options paper, and may be subject to revision in the Pre-Submission Somerset Mineral Plan.



**Table 2: Mineral resources to be safeguarded in Somerset**

Aggregates			
Crushed rock:		Sand and Gravel:	Appendix 1: Map 1, Map 3
Carboniferous limestone	Appendix 1: Map 1, Map 2	River Terrace sand and gravel	
Silurian andesite		Sub-alluvial sand and gravel	
Devonian Sandstones (high Polished Stone Value - namely the Hangman Sandstone Formation)	Appendix 1: Map 1, Map 3	Bedrock sand (Budleigh Salterton Pebble Beds)	
Building Stones			
Currently worked		Currently not worked	
Cornbrash	Appendix 1: Map 1, Map 5	Chalk (Chert/Flint)	Appendix 1: Map 1, Map 6
Forest Marble		Calcareous Grit (Upper Greensand)	
Ham Stone		Inferior Oolite (Misterton Stone)	
Inferior Oolite (including Hadspen Stone and Doulting Stone)		Marlstone (including Moolham Stone and Petherton Stone)	
Blue Lias		Yeovil Stone	
Budleigh Salterton Pebble Beds (Milverton Stone)		Dolomitic Conglomerate (Draycott Stone)	
White Lias		Wedmore Stone	
Capton Sandstone		North Curry Sandstone	
		Otter Sandstone (including Lydeard Stone and Nyngham Sandstone)	
		Wiveliscombe Sandstone	
		Lower Carboniferous Limestone (including Vallis Limestone, Cheddar Oolite, Cheddar Limestone, Chinastones, Cannington Park Limestone)	
		Hangman Sandstones (including Triscombe Stone, Trentishoe Grits)	
		Ilfracombe Slates	
		Morte Slates	
Other Resources			
Surface Coal			Appendix 1: Map 1, Map 4

## 9 Minerals infrastructure to be safeguarded

- 9.1 The National Planning Policy Framework requires mineral planning authorities to safeguard selected mineral related infrastructure and facilities to support the continued extraction and operation of economically viable mineral resources; this could include existing rail heads, rail links to quarries, wharfage and associated storage, handling and processing facilities.
- 9.2 Somerset County Council will normally oppose proposals for development which would prejudice the use of these sites for their intended purpose.
- 9.3 Minerals extracted in Somerset are transported by road, and via dedicated railheads inside the two largest aggregate quarries (Torr Works Quarry and Whatley Quarry).
- 9.4 The Minerals Options consultation proposed to safeguard the current railheads at Torr Works Quarry and Whatley Quarry in the Mendips and Dunball Wharf, north of Bridgwater, which is used to land marine sand for construction uses. Dunball Wharf is already safeguarded in the existing Minerals Local Plan. There was support for this approach from responses to the Options consultation and therefore it is proposed to safeguard the facilities outlined in the table below and illustrated in Maps 8 -10 in Appendix 1.

**Table 3: Safeguarded Minerals Infrastructure Facilities**

Dunball Wharf	
Torr Works Quarry Railhead	Whatley Quarry Railhead

- 9.5 It is not considered that Combech wharf needs to be safeguarded linked with minerals development, noting the existing strong links with EDF Energy's proposals. It is anticipated that Combech wharf will be used for the movement of a range of raw materials (including aggregates) by EDF Energy linked with the construction of Hinkley Point C Nuclear Power Station. EDF gained their Development Control Order, which enables them to build this facility on 19th March 2013.
- 9.6 Those sites handling, processing and distributing recycled and secondary aggregates will also be safeguarded by Somerset County Council and a list of these facilities has been published in Somerset County Council's Local Aggregate Assessment. This list will be revised on an annual basis along with the publication of the Local Aggregate Assessment.
- 9.7 Additionally, the NPPF also requires planning authorities to safeguard sites associated with concrete processing; the role of safeguarding these facilities lies with the relevant District or Borough council as the determining planning authority.

- 9.6 Preferred Policy to safeguard minerals infrastructure in Somerset is included in the Preferred Options paper, and will be subject to revision in the Pre-Submission Somerset Mineral Plan.

## **10 Safeguarding implementation**

- 10.1 Following the publication of this topic paper, this paper was edited in response to consultation responses received directly from this topic paper and the Preferred Options document. This revised information has been included in the Pre-Submission Somerset Mineral Plan
- 10.2 Following successful adoption of the Somerset Mineral Plan, a copy of the safeguarding areas and corresponding consultation areas will be supplied to district councils in Somerset, and will also be available on the Minerals and Waste Policy website ([www.somerset.gov.uk/mineralsandwaste](http://www.somerset.gov.uk/mineralsandwaste)). Engagement with the district councils will be through consultation, and targeted meetings.
- 10.3 It will be District Council responsibility to ensure that the Mineral Consultation Areas are used when considering planning applications, and in turn, to consult the Mineral Planning Authority (Somerset County Council).

## 11 Recommendations

- 11.1 Somerset County Council is committed to Mineral Safeguarding Areas (MSA) and Mineral Consultation Areas (MCA), as they are valuable tools in delivering sustainable development which is embedded within the National Planning Policy Framework.
- 11.2 It is important that suitable minerals sites and mineral resources are safeguarded to ensure they are protected from other development. Safeguarding therefore has an essential role to play in ensuring that there are enough resources and sites to secure supply in the county for the foreseeable future. Safeguarding ensures that communities and businesses have access to minerals to meet their needs.
- 11.3 From the work included in this topic paper, and information included in the wider Somerset Minerals Plan evidence base; some conclusions have been drawn, and the following recommendations for Somerset are based upon them.

### **Recommendation 1**

**That in identifying Mineral Safeguarding Areas, Somerset County Council uses the British Geological Survey data as the basis, along with the addition of local knowledge, derived from the Mineral Options Paper consultation responses and further consultations in the preparation of the Somerset Minerals Plan. For Coal resources, Somerset County Council will use Coal Authority supplied data to determine the safeguarding area.**

### **Recommendation 2**

**In line with creating Mineral Safeguarding Areas, that Mineral Consultation Areas will be designated to assist district colleagues in planning/development control matters located near mineral reserves or infrastructure.**

**Somerset County Council will seek active district council input as to how best these consultation and safeguarding areas can be actively implemented to the mutual benefit of all parties involved in the planning process.**

**Somerset County Council will also provide an exemption list to district councils of those developments which do not need to be referred to the Mineral Planning Authority (such as householder development).**

### **Recommendation 3**

**In line with Recommendation 1 - to utilise local knowledge - that the suggested safeguarding areas proposed in the Building Stone Topic Paper 3 are incorporated into this work.**

## 12 Further information on mineral resources in England

### **British Geological Survey**

Founded in 1835, the British Geological Survey (BGS) is the world's oldest national geological survey and the United Kingdom's premier centre for earth science information and expertise.

The BGS provides expert services and impartial advice in all areas of geoscience.

Contact details:

#### **British Geological Survey**

Environmental Science Centre  
Nicker Hill  
Keyworth  
Nottingham  
NG12 5GG

Telephone: +44 (0)115 936 3100

Website: <http://www.bgs.ac.uk>

See MineralsUK website (<http://www.bgs.ac.uk/mineralsuk/search/home.html>) for BGS Mineral Resource Map for Somerset and corresponding report.

MineralsUK is the British Geological Survey's Centre for Sustainable Mineral Development. Facilitated by the BGS Minerals and Waste science programme, the Centre is a global leader in the compilation, provision and analysis of mineral statistics and the major UK national provider of spatial and statistical minerals information.

### **The Coal Authority**

The Coal Authority is part of the Department for Energy and Climate Change (DECC). They are responsible for protecting the public and environment in coal mining areas, and regulating the licensing of coal mining operations in Britain.

The Coal Authority provides local planning authorities with information on surface coal resources, and can also provide information on deep mining, coal mine methane and underground coal gasification.

Contact details:

#### **The Coal Authority.**

200 Lichfield Lane  
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Nottinghamshire  
NG18 4RG.

Telephone: +44 (0) 845 762 6848

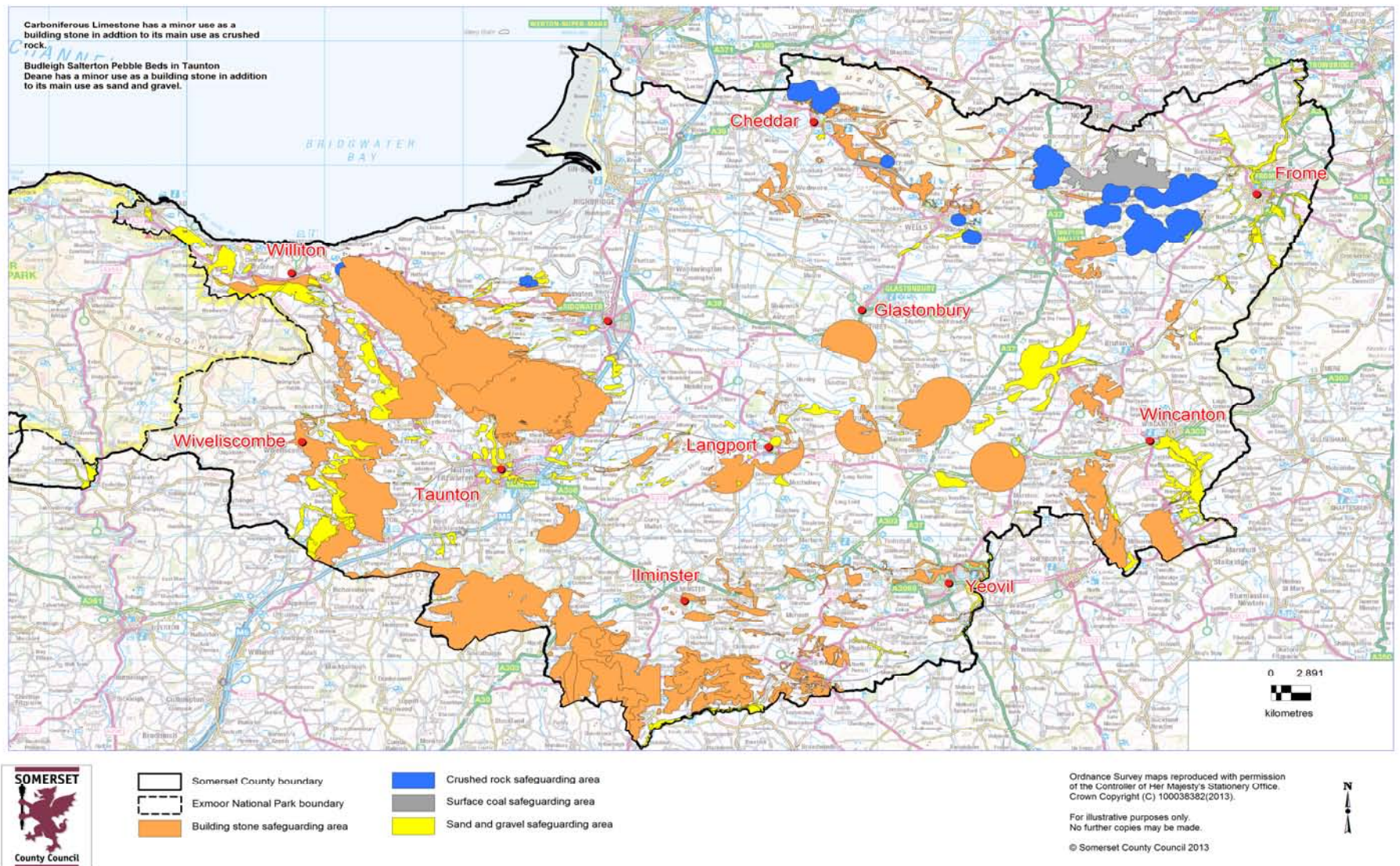
Website: <http://coal.decc.gov.uk/>

## Trade associations

British Aggregates Association <a href="http://www.british-aggregates.co.uk">http://www.british-aggregates.co.uk</a>	Mineral Products Association <a href="http://www.mineralproducts.org/">http://www.mineralproducts.org/</a>
Confederation of UK Coal Producers <a href="http://www.coalpro.co.uk">http://www.coalpro.co.uk</a>	Stone Federation Great Britain <a href="http://www.stone-federationgb.org.uk/">http://www.stone-federationgb.org.uk/</a>

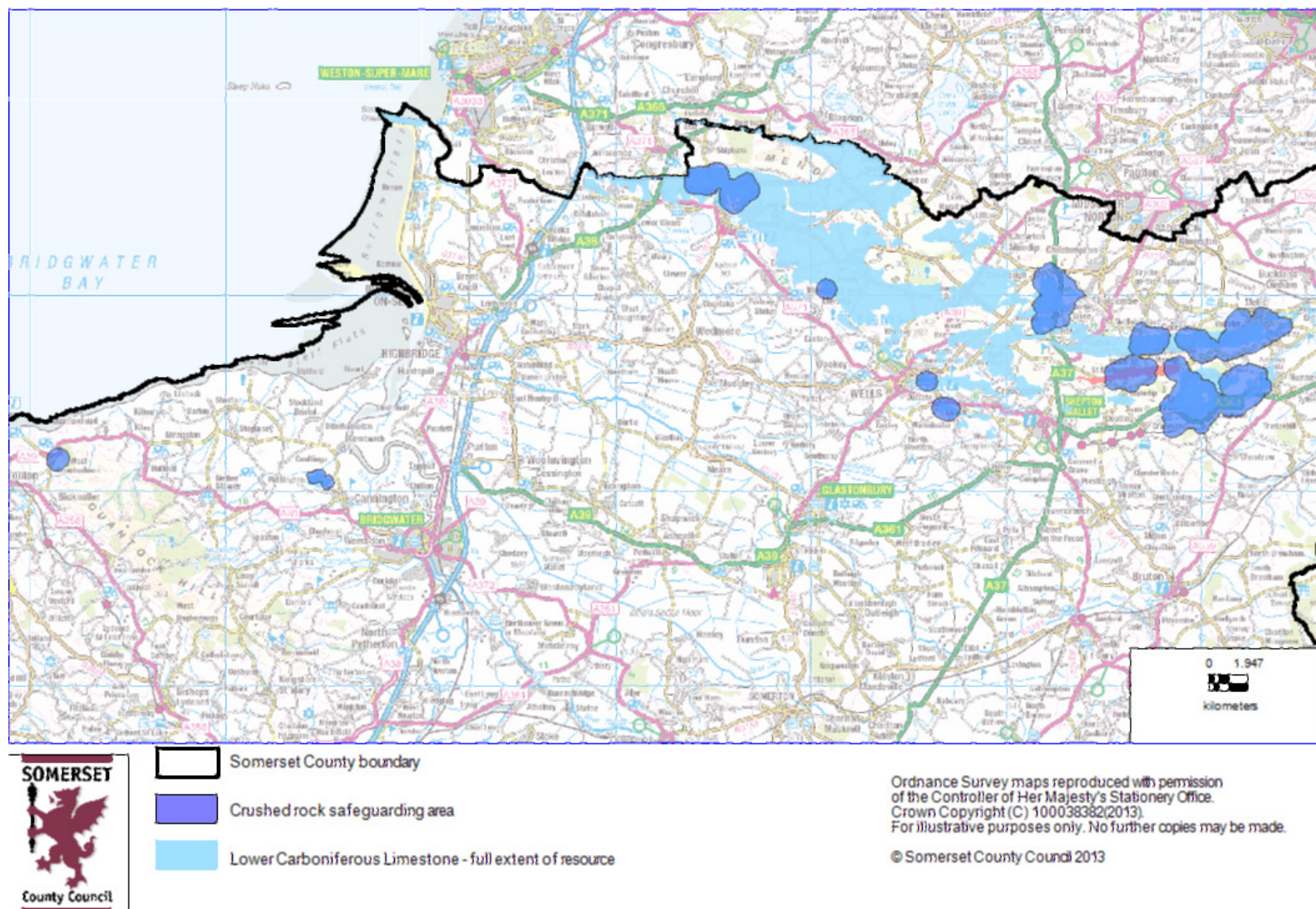


## **Appendix 1: Mineral Safeguarding Area Maps**



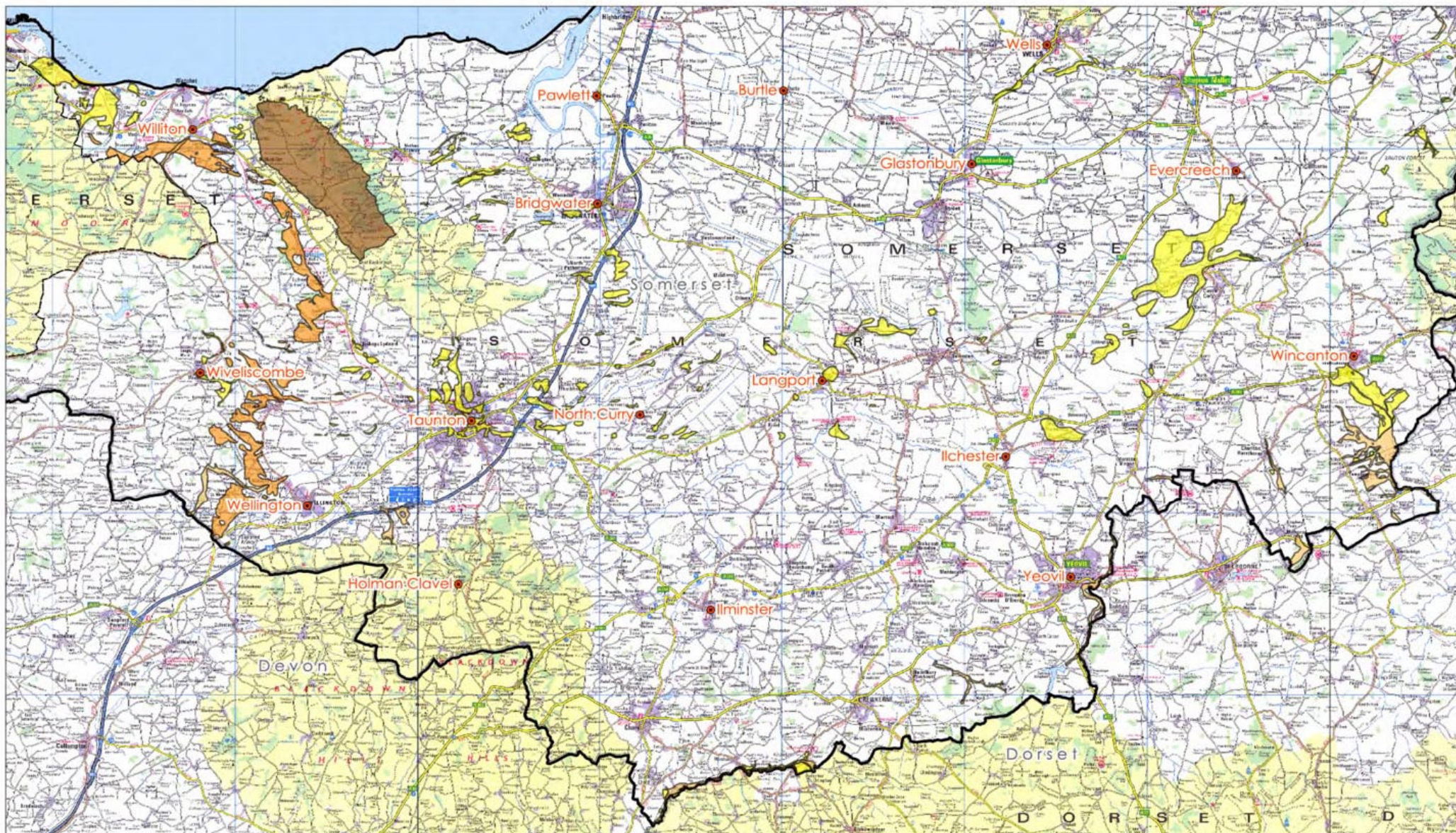
Map 1: Somerset Mineral Safeguarding Areas





Map 2: Crushed Rock Safeguarding Area - **including** Moons Hill complex (Silurian andesite - high PSV)

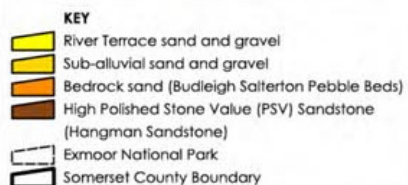




Mineral Safeguarding Area Topic Paper

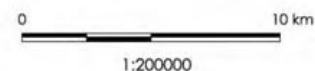
SOMERSET COUNTY COUNCIL

21-Oct-12



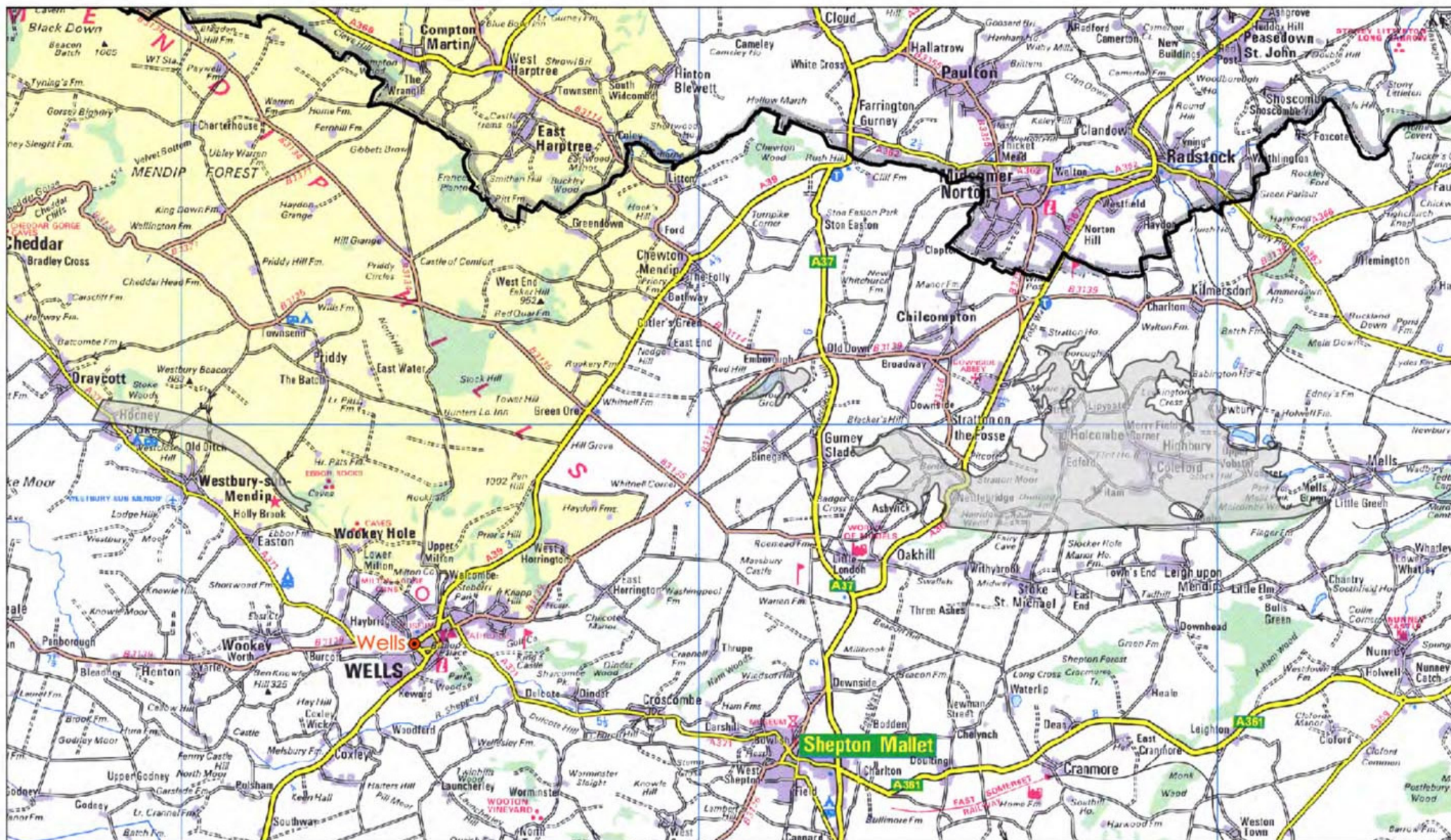
Derived from 1:50,000 scale BGS digital geological map data under license no. 2003/140 (2012) British Geological Survey © NERC

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**Map 3. Sand and gravel aggregate and High Polished Stone Value (PSV) Sandstone Mineral Safeguarding Areas**





Mineral Safeguarding Area  
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# KEY



Surface Coal (<50m overburden)  
Somerset County Boundary

Resource boundaries supplied by Coal Authority 2009

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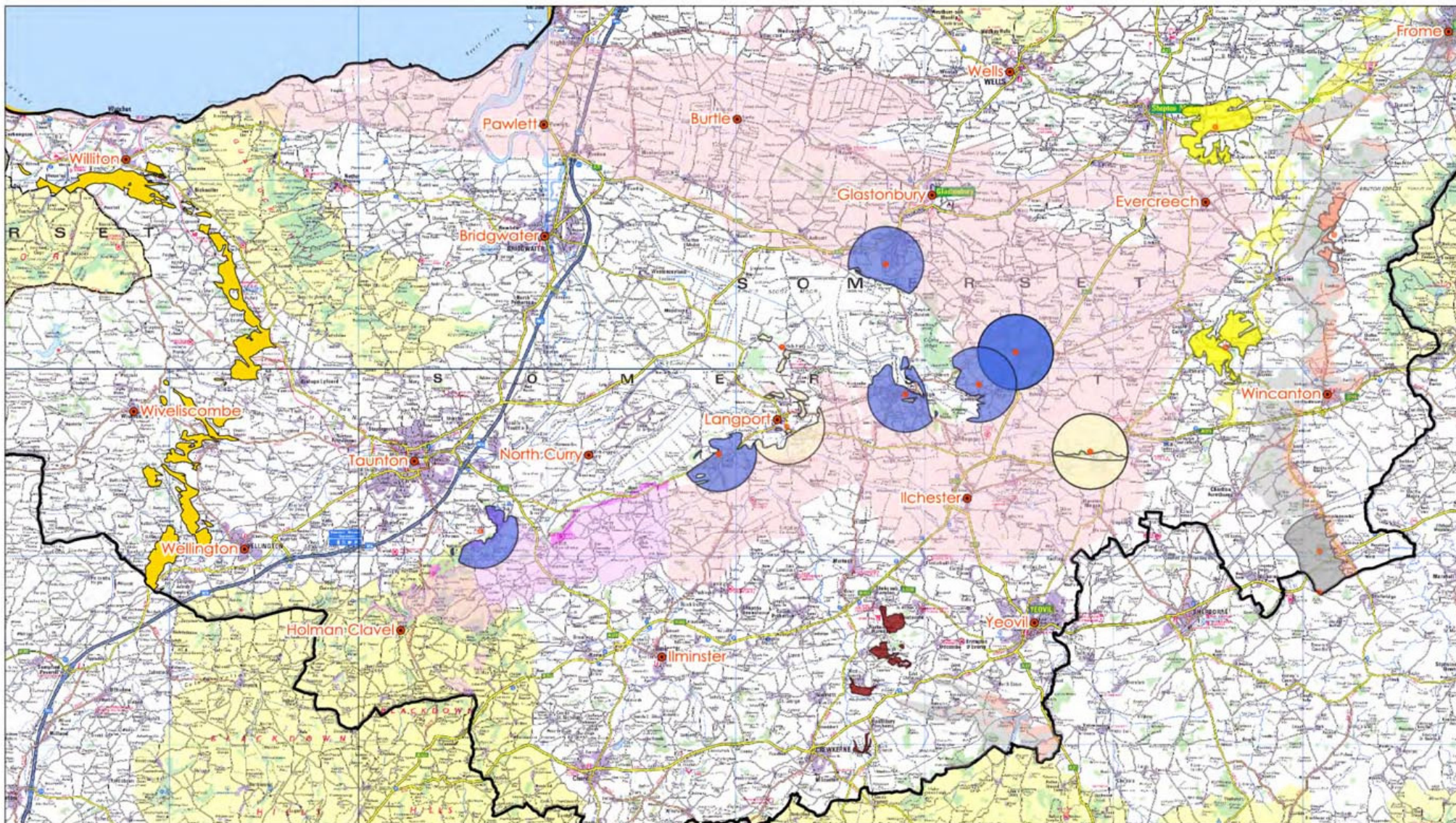
0 2.5 km

1:100000



Map 5. Shallow Coal Mineral Safeguarding Areas





Mineral Safeguarding Area  
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#### KEY

- Combrash Mineral Safeguarding Area
- Forest Marble Mineral Safeguarding Area
- Ham (Ham Hill) Stone Mineral Safeguarding Area
- Inferior Oolite (including Hadspen Stone, Doultling) Mineral Safeguarding Area
- Budleigh Salterton Pebble Beds (Milverton Stone) Mineral Safeguarding Area
- Blue Lias Mineral Safeguarding Area
- White Lias Mineral Safeguarding Area
- Central point of Mineral Safeguarding Area (2 km radius)

- Combrash - full extent of geological resource
- Forest Marble - full extent of geological resource
- Inferior Oolite (including Hadspen Stone, Doultling) - full extent of geological resource
- Blue Lias - full extent of geological resource
- Blue Lias & White Lias (undifferentiated) - full extent of geological resource
- White Lias - full extent of geological resource
- Exmoor National Park
- Somerset County Boundary

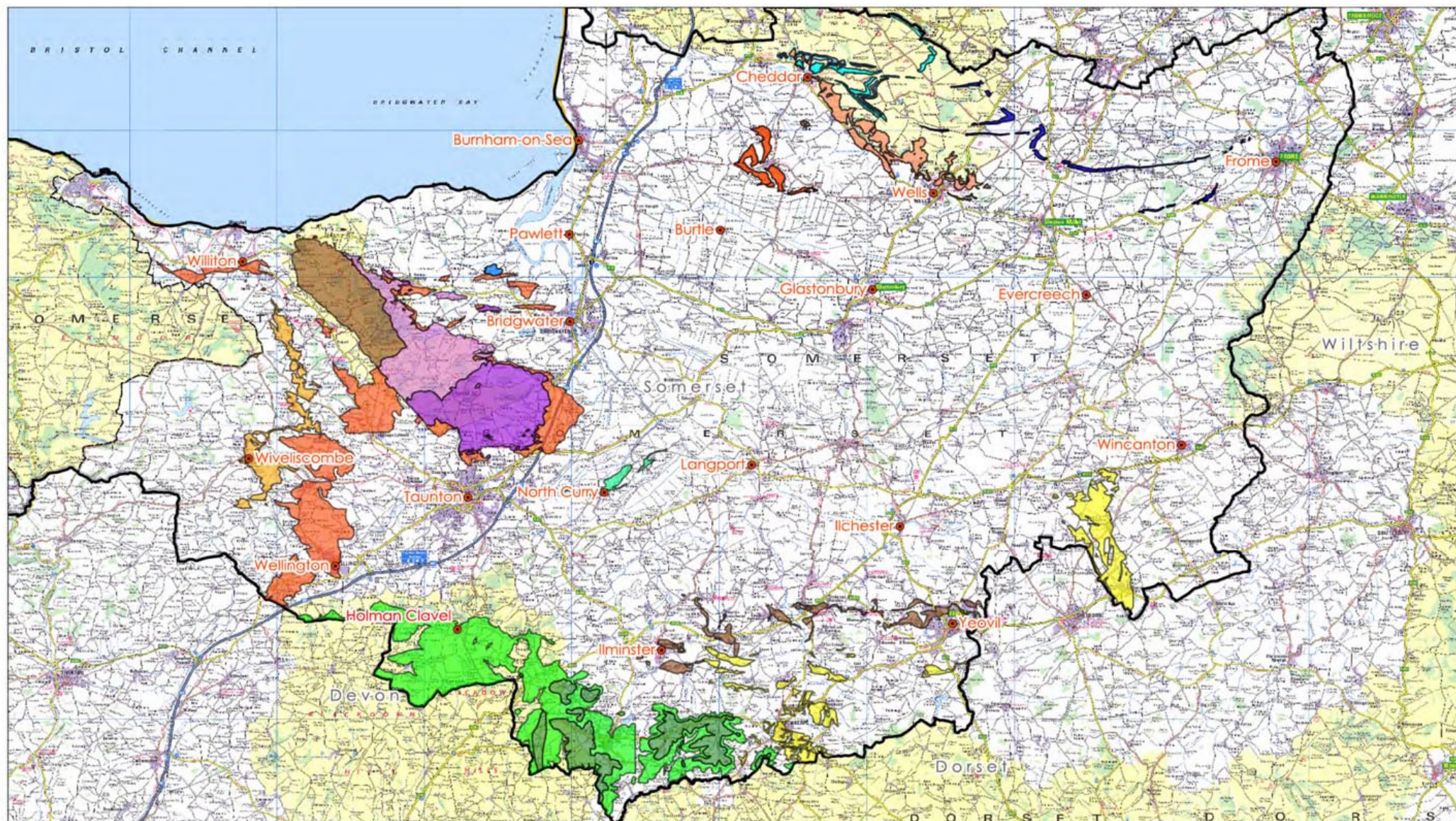
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1:200000



Derived from 1:50,000 scale  
BGS digital geological map data  
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**KEY**

- |   |   |
|---|---|
| Chalk (Flint/Chert) Mineral Safeguarding Area                     | Vallis Limestone Mineral Safeguarding Area            |
| Calcareous Grit (Greensand) Mineral Safeguarding Area             | Chinastones Mineral Safeguarding Area                 |
| Inferior Oolite (Misterton Stone) Mineral Safeguarding Area       | Cheddar Limestone Mineral Safeguarding Area           |
| Marlstone & Yeovil Stone Mineral Safeguarding Area                | Cheddar Oolite Mineral Safeguarding Area              |
| Dolomitic Conglomerate (Draycott Stone) Mineral Safeguarding Area | Cannington Park Limestone Mineral Safeguarding Area   |
| Wedmore Stone Mineral Safeguarding Area                           | Hangman Sandstone Formation Mineral Safeguarding Area |
| North Curry Sandstone Mineral Safeguarding Area                   | Ilfracombe Slates Mineral Safeguarding Area           |
| Otter Sandstone Mineral Safeguarding Area                         | Morte Slates Mineral Safeguarding Area                |
| Wiveliscombe Sandstone Mineral Safeguarding Area                  | Exmoor National Park                                  |
|   | Somerset County Boundary                              |

0 5 km  
1:250000



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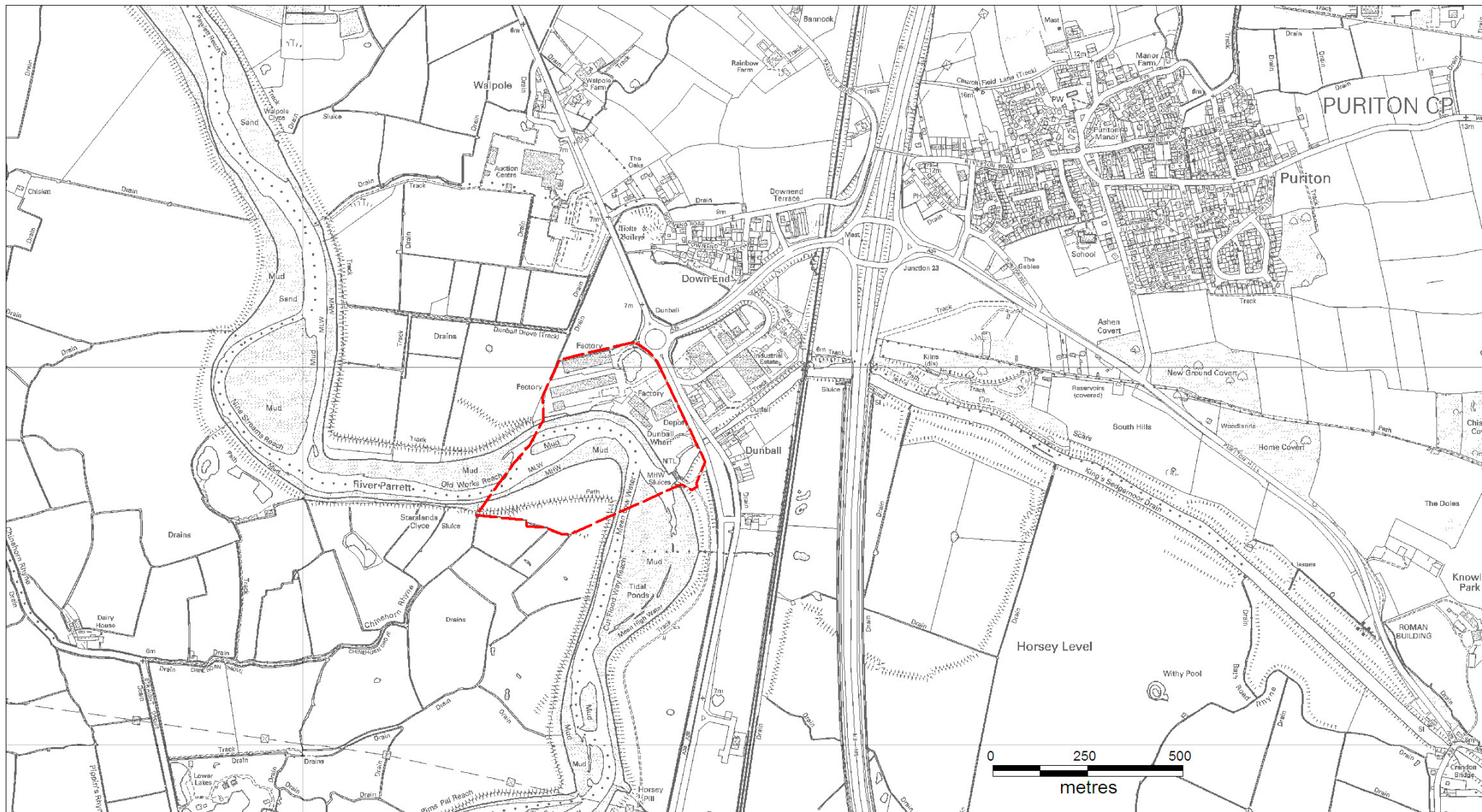
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Topic Paper

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Mineral Safeguarding Area  
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Somerset County Council

06-Nov-12

Key

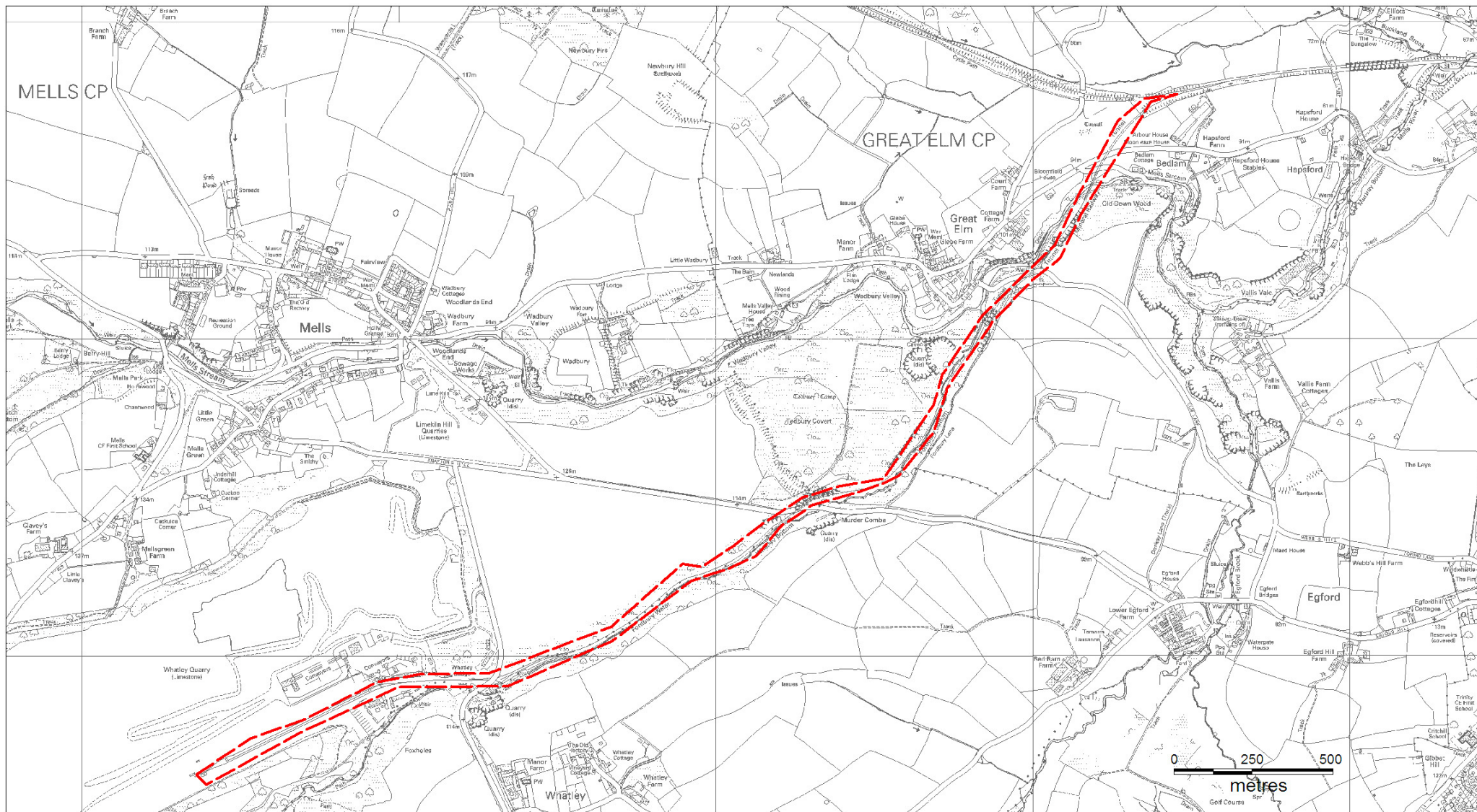
Dunball Wharf Mineral  
Safeguarding Area

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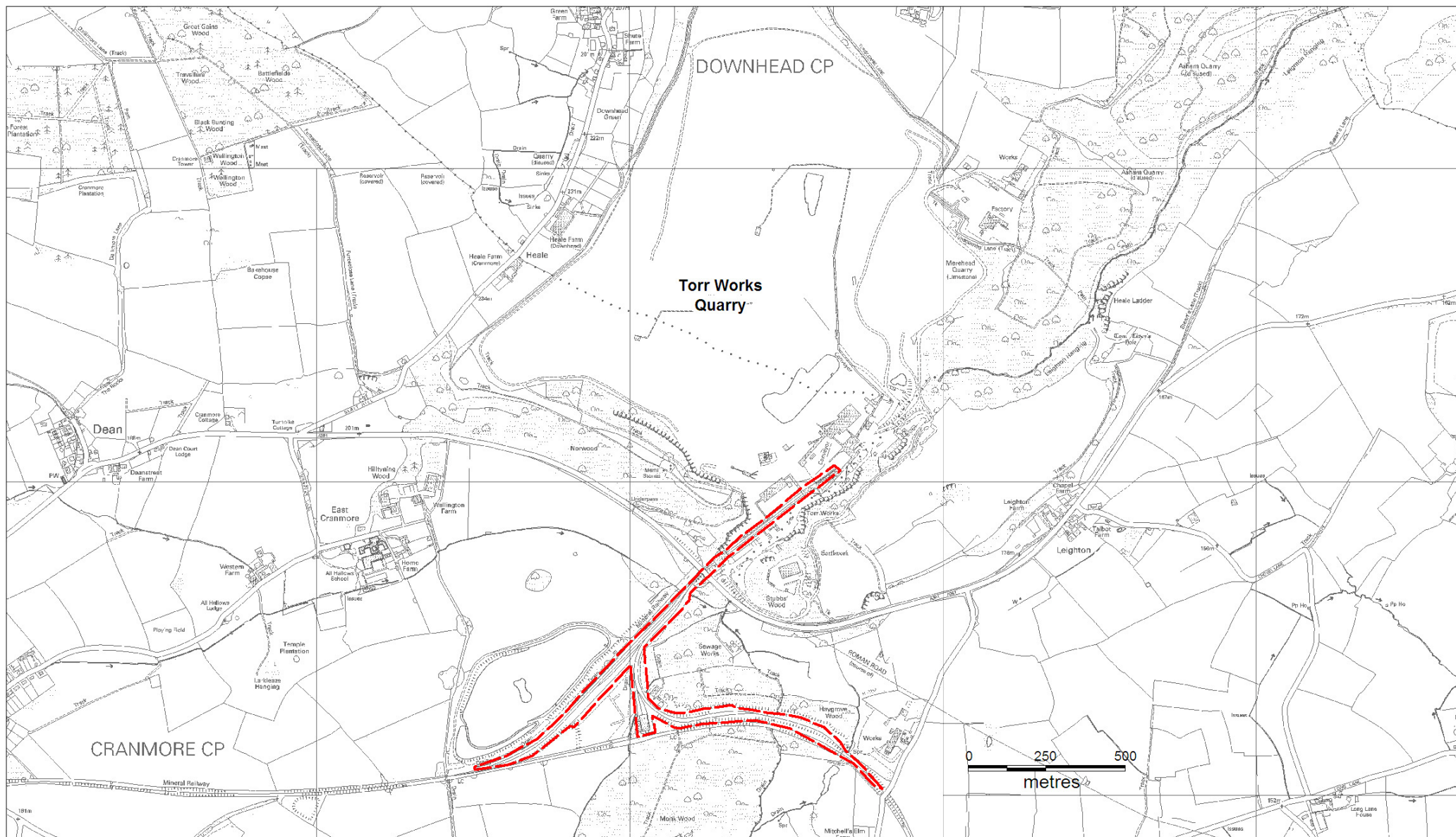
**Key**

  Whatley Quarry Railhead Mineral  
Safeguarding Area

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**Mineral Safeguarding Area  
Topic Paper**

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**06-Nov-12**

**Key**

 Torr Works Quarry Railhead  
Mineral Safeguarding Area

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Scale 1:12,000



## **Appendix 2: Justification for identified Mineral Safeguarding Areas**



BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Aggregate (Crushed rock)	Lower Carboniferous Limestone	<p>400m around quarries and permission areas within Mendip Hills</p> <p>Battscombe Barnclose Callow Rock Cloford Colemans/Holwell Cookwood Emborough Gurney Slade and Binegar Halecombe Highcroft Lime Kiln Hill Moons Hill Shipham Hill Stoke Lane Tadhill Tor Hill Torr Works Westbury Westdown Whatley</p>	Initial boundary areas produced by the intersection of geological outcrop of worked Lower Carboniferous Limestones with extant crushed rock aggregate permission areas (at Battscombe, Callow Rock, Shipham Hill, Colemans, Gurney Slade, Halecombe, Torr Works and Whatley in the Mendip Hills and at Castle Hill/Cannington Park). The resultant areas were then extended with 400m buffer zones (for higher output aggregate quarries) or 200m buffer zones (at lower output aggregate quarries, such as Castle Hill/Cannington Park, which have outputs of <250,000 tonnes/year) producing the proposed MSA boundary. The term 'Lower Carboniferous Limestones' is defined as a combination of all the relevant Lower Carboniferous limestones that are actively worked on large scales at these sites, namely the Hotwell Limestones, Clifton Down Limestone, Burrington Oolite and Black Rock Limestones (and to a much lesser extent Vallis Limestone and Cannington Park Limestone); datasets for the occurrence of these different limestone formations and subgroups were supplied by BGS (1:50 000), with their lithologies also defined by BGS (BGS, 2005; BGS on-line Lexicon, and relevant BGS Memoirs covering Somerset).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)

BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
		200m around active quarries/permission areas at Castle Hill/Cannington Park.		

BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Aggregate (Crushed rock)	Silurian Andesite	400m around active quarry and permission area (Moon's Hill) within Mendip Hills	Initial boundary area produced by the intersection of the geological outcrop of Silurian Andesite with extant crushed rock aggregate permission area (at Moons Hill in the Mendip Hills). The resultant area was then extended with a 400m buffer zone (as Moons Hill is an higher output aggregate quarry) producing the proposed MSA boundary. The dataset for the outcrop pattern of Silurian Andesite (Coalbrookdale Formation) was supplied by BGS (1:50 000) and the lithology is defined by BGS (BGS, 2005; BGS on-line Lexicon, and relevant BGS Memoir).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)
Aggregate (High PSV sandstone)	Hangman Sandstone (High PSV sandstone)	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of High Polished Surface Value (PSV) sandstones within the Hangman Sandstones, confined in Somerset to the northern and western Quantock Hills. The dataset for the outcrop pattern of the Hangman Sandstone Formation was supplied by BGS (1:50 000) and the lithology is defined by BGS (BGS, 2005; BGS on-line Lexicon, and relevant BGS Memoir).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)
Aggregate (Sand and gravel)	River Terrace sand and gravel	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of Superficial 'River Terrace Deposits' (1:50 000 dataset supplied by BGS), lithologies defined by BGS, 2005. The BGS dataset is known to be incomplete for part of southern central Somerset but does cover areas of currently active sand and gravel workings at Whiteball, near Wellington, and Chard Junction.	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)



BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Aggregate (Sand and gravel)	Sub-alluvial sand and gravel	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of Superficial 'Sub-alluvial Sand and Gravel' (1:50 000 dataset supplied by BGS), lithologies defined by BGS, 2005. The BGS dataset is known to be incomplete for part of southern central Somerset but does cover areas of currently active sand and gravel workings at Whiteball, near Wellington, and Chard Junction.	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)
Aggregate (Sand and gravel)	Budleigh Salterton Pebble Beds (Bedrock sand)	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of Bedrock Sand Deposits 'Budleigh Salterton Pebble Beds' (1:50 000 dataset supplied by BGS), lithologies defined by BGS, 2005.	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)
Building Stone	Cornbrash	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by intersection of Cornbrash Formation outcrop pattern (Cornbrash, Upper Cornbrash, Lower Cornbrash 1:50 000 datasets supplied by BGS) with one key area (circle of 2km radius, 4km diameter) chosen to represent an important area of Cornbrash use containing main known historic quarry(s), especially near Upton Noble where the Cornbrash has a wide surface outcrop, and to ensure that adequate future resources of Cornbrash are included within the MSA. The area listed below has a 2km radius centrad point marked by a distinct building on the ground, which is further located with an 8 figure grid reference: Cornbrash, Goodedge Farm, North Brewham, ST 7168 3708. Lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset.	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)

BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Building Stone	Forest Marble	None, outcrop pattern defined by BGS dataset	<p>Proposed MSA boundary produced by intersection of Forest Marble Formation outcrop pattern (1:50 000 datasets supplied by BGS) with two key areas (circle of 2km radius, 4km diameter) chosen to represent an important area of Forest Marble use containing main known historic quarries, and to ensure that adequate future resources of Forest Marble are included within the MSA. The areas listed below each have a 2km radius centrad point marked by a distinct building on the ground, which is further located with an 8 figure grid reference: Forest Marble, central point of Inwood, Henstridge, ST 7100 2040; Forest Marble, Copse House, Landshire Lane, Stalbridge, ST 7099 1804. The Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS) provides further justification and information on the use of these Forest Marble as a building stone. Lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset.</p>	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)

BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Building Stone	Ham (Ham Hill) Stone	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of Ham Hill Limestone Member (Ham Stone) of the Bridport Sand Formation (1:50 000 datasets supplied by BGS), lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset. Further justification for regarding Ham Stone as an important building stone is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)

BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Building Stone	Inferior Oolite (Hadspen Stone, Doultling Stone)	None, outcrop pattern defined by BGS dataset	<p>Proposed MSA boundary produced by intersection of Inferior Oolite Group (including Hadspen Stone, Doultling Stone) outcrop pattern north of the A303 (1:50 000 dataset supplied by BGS) with two key areas (circle of 2km radius, 4km diameter) chosen to represent the main named varieties of Inferior Oolite stone, and important areas of use. The radius of 2km was chosen to contain both the main known historic quarries for Inferior Oolite building stone, and to ensure that adequate future resources of named variants (Hadspen Stone, Doultling Stone) are included within this Inferior Oolite MSA. Each of the two areas listed below have a 2km radius centrad point marked by a distinct building or structure on the ground, which is further located with an 8 figure grid reference: Hadspen Stone variety, Hadspen House, near Shepton Montague, ST 6602 3104; Doultling Stone variety and Inferior Oolite limestones, Clover Farm, West Cranmore, ST 6548 4274. The Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS) provides further justification and information on the use of these Inferior Oolite limestones as building stones. Lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset.</p>	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)

BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Building Stone	Blue Lias	None, outcrop pattern defined by BGS dataset	<p>Proposed MSA boundary produced by intersection of Blue Lias outcrop pattern (1:50 000 dataset supplied by BGS) with six key areas (circle of 2km radius, 4km diameter) chosen to represent the main named varieties of Blue Lias stone, and important areas of use. The radius of 2km was chosen to contain both the main known historic quarries for Blue Lias building stone, and to ensure that adequate future resources of named variants are included within the Blue Lias MSA. Each of the six areas listed below have a 2km radius centrad point marked by a distinct building or structure on the ground, which is further located with an 8 figure grid reference: Blue Lias Stone, Tannery Ground Football Club, Street, ST 4803 3545; Blue Lias Stone, Charlton House, Charlton Mackrell, ST 5295 2907; Blue Lias Stone, Market Cross, Somerton, ST 4906 2854; Thurlbear Stone variety of Blue Lias, Thurlbear CE VA Primary School, Thurlbear, ST 2655 2128; Curry Rivel Stone variety of Blue Lias, Church of St Andrew, ST 3917 2539; and Keinton Stone variety of Blue Lias, Methodist Chursh, Keinton Mandeville, ST 5490 3079. Further justification for regarding Blue Lias (including named varieties) as a Somerset 'needed' building stone is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS). Lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset.</p>	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)

BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Building Stone	Budleigh Salterton Pebble Beds (Milverton Stone)	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of the Budleigh Salterton Pebble Beds Formation (including Milverton Stone), 1:50 000 dataset supplied by BGS, lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset. Further justification for regarding Budleigh Salterton Pebble Beds (including Milverton Stone) as a Somerset 'needed' building stone is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)

BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Building Stone	White Lias	None, outcrop pattern defined by BGS dataset	<p>Proposed MSA boundary produced by intersection of White Lias outcrop pattern (Penarth Group and 'White Lias Formation' 1:50 000 dataset supplied by BGS) with three key areas (circle of 2km radius, 4km diameter) chosen to represent the main named varieties of White Lias stone, and important areas of use. The radius of 2km was chosen to contain both the main known historic quarries for White Lias building stone, and to ensure that adequate future resources of named variants are included within the White Lias MSA. Each of the six areas listed below have a 2km radius centrad point marked by a distinct building or structure on the ground, which is further located with an 8 figure grid reference: White Lias Stone, Huish Episcopi School, Huish Episcopi, Langport, ST 4278 2683; White Lias Stone, Church of St Andrew, High Ham, ST 4252 3107; Camel Hill Stone variety of White Lias, Camel Hill, Queen Camel, ST 5885 2552. Further justification for regarding White Lias (including named varieties) as a Somerset 'needed' building stone is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS). Lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset.</p>	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)

BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Building Stone	Chert/Flint	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of the Chalk Group and Upper Greensand Formation (1:50 000 dataset supplied by BGS), lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset. Further justification for regarding Flint/Chert as a Somerset 'needed' building stone is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)
Building Stone	Calcareous Grit (Greensand)	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of the Upper Greensand Formation (1:50 000 dataset supplied by BGS), lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset. Further justification for regarding Calcareous Grit (Greensand) as a Somerset 'needed' building stone is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)



BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Building Stone	Inferior Oolite (Misterton Stone)	None, outcrop pattern defined by BGS dataset	<p>Proposed MSA boundary produced by outcrop pattern south of the A303 of the Inferior Oolite Group (1:50 000 dataset supplied by BGS), specifically the variety of Inferior Oolite limestone used in South Somerset which has been termed 'Misterton Stone' after its extensive use in villages and hamlets within the Misterton and adjoining areas. Further justification for regarding Misterton Stone as a Somerset 'needed' building stone is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS). General lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset.</p>	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)

BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Building Stone	Marlstone (including Moolham Stone, Petherton Stone)	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of Marlstone, including Moolham Stone and Petherton Stone (within the Beacon Limestone Formation 1:50 000 dataset supplied by BGS), lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset. Further justification for regarding Marlstone (including Moolham Stone and Petherton Stone) as a Somerset 'needed' building stone is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)
Building Stone	Yeovil Stone	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of Yeovil Stone (within the Beacon Limestone Formation 1:50 000 dataset supplied by BGS), lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset. Further justification for regarding Yeovil Stone as a Somerset 'needed' building stone is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)

BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Building Stone	Dolomitic Conglomerate (Draycott Stone)	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of the Dolomitic Conglomerate (Draycott Stone) between Cheddar and Wells (within the Mercia Mudstone Group [Marginal Facies] 1:50 000 dataset supplied by BGS), lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset. The classic area for Draycott Stone, including known former building stone quarries and the main area of use, lies between Cheddar (Cheddar Wood) and Wells (East Horrington). Further justification for regarding Dolomitic Conglomerate (Draycott Stone) as a Somerset 'needed' building stone is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)

BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Building Stone	Wedmore Stone	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of Wedmore Stone (within the Westbury Formation 1:50 000 dataset supplied by BGS), lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset. Further justification for regarding Wedmore Stone as a Somerset 'needed' building stone is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)
Building Stone	North Curry Sandstone	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of the North Curry Sandstone (within the Mercia Mudstone Group 1:50 000 dataset supplied by BGS), lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset. Further justification for regarding North Curry Sandstone as a Somerset 'needed' building stone is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)

BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Building Stone	Otter Sandstone (Lydeard Stone, Nynehead Sandstone)	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of the Otter Sandstone Formation (including Lydeard Stone, Nynehead Sandstone), 1:50 000 dataset supplied by BGS, lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset. Further justification for regarding Otter Sandstone (including Lydeard Stone, Nynehead Sandstone) as a Somerset 'needed' building stone is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)
Building Stone	Wiveliscombe Sandstone	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of the Wiveliscombe Sandstones (1:50 000 dataset supplied by BGS), lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset. Further justification for regarding Wiveliscombe Sandstones as a Somerset 'needed' building stone is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)

BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Building Stone	Lower Carboniferous Limestone	None, outcrop pattern defined by BGS dataset	<p>Proposed MSA boundary produced by the outcrop pattern of a number of 'niche' Lower Carboniferous Limestones (namely Vallis Limestone Formation, Chinastones, Cheddar Limestone Member, Cheddar Oolite Member, Cannington Park Limestone, 1:50 000 datasets supplied by BGS) which have relatively limited geographical coverage and outcrop in Somerset and are not currently worked as building stones, but historically were used for building purposes. These contrast with other Lower Carboniferous Limestones which are currently actively worked on very large scales in the Mendip Hills mainly for crushed rock aggregate (namely Hotwells Limestone, Clifton Down Limestone, Burrington Oolite, Black Rock Limestone), but which historically are believed to have supplied some limestones for building purposes. These latter limestone types have huge reserves and extend over relatively large areas across much of the Mendip area, and are therefore not included within the Lower Carboniferous Limestone MSA for building stone purposes; however, they are included within the Lower Carboniferous Limestone crushed limestone aggregate MSA. Further justification for regarding the 'niche' Lower Carboniferous Limestones as Somerset 'needed' building stones is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS). Lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset.</p>	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)

BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Building Stone	Hangman Sandstone	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of the Hangman Sandstone Formation (1:50 000 dataset supplied by BGS), lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset. Further justification for regarding Hangman Sandstone as a Somerset 'needed' building stone is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)
Building Stone	Ilfracombe Slates	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of the Ilfracombe Slates Formation (1:50 000 dataset supplied by BGS), lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset. Further justification for regarding Ilfracombe Slates as a Somerset 'needed' building stone is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)

BROAD CLASSIFICATION	GEOLOGICAL COMMODITY	BUFFER ZONE	JUSTIFICATION/NOTES REGARDING PROPOSED MSA BOUNDARY	PROPOSED MSA BOUNDARY CROSS-CHECKED AGAINST BGS, 2011 TO ENSURE COMPLIANCE WITH NATIONAL MSA GUIDANCE
Building Stone	Morte Slates	None, outcrop pattern defined by BGS dataset	Proposed MSA boundary produced by outcrop pattern of the Morte Slates Formation (1:50 000 dataset supplied by BGS), lithologies defined by BGS on-line Lexicon and relevant BGS Memoirs covering Somerset. Further justification for regarding Morte Slates as a Somerset 'needed' building stone is provided within the SCC Building Stones Topic Paper, and includes responses to SCC consultations (2010 Building Stones Issues Paper and/or 2011/12 Minerals Options Paper), in addition to Somerset data prepared for the national Strategic Stone Study (coordinated by English Heritage and BGS).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)
Coal	Surface Coal	Included within data supplied by Coal Authority	The Coal resource boundary data was supplied by the Coal Authority (Aug 2009) who advised it should be used for MSA purposes; that course has been followed here. The definition of 'Shallow Coal' follows that of the BGS and Coal Authority and refers to Coal deposits with less than 50m overburden (BGS, 2005).	Yes, specifically sections 1,2, 4.1-4.2 and case studies 1-8 (as appropriate)



**References:**

BGS, 2005: Mineral Resource Information in Support of National, Regional and Local Planning: Somerset. Commissioned Report CR/04/214N (17 pp) and accompanying Mineral Resources map, 1:100 000 (A1 size)

BGS, 2011: Mineral safeguarding in England: good practice advice. Minerals and Waste Programme, Open Report OR/11/046. 46pp.

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