Proposed Submission Draft West Sussex Joint Minerals Local Plan (Regulation 19)

Background Document

January 2017

west sussex county council

Working in Partnership

South Downs National Park Authority

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1. Introduction

1.1. This Joint Minerals Local Plan (JMLP) Background Document supports the development of the Proposed Submission Draft Joint Minerals Local Plan that has been prepared by West Sussex County Council (WSCC) and the South Downs National Park Authority (SDNPA), under the provisions of Section 28 of the Planning and Compulsory Purchase Act 2004 and the 'Duty to Co-operate'. Once adopted by WSCC and the SDNPA, the Plan will set out how and where minerals should be produced in West Sussex in the future. Different chapters of this document cover different elements of planning for future minerals supply in West Sussex as follows:

- Vision and Objectives
- Minerals Supply and Demand
    - Aggregates
        - Land won sharp sand and gravel
        - Soft sand
    - Silica Sand
    - Clay
    - Chalk
    - Hydrocarbons
- Minerals Resource Safeguarding
- Minerals Infrastructure Safeguarding

1.2. This document supports the publication of the Proposed Submission Draft Joint Minerals Local Plan (January 2017), and supersedes the background document produced to support the consultation on the Draft Joint Minerals Local Plan in April 2016.

1.3. A separate document, known as the Minerals Site Selection Report, has been produced that explains how the sites proposed for allocation in the Plan have been selected.

1.4. This document summarises the most up to date evidence which builds on the evidence presented in the following Background Papers which were published in 2014:

- Background Paper Engagement – Report of Outcome
- Background Paper 1 – Spatial Portrait (Version 2)
- Background Paper 2 – Minerals in West Sussex (Version 2)
- Background Paper 4 – Safeguarding Minerals Infrastructure (Version 2)

- Background Paper 5 – Safeguarding Mineral Resources (Version 2)

1.5. Other evidence documents being published alongside the Proposed Submission Draft JMLP are as follows:

- Local Aggregate Assessment, January 2017
- Sustainability Appraisal
- Annual Monitoring Report 2015/16
- Duty to Cooperate Statement
- Draft Joint Minerals Local Plan Consultation (Regulation 18) 2016 - Outcomes Report
- Mineral Site Selection Report (2017)
- Silica Sand Study (2016)
- South Downs National Park Soft Sand Study, 2012
- Strategic Stone Study
- Wharves and Railheads Study (2014)
- Minerals Safeguarding Study
- Strategic Flood Risk Assessment
- Landscape, Transport and Habitats Assessments

1.6. This document considers different options associated with the supply of minerals in West Sussex and how preferred options for minerals development were selected. It sets out the options which were initially identified and how the 'reasonable alternatives' were selected, which were then subject to Sustainability Appraisal (SA) (incorporating Strategic Environmental Assessment (SEA)[1]. A separate Sustainability Report (together with a Non-Technical Summary), which sets out the findings of the SA, has been published alongside the Proposed Submission Draft JMLP.

1.7. This document, and all other evidence base documents, have been made available to inform the representations period for the Proposed Submission Draft Joint Minerals Local Plan.

1.8. Following consultation on the draft Plan (April – June 2016, Regulation 18), and gathering of further evidence, a number of changes have been made to the strategic minerals supply policies in the Plan. These are set out within this document as ~~strikethrough~~ where text has been deleted,

[1] As required under the Planning and Compulsory Purchase Act 2004 and in accordance with the SEA Directive (European Directive 2001/42/EC)

and *underlined italics*, where text has been added into the Proposed Submission Draft version of the Plan.

1.9. Representations may be made concerning the 'soundness' and legality of the Proposed Submission Draft Joint Minerals Local Plan in accordance with Regulation 19 of the Town and Country Planning (Local Planning) (England) Regulations 2012.

1.10. More information about the Joint Minerals Local Plan can be found on the Council's website: www.westsussex.gov.uk/mwdf. If you require clarification on any of the content within this document please contact us at: mwdf@westsussex.gov.uk.

Duty to Co-operate

1.11. Following their identification, draft minerals supply options were shared with relevant Minerals Planning Authorities (those neighbouring West Sussex and others further afield) and comments were requested. The comments received were taken into account in the selection of the preferred approaches. Several Mineral Planning Authorities also made comments during the consultation on the draft JMLP. Engagement with relevant minerals planning authorities is ongoing, especially with regard to the preparation of a Statement of Common Ground concerning the supply of soft sand in the south east of England. A separate document setting out details of the engagement undertaken to ensure compliance with the Duty to Co-operate has been published alongside the Proposed Submission Draft JMLP.

2. Vision and Objectives

2.1. To guide the direction of the Plan, it is necessary to establish a Vision and Objectives, which help shape the policies and allocations within the Plan. The Vision and Strategic Objectives present the aspirations for future minerals supply in West Sussex and detail how these are likely to be achieved. The 14 Strategic Objectives are concerned with ensuring that minerals supply in West Sussex can meet market demand in a sustainable manner.

2.2. This chapter explains the derivation of the Vision and Strategic Objectives. The text of the Vision and Strategic Objectives included in the Proposed Submission Draft JMLP is set out below showing the changes that were made to the draft versions in the draft JMLP:

Vision

~~By 2033,~~ West Sussex:

Will be a place where minerals are produced in ways which conserve and enhance the beautiful outdoors of West Sussex, ~~in particular~~ *including* the special qualities of the South Downs National Park *and Areas of Outstanding Natural Beauty*, for the benefit or current and future generations.

~~Will be a place where the production and transportation of minerals does not detract from it having thriving communities and being a special place to live and visit. In particular impacts associated with the transport of minerals by road will have been minimised.~~

Will have contributed to the supply of minerals, in particular aggregates, clay, chalk, building stone*, silica sand* and oil and gas, to support growth in West Sussex. In particular social and economic progress of both the Coastal West Sussex and Gatwick Diamond strategic growth areas will have been supported through the provision of aggregate to enable the delivery of new development.

Will be a place which seeks to meet its own needs for minerals *and encourage the sustainable use of natural resources,* whil*st* aspiring to source more and more minerals from alternatives to *primary* extraction ~~of indigenous resources~~, and from areas outside the South Downs National Park and Areas of Outstanding Natural Beauty.

Will ~~have~~ ma~~d~~*k*e a contribution to the needs of other areas in a manner which is consistent with this Vision, in particular by ensuring the supply of minerals via ports at Shoreham and Littlehampton and railheads at Chichester, Crawley and Ardingly.

Will be a place where the production and transportation of minerals does not detract from it having thriving communities and being a special place to live and visit. In particular, impacts resulting from the use of heavy vehicles in transporting minerals will have been minimised.

Will ~~have~~ ensure~~d~~ minerals have been produced in a manner that protects and enhances the historic and natural environment, and contributes to a low carbon, circular economy.

Will ~~have~~ safeguard~~ed~~ valuable mineral resources, including the soft and silica sand of the Folkestone Beds, the sharp sand and gravel around Chichester, clay needed for individual brickworks, and building stone from needless sterilisation by other development.

Will be a place where the use of locally produced bricks and locally sourced stone, particularly Horsham Stone, Hythe Sandstone, Ardingly Sandstone and flint, ~~has~~ enhance*s*~~d~~ local distinctiveness and the rich archaeological heritage will ~~have~~ be~~en~~ protected.

Will be a place where mineral sites are restored to the highest standards, leading to larger, better managed and connected green infrastructure and areas of habitat including lowland heath, woodland and wetland habitats and conserved and enhanced populations of priority species. Restored sites will increase opportunities for recreation and responsible tourism and for habitat creation ~~within the South Downs National Park, recognising the purposes of the SDNP~~.

Strategic Objectives

Minerals Production and Use

Strategic Objective 1: To promote the prudent and efficient production and use of minerals, having regard to the market demand and constraints on supply in the Plan area.

Recycled and Secondary Aggregates

Strategic Objective 2: To maximise and prioritise the supply and use of secondary and recycled aggregates before supply and use of primary sources; in particular to reduce reliance on land-won aggregates.

Soft and Silica Sand

Strategic Objective 3: To make provision for soft sand to meet the needs of West Sussex from outside the South Downs National Park, where possible; and only make provision for a declining amount of extraction within the SDNP over the Plan period.

Strategic Objective 4: To protect the South Downs National Park by only providing for silica sand from within it in exceptional circumstances and when in the public interest.

Network of Facilities

Strategic Objective 5: To protect and maintain the existing mineral development sites and infrastructure including capacity for importation of

minerals via the ports of Littlehampton and Shoreham and the railheads at Chichester, Crawley and Ardingly.

Mineral Resources
Strategic Objective 6: To safeguard potential economically viable mineral resources from sterilisation.

It should be noted that the West Sussex Waste Local Plan specifically recognises the need for waste development to avoid sterilisation of minerals resources and includes Strategic Objective 11 which is: "To conserve and safeguard the County's important mineral resources."

Health and Amenity
Strategic Objective 7: To protect, and where possible, enhance the health and amenity of residents, businesses and visitors

Landscape and Townscape Character
Strategic Objective 8: To conserve and enhance the landscape and townscape character of West Sussex and the special qualities ~~and local distinctiveness~~ of the South Downs National Park *and the local distinctiveness and character of the* High Weald AONB and Chichester Harbour AONB and the~~ir~~ settings *of all protected landscapes*.

Natural and Historic Environment
Strategic Objective 9: To protect and, where possible, enhance the natural and historic environment and resources of West Sussex.

Flood Risk and Water Resources
Strategic Objective 10: To minimise the risk to people and property from flooding, safeguard water resources, including aquifers *and surface waters*, from contamination; ~~and~~*to* ensure the quality and quantity of the water environment is conserved and enhanced.

Transport
Strategic Objective 11: To maximise the use of rail and water transport for the movement of minerals and to minimise lorry movements and the use of local roads for minerals

Oil and Gas
Strategic Objective 12: To protect the environment and local communities in West Sussex from unacceptable impacts of any proposal for oil and gas development, whilst recognising the national commitment to maintain and enhance energy security in the UK

Mitigation and Restoration
Strategic Objective 13: To ensure high quality mitigation and restoration to appropriate after uses.

Carbon and Climate Change
Strategic Objective 14: To minimise carbon emissions and to adapt to, and to mitigate the potential adverse impacts of, climate change.

Derivation of the Vision and Strategic Objectives

2.3. The Vision and Strategic Objectives must ensure that the Plan can deliver a minerals planning framework for West Sussex that is consistent with the requirements of national policy (and guidance) and is relevant to the county of West Sussex. The Plan's Vision and Objectives have therefore been derived from an understanding of the issues, challenges and opportunities that lie ahead for the county.

2.4. Background Paper 1: Setting the Context – Spatial Portrait (v1 June 2014) included the spatial and policy context and was published for comments in order to make sure that the authorities had considered the right information and identified the right issues to address. The feedback received was used to prepare an updated version (v2, December 2014) and has helped inform the preparation of the Vision and Strategic Objectives.

2.5. In order to 'tell the whole story', the spatial portrait, policy context and main issues and challenges sections from Background Paper 1 have been included in this Chapter, and all updated as necessary to reflect any changes since version 2 of the Background Paper was published.

2.6. Based on the spatial context and policy considerations, Background Paper 1 outlined guiding principles for the future of minerals development in West Sussex, these included:

- Places where there are opportunities to restore land beneficially
- Places without a sensitive natural or built environment and away from communities
- Places accessible by sustainable modes of transport and close to existing highway network.
- The need to protect and enhance, where possible, protect landscapes in the plan area
- The need to avoid the needless sterilisation of minerals by other forms of development

2.7. These guiding principles have informed the development of the Vision and Strategic Objectives.

Relevant Strategies and Policies

National Context

2.8. Minerals play an important role in the prosperity of the nation and the quality of life of its residents. They underpin the infrastructure for developing sustainable communities through the provision of an adequate and steady supply of materials to provide the infrastructure, buildings, goods and energy that society, industry and the economy needs. This is recognised in the National Planning Policy Framework.

2.9. However, managing the supply of minerals effectively and sustainably through the planning system also requires having regard for:

- The resource requirements for future generations and;
- The impact that minerals developments can have on local communities and the wider environment due to, for example, the impact on landscapes caused by the large scale excavations associated with quarrying.

2.10. National planning policy, as set out in Chapter 13 of the NPPF, requires Mineral Planning Authorities (MPAs) to make provision for future mineral supply within their Local Plans. The Joint Minerals Local Plan for West Sussex must, therefore, provide a sound basis on which decisions can be made regarding associated development within West Sussex, including the area covered by the South Downs National Park Authority.

2.11. In order to ensure continuing economic development, the Government proposes to secure energy supply through a mix of sources, including oil and gas[2]. The Joint Minerals Local Plan must therefore make provision for potential minerals based energy sources.

2.12. In addition, the latest national strategy for delivering sustainable development, 'Securing the Future', includes five guiding principles:

- living within environmental limits;
- ensuring a strong, healthy and just society;
- achieving a sustainable economy;
- promoting good governance; and

[2] Energy Security Strategy 2012 refers to the government's policy response to energy security and includes the following principle: "Maximising economic production of our oil and gas reserves to provide reliable energy supplies which are not exposed to international energy supply risks."

- using sound science responsibly.

2.13. The Strategy sets out a commitment to creating sustainable communities, whilst at the same time, tackling environmental inequalities.

2.14. The Government refreshed its vision and commitment to sustainable development in 2011, through the report 'Mainstreaming sustainable development: the government's vision and what this means in practice'. This built on the principles that underpinned the UK's 2005 sustainable development strategy, by recognising the needs of the economy, society and the natural environment, alongside the use of good governance and sound science.

2.15. The priorities for action identified within the extant national strategy are:

- Sustainable consumption and production;
- Climate change and energy;
- Natural resource protection and environmental enhancement; and
- Sustainable communities

National Planning Policy Framework (NPPF)

2.16. The overarching aim of the NPPF is to achieve sustainable development as set out in the Government's Sustainable Development Strategy 'Securing the Future' as described above. The NPPF sets out three key dimensions to sustainable development: economic, social, and environment. In order to achieve sustainable development, there is a need to take on a role that embraces these dimensions together as they are mutually dependent.

2.17. The NPPF seeks a presumption in favour of sustainable development. Sustainable development, in a land-use planning context, is about controlling and managing the demand for development (including the use of land), so that the quality of life can be improved, both now and in the future, by meeting social and economic needs without causing unacceptable damage to the environment. Furthermore, sustainable development should include the pursuance of environmental gains and enhancement of our natural capital as set out in paragraph 109 of NPPF. Social progress, economic growth, and environmental protection (including the use of natural resources) should be integrated in such a way that benefits are maximised.

2.18. The policies of NPPF, between paragraphs 18 to 219, taken as a whole, constitute the Government's view of what sustainable development in England means in practice for the planning system. The policies for facilitating sustainable use of minerals set out in NPPF are considered to be consistent with the principles of achieving sustainable development in the UK.

2.19. The specific minerals policies, guidance on the preparation of Mineral Local Plans and decision making advice set out within the NPPF includes:

- Planning for steady and adequate supply of aggregates and industrial minerals (which can include the identification of specific sites);
- Recognising the role of secondary/recycled aggregates;
- Recognising the role of mineral infrastructure;
- Defining Minerals Safeguarding Areas to ensure that known locations of specific minerals resources of local and national importance are not needlessly sterilised by non-mineral development
- Making provision for restoration/aftercare of mineral sites

2.20. Therefore, national policy requires Minerals Planning Authorities (MPAs) to plan for minerals in a sustainable manner. Through the Joint Minerals Local Plan, the County Council and the South Downs National Park Authority aim to produce a sound planning policy framework that provides a clear guide to minerals operators and the public about:

- The locations where mineral extraction may take place;
- The safeguarding of sensitive environmental features, minerals infrastructure and of mineral resources with potential for future extraction; and,
- All aspects of environmental amenity and resource protection including the sustainable transportation of minerals.

2.21. The NPPF also sets out (paragraph 115) that 'great weight' should be given to conserving landscape and scenic beauty in National Parks and Areas of Outstanding Natural Beauty, which have the 'highest status of protection in relation to landscape and scenic beauty. The conservation of wildlife and cultural heritage are important considerations in all these areas, and should be given great weight in National Parks.

2.22. The NPPF also states that planning permission should be refused for major developments in these designated areas except in exceptional circumstances and where it can be demonstrated they are in the public

interest. Para 116 of NPPF states that consideration of major development in designated areas should include an assessment of:

- The need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;
- The cost of, and scope for, developing elsewhere outside the designated area, or meeting the need for it in some other way; and,
- Any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be monitored.

2.23. This section explains the issues arising from winning/working minerals in West Sussex which the Plan seeks to address. It also sets out which mineral resources are found in West Sussex, however further detail can be found in Background Paper 2: Minerals in West Sussex, the Silica Sand Study 2016 and the Local Aggregates Assessment.

Local Strategies and Policies

SDNP and AONB Management Plans

2.24. The South Downs National Park Authority adopted their Partnership Management Plan in 2014. This Management Plan, and those prepared for the Chichester Harbour AONB and High Weald AONB, are material considerations for the preparation of the Joint Minerals Local Plan.

2.25. The SDNPA Partnership Management Plan (PMP) recognises that mineral sites both within the National Park, and its setting, can have negative impacts while they are being worked. The Plan also identifies the importance of appropriate restoration, as this can provide wide ranging benefits. The Plan sets out, through Policy 27, that where mineral working is necessary the National Park's special qualities should be protected and enhanced through the management and restoration of minerals sites.

2.26. Outcome 1 of the Partnership Management Plan aims to ensure that 'the landscape character of the National Park, its special qualities and local distinctiveness have been conserved and enhanced by effectively managing the land and the negative impacts of development and cumulative change'. Other policies in the PMP are also relevant considerations for the Joint Minerals Local Plan, for example Policy 4 is about seeking to create more connected areas of habitat in and around the National Park. Mineral sites, when restored, have the potential to contribute to habitat creation and could help connect existing habitats.

2.27. The High Weald AONB Management Plan (2014-2019) sets out the policy for the management of the area and is formally adopted by the 15 local authorities covering the High Weald AONB. This includes an AONB Vision, and also a Statement of Significance which sets out five key components of the character of the AONB:

- Geology, landform, water systems and climate;
- Settlement;
- Routeways;
- Woodland; and
- Field and Heath.

2.28. The Chichester Harbour AONB Management Plan (2014-2019) sets out a framework for the management of the AONB, which includes a vision, policies and actions which build on the achievements of the previous management plan.

2.29. The Authorities have had regard to the policies set out within the management plans for the AONB's throughout the preparation of the Joint Minerals Local Plan.

West Sussex Transport Plan

2.30. The West Sussex Transport Plan (WSTP) 2011-2026 includes four strategies that guide the County Council's approach to maintaining, managing and investing in transport. It has an overall vision to achieve efficient, safe and less congested transport networks, which contribute towards a more competitive and thriving economy, reductions in emissions, improved access to service, jobs and housing especially for those in need and improved quality of life.

2.31. The WSTP seeks to maintain and promote the Lorry Route Network (LRN) which was developed to reduce the use of unsuitable roads by hauliers. The Lorry Route Network is divided into the 'Strategic Lorry Routes', which are the preferred routes, and the 'Local Lorry Routes', which should only be used for the start or final leg of a journey or between built-up areas in West Sussex.

Local and Neighbourhood Plans

2.32. The South Downs National Park Authority, which covers significant areas of six of the districts and boroughs in West Sussex, is in the process of developing a National Park-wide Local Plan due to be adopted in 2018.

2.33. The seven District and Borough Councils in West Sussex are preparing local plans covering the non-minerals (and non-waste) planning issues for those parts of the County outside the National Park.

2.34. Parish and Town Councils may choose to prepare Neighbourhood Plans that set out policies for small scale development within their area. Made Neighbourhood Plan policies [3] are less likely to affect minerals development, however they form part of the Development Plan for an area and should be taken into account as appropriate.

2.35. In accordance with the NPPF (paragraph 180), the Authorities continue to cooperate on relevant issues and work closely with the District and Borough Councils to ensure consistency between planning documents, in particular in the allocation of land for different uses.

West Sussex – Spatial Portrait

Population and the Economy

2.36. West Sussex covers 199,000 hectares and has a population of c.828,000 (2015 estimate) which is forecast to rise to c. 910,000 by 2030 taking into account proposed future housing growth. The population is largely concentrated within the twenty-four towns and villages that cover just 12% of the land area. Over 70% live in the 11 main towns and adjoining urban areas along the coast. The rural areas of the County are sparsely populated with about 10% of the population.

2.37. The main coastal development stretches from Bognor Regis in the west, through Littlehampton and Worthing to Shoreham-by-Sea, Southwick and Fishersgate in the east. Chichester is further inland, in the south-west of the County. In the east, development is concentrated around Haywards Heath and Burgess Hill on the county boundary with East Sussex and in the north-east of the County around Horsham, Crawley, and East Grinstead.

2.38. The largest centres of population are Crawley and Worthing (around 100,000 each). Bognor Regis has a population of almost 65,000 people, and Horsham has about 50,000 people. Burgess Hill, Chichester, East Grinstead, Haywards Heath, Lancing/Sompting, Littlehampton, and Shoreham/Southwick have populations of between 25,000 and 45,000

[3] 'Made' Neighbourhood Plan policies are those which have been finalised and are in use

people. The small town of Midhurst (about 5,000 people) is a centre for the rural north-western part of the County.

Economic Activity and Minerals

2.39. The Local Economic Partnership (LEP), 'Coast to Capital', is driving economic development in the County. The mission of the LEP is to drive sustainable, private sector-led growth, and job creation in an area which stretches from Brighton and Hove in the south to Croydon in the north, and which embraces the Gatwick Diamond, Coastal West Sussex, and Rural West Sussex 'economic regions'.

2.40. Economic growth in West Sussex is a key priority to ensure its continued development. Minerals are an important resource and the maintenance of a steady supply of minerals is important to this growth in order to enable the continued economic growth and maintenance of the built environment, house building and transport infrastructure.

2.41. Mineral extraction is a temporary activity and, once sites are restored, they can enhance the local environment and landscape. Tourism and leisure form an important part of West Sussex's economy due to the special qualities landscape and character of the Plan Area that can be adversely impacted by mineral activities. A balance must be struck between enhancing the quality over the longer term and the impact of mineral extraction both during extraction and once the development is completed through restoration. It is important to the economy that West Sussex is an attractive place to live and visit, and high quality restoration and aftercare of minerals sites has a role to play in this. This includes the growth of natural capital that is a pre-requisite for enhancing services provided by ecosystems, underpinning the economic and social well-being of Sussex.

2.42. Minerals are a finite resource and it is important that they are used in such a way that leaves sufficient supplies for the future, so that they can play a continuing role in underpinning the growth of many sectors of the economy. The winning and working of minerals in West Sussex is not new and it has taken place for hundreds of years, and, as a result, infrastructure to support the industry, such as wharves and railheads, has been developed and will continue to be important in the future.

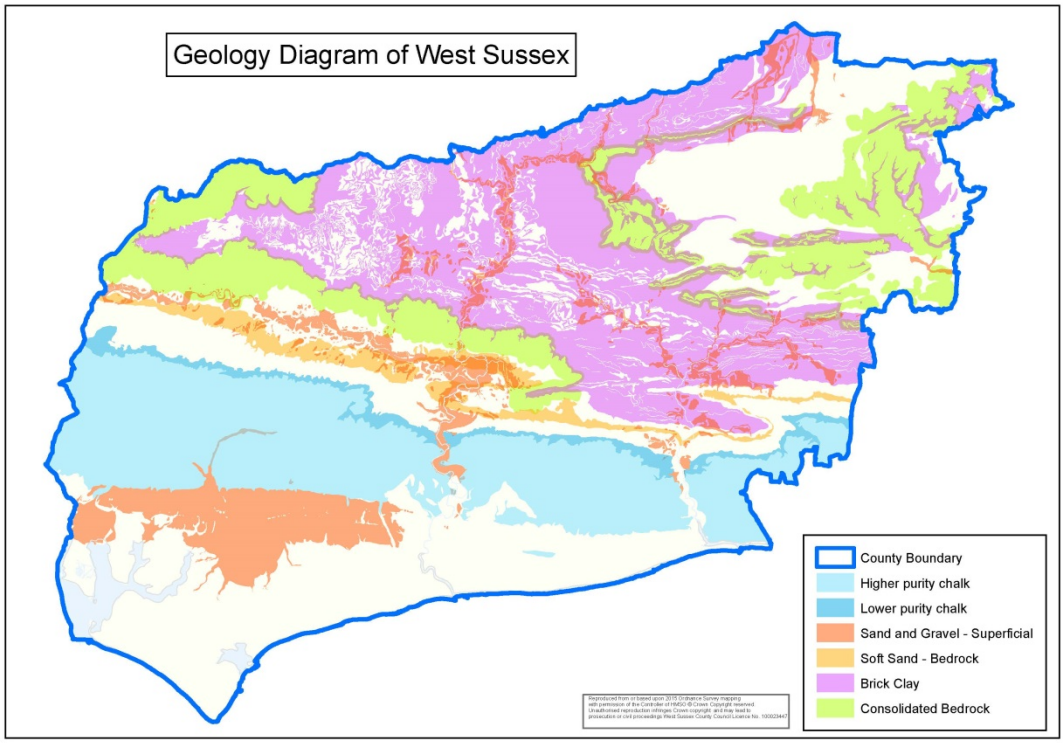
2.43. The Authorities are committed to sustainable development and aim to support the 'decoupling' of economic growth from higher levels of carbon emissions.

Geology

2.44. The geology of West Sussex is a sequence of broad zones from the south to the north-east of the County (see Figure 1 below):

- Brickearth, London Clay and gravels along the coastal plain;
- the chalks of the South Downs;
- various beds forming the Upper Greensand, Gault Clay and Lower Greensand to the north of the chalk downs;
- the clay area of the Low Weald; and
- mixed area of sandstones and clays forming part of the High Weald in a triangle between Horsham, East Grinstead and Burgess Hill.

Figure 1: Geology of West Sussex



2.45. The main minerals worked, or with the potential for working, in West Sussex are:

- Construction aggregates including sharp sand and gravel and soft sand;
- Natural building stone;
- Brick clay;

- Silica sand; and
- Hydrocarbons.

2.46. An assessment of mineral supply and demand issues is summarised within Background Paper 2 - Minerals in West Sussex. The latest position concerning aggregates is included in the Local Aggregate Assessment, whilst the latest position concerning silica sand is set out in the Silica Sand Study 2016.

Landscape and Townscape Character

2.47. The geological zones relate closely to the five main nationally defined natural character areas of the County. These broad areas range from the predominantly flat South Coast Plain; the grand sweep of the South Downs; the intricate escarpments and valleys of the Wealden Fringe; to the intimate landscapes of the Low Weald; and the wooded hills and valleys of the High Weald. Each has a unique configuration of geology and soils, biodiversity, appearance, settlement patterns, locally distinctive architecture, patterns of land use and economy, visible and perceived history, and degree of tranquility which help distinguish one from another.

2.48. In 2003, the County Council carried out an assessment of the landscape character of West Sussex. This resulted in the identification of 42 unique areas and the production of land management guidelines for each character area. This information is included in the Landscape Character Assessment of West Sussex that can be downloaded from the following website:https://www.westsussex.gov.uk/land-waste-and-housing/landscape-and-environment/landscape-character-assessment-of-west-sussex/.

2.49. The Landscape Character Assessment (LCA) of the South Downs was updated in 2011. The South Downs LCA defines 18 general landscape types within the National Park as well as 49 more place-specific 'character areas'. The South Downs LCA can be downloaded from the following website: https://www.southdowns.gov.uk/planning/planning-advice/landscape/.

2.50. These five main natural character areas in West Sussex are broken down further into about forty character areas, representing a high level of local detail. No judgment is made about the relative worth of either the main or the smaller character areas. The character areas derive from the interaction of physical and ecological features (including geology,

landform, soil and wildlife) with land use and other human activity such as farming patterns, settlement pattern and forms, building design and vernacular. Cohesiveness is described in terms of landscape character, sense of place, local distinctiveness, tranquility, characteristic wildlife and natural features, and the nature of change within the area.

2.51. The towns and villages of West Sussex include the historic towns of national importance such as Chichester and Arundel, market towns of greatly varied character such as Billingshurst, Midhurst and Petworth, and larger places like Horsham and Haywards Heath which grew in the heyday of the railways. Together with the coastal towns and seaside resorts, Crawley new town and a host of villages, these settlements contribute to the wider character of the five main natural character areas and of West Sussex as a whole.

2.52. West Sussex is one of the most heavily wooded counties in England, accounting for about 19% of the land area. Together with the extensive hedgerow network, woodland is a major element in the character of West Sussex as well as an economic, recreation, environmental and biodiversity resource.

2.53. More than half of West Sussex is included within nationally protected landscapes: the South Downs National Park (SDNP), the Chichester Harbour Area of Outstanding Natural Beauty (AONB), and the High Weald AONB.

2.54. The South Downs run from Eastbourne to Winchester. Within West Sussex, the National Park includes the classic rolling chalk scenery of the South Downs themselves together with the intricate valleys and wooded greensand ridges of the Wealden Fringe and the Low Weald. It includes a number of small towns and villages including Midhurst and Petworth.

2.55. The Chichester Harbour AONB, an enclosed expanse of marine water, contains tidal mudflats, shingle, marsh, wetland scrub and small creeks providing a mosaic of precious inter-tidal habitats. It also includes the surrounding low-lying agricultural land, with some significant woodland. It is internationally important for wildlife. Despite heavy use for sailing and recreation generally, the area retains a secluded feel, strongly contrasting with a spacious quality in the broader reaches of the Harbour.

2.56. A large part of the High Weald AONB lies in West Sussex with the remainder in Kent and East Sussex. The sandstones and clays of the

Wealden centre rise above the clay vales surrounding them. The headwaters ('ghylls') of rivers have cut deeply into the upland, producing a characteristic maze of intricate deep valleys and long ridge shanks. Extensive woodlands combine with the terrain and restricted views out to the surrounding plains and downland to create a secret and secluded character.

2.57. Minerals can only be worked where they occur and their extraction can potentially cause conflict through loss or changes to valued landscapes. The extraction of minerals and subsequent restoration of sites can impact on historic landscape patterns and lead to the creation of new landscapes. The South Downs National Park covers almost the whole of the chalk outcrop, almost half the Folkestone Beds, and part of the gravel resource north of Chichester. The High Weald AONB designation includes the entire Wadhurst Clay outcrop. The Chichester Harbour designation includes a partial amount of unconsolidated gravel. As stated above, AONBs and National Parks are afforded the highest level of protection by National Policy which requires that exceptional circumstances and the public interest should be demonstrated prior to major development being permitted within such areas.

Natural Environment

2.58. West Sussex contains numerous site-specific international, national, regional and local nature conservation designations. Sites of international importance include European sites (Special Protection Areas and Special Areas for Conservation) and Ramsar sites (Wetlands of international importance). There are four SPAs, eight SACs and three Ramsar sites. The majority are located within Chichester and Pagham Harbours, and the Arun Valley.

2.59. The national network of sites includes Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) or sites identified under the Nature Conservation Review (NCR) or Geological Conservation Review (GCR). There are over 78 SSSIs within the County and two NNRs at Kingley Vale and Ebernoe Common.

2.60. Sites of more local importance include Local Nature Reserves (LNR), Sites of Nature Conservation Importance (SNCI) or Regionally Important Geological/Geomorphological Sites (RIGS) which are the most important places for geology and geomorphology outside statutorily protected land such as SSSIs. There are 68 RIGS, 26 LNRs and over 293 SNCIs around

the County. However, there may be other sites or areas of equal importance which have not been identified or designated.

2.61. The semi-natural and ancient woodlands are a nationally important and threatened habitat, and their existence over hundreds of years has preserved irreplaceable ecological and historical features; accordingly, they are protected by designation for that reason. Of the ancient woodlands, few large ones have survived and the remainder are small and scattered, other than in the extensive woodlands in some of the hilly parts of the County. Overall, ancient woodland accounts for about 10.5% of the land area of the County.

2.62. Nature Improvement Areas (NIA) have been created by the Government to enhance and reconnect nature on a significant scale, where the opportunities and benefits justify such action. The 'South Downs Way Ahead' was designated in 2012 as one of England's first NIA. The vision of the local NIA partnership, which includes the SDNPA, is for 'a better connected and inspirational chalk ecosystem, sustainably managed to enhance biodiversity and people's well-being for now and the future'.

2.63. Biodiversity Opportunity Areas (BOAs) represent the targeted landscape-scale approach to conserving biodiversity in Sussex. Landscape-scale conservation within the BOA involves identifying opportunities to expand, link and buffer key sites, and increasing the quality of the entire countryside for wildlife. This approach is vital to ensure our species can adapt to the challenge of climate change. There are 75 BOAs within Sussex (both East and West) which are the areas where there is the greatest potential for restoration and the creation of habitats.

2.64. In May 2016, the South Downs National Park became the world's newest International Dark Sky Reserve (IDSR). An International Dark Sky Reserve is land possessing an exceptional or distinguished quality of starry nights and nocturnal environment that is specifically protected for its scientific, natural, educational, cultural, heritage and/or public enjoyment. Reserves consist of a core area meeting minimum criteria for sky quality and natural darkness, and a peripheral area that supports dark sky preservation in the core. Dark night skies are not only good for star-gazing, they help nocturnal wildlife such as moths and bats thrive.

Historic Environment

2.65. West Sussex has over two hundred conservation areas, nearly half of which are in Chichester District. They range from the grand Victorian

neighbourhoods of the seaside resorts and the historic cores of medieval towns to traditional market town and village centres. West Sussex has many buildings of architectural and historic interest covering every kind and age, reflecting the traditions and history of West Sussex. Over 7,000 buildings are statutorily listed as being of special architectural or historic interest (known as 'listed buildings'), nearly half of which are in Chichester District.

2.66. The historic parks and gardens of West Sussex complement the historic buildings and historic landscape of the County and contribute to the character of the built-up areas and countryside. English Heritage maintains a Register of Parks and Gardens of Special Historic Interest.

2.67. West Sussex has an exceptionally rich archaeological heritage that contributes to its character. The County contains important areas and sites from all eras of human activity, notably Bronze and Iron Age forts and burial sites and a rich legacy of Roman remains and remains of the Wealden iron industry. The County contains approximately 350 Scheduled Ancient Monuments, including early fortifications and burial sites on the downs. In addition, there are some 9,000 record entries on the West Sussex Historical Environment Record.

2.68. In addition to the numerous sites and buildings that enjoy statutory protection, there are also many other features of local interest in the County, including buildings on non-statutory ‘local lists’, historic parks and gardens of local importance, and the wider historic landscape.

Transport of Minerals

2.69. The West Sussex Advisory Lorry Route (ALR) was defined in the West Sussex Transport Plan 2006-2016 (March, 2006). This has been developed to reduce the use of unsuitable roads by hauliers. The ALR is divided into the ‘Strategic Lorry Routes’, which are the preferential routes and the ‘Local Lorry Routes’ which should only be used for start or final leg of a journey or between built up areas in West Sussex. The main elements of this are the coastal A27 and the A23/M23 route from Brighton to London via Crawley and the A24 from Worthing to Horsham. The A3 trunk route links with the A27 close to the western boundary of the County. Other strategic roads form additional links between settlements in the southern and eastern parts of the county. The Highways Agency is responsible for motorways and trunk roads which include the A27 and the A23 in West Sussex.

2.70. The distribution of minerals across the country is not even; as a result neighbouring authorities may have a reliance on the minerals available in West Sussex, just as West Sussex may rely on other areas to supply minerals which do not occur in the County. This reliance is addressed through the Local Aggregate Assessment and the role of the Joint Minerals Local Plan should be to support the sustainable movement of minerals and safeguard relevant infrastructure.

2.71. Within West Sussex, materials are mainly transported by road, and to a lesser extent rail. West Sussex currently has 5 rail linked depots:

- Chichester Railway Sidings;
- Ardingly Rail Depot;
- Tinsley Goods Yard;
- 2 x Good Yards in Crawley.

2.72. There are no rail-linked quarries in West Sussex and, given the high cost of infrastructure, this situation is unlikely to change and so minerals extracted from quarries within West Sussex will continue to be transported by road.

2.73. Mineral resources have to be worked where they occur and therefore they will not always be close to the ALR, although access to the ALR is desirable. Encouraging HGVs to use the advisory lorry route network while maintaining access to areas which businesses need to access.

2.74. Issues of air quality in West Sussex arise mainly in connection with road transport. Mineral developments are likely to make a relatively minor contribution to overall pollution from traffic. Emissions from individual facilities are closely monitored and controlled by the Environment Agency.

2.75. The wide range of minerals obtained by quarrying is significantly augmented by supplies of marine-dredged and other imported materials currently landed at the port at Shoreham, and by crushed rock delivered to rail aggregate depots at Ardingly, Chichester, and Crawley.

Water Environment and Flooding

2.76. The river system centres on the extensive catchments of the River Arun and the River Adur. These drain the entire Low Weald and much of the rest of the County. The River Ouse drains most of the High Weald in West Sussex, running to the sea via Lewes in East Sussex. The Mole and

Eden have their headwaters in the High Weald. Where the Arun and Adur meander through the Downs as tidal rivers, they have created broad floodplains characterised by flat water meadows known as 'wild brooks'. The River Rother forms a western arm of the broad Arun catchment.

2.77. The South East River Basin Management Plans (RBMP) and the Thames RBMP cover areas of West Sussex. These plans deliver the requirements under the Water Framework Directive and identify the specific characteristics of individual catchments and require actions to be taken forward to ensure there is no deterioration in quality from the current status and also to seek to improve that quality status.

2.78. The risk of flooding is an important issue in West Sussex. The coastline of the County is generally low-lying and is naturally sinking. As a result, it is particularly vulnerable to the predicted impacts of climate change. These include more coastal and river (fluvial) flooding resulting from sea-level rise, increased storminess, increased winter rainfall, and higher and more intensive waves. Historically, the rivers of West Sussex flooded regularly, helping to fertilise the low-lying meadows - flood relief measures are now in place. However, occasional flooding continues and the frequency of flood events is expected to rise in the future as a consequence of climate change.

2.79. The Environment Agency is responsible for managing flood risk from main rivers and the sea. They also have a duty to produce flood risk maps and issue flood warnings to the public.

2.80. A Strategic Flood Risk Assessment (SFRA) has been prepared to bring together all available information on this topic and help inform work on the Joint Minerals Local Plan. The principal component of the SFRA is to assess the potential flood risk within the County and inform the Sustainability Appraisal of the Plan. A detailed Flood Risk Assessment (FRA) may be required to support at any future planning applications for allocated sites and any others that come forward for mineral development.

2.81. In addition to flood risk, considerations of hydrogeology can have a major bearing on the suitability of sites for mineral working. A large area of the Plan area is underlain by a principal aquifer and there is a high number of groundwater Source Protection Zones, feeding water to public and private supplies. This is an important factor in developing the strategy for identifying areas suitable for new mineral development sites

where the underlying geology significantly affects the costs of engineering and the level of environmental risk. In addition, the often complex relationship between the local geological structure at a specific site and the potential for water movement is likely to be a major issue for consideration of individual mineral working.

Minerals and Local Effects

2.82. Although minerals can only be worked where they are found and extraction is a temporary activity, these characteristics provide a challenging context within which the Authorities must plan for future mineral development. The Authorities will seek to protect and enhance land within the National Park, AONB and sites designated (at national and local levels) for their biological, cultural, archaeological and heritage importance. A further consideration is the impact of mineral extraction on local communities.

Health and Amenity

2.83. Whilst mineral extraction is necessary for the economy and the built environment, it is capable of introducing adverse impacts, such as noise and dust pollution, increased traffic etc., to areas used for other purposes including housing, public rights of ways and employment. The control of these impacts is therefore an important consideration in future mineral development.

Carbon and Climate Change[4]

2.84. The use of energy minerals, such as burning of coal, oil or gas, in the UK is likely to result in impacts on the climate. National energy policy supports the use of energy minerals as part of the energy mix. The current energy policy of the United Kingdom is set out in the Energy White Paper of May 2007 and Low Carbon Transition Plan of July 2009, building on previous work including the 2003 Energy White Paper and the Energy Review Report in 2006.

2.85. Balancing the possible local impacts of exploration and extraction with the use of fossil fuels as supported by national policy is the responsibility of many organisations/agencies. The Joint Minerals Local Plan must be

[4] Transportation and flooding have a direct relationship with minerals development and climate change. This is set out in the relevant sections above.

prepared in line with national policy and take account of local evidence as it comes forward.

West Sussex – Spatial Portrait

2.86. In light of the context above, the challenges associated with planning for the future supply of minerals in West Sussex have been identified as follows:

Supply of minerals

- The Joint Minerals Local Plan must provide a framework to ensure the steady and adequate supply of minerals to meet requirements to support the local economy and contribute to wider economic growth in the UK.
- The Joint Minerals Local Plan should ensure high quality restoration and aftercare to ensure the after effects of minerals extraction/development does not result in negative impacts on the economy, environment or social wellbeing
- Mineral infrastructure and resources in West Sussex are valuable assets, therefore, the Joint Minerals Local Plan should seek to avoid the needless sterilisation of mineral resources and to protect existing minerals infrastructure.
- The Joint Minerals Local Plan should promote the use of secondary and recycled materials as an alternative to primary construction materials.

Landscape

- Due to the close correlation between the location of mineral resources and areas of high quality and designated landscapes, the need for mineral working should be balanced against the impact on protected landscapes.
- The Joint Minerals Local Plan should seek to protect and enhance landscape features and designations, where possible, whilst taking account of the fact that minerals can only be worked where they are found.

Natural Environment

- The Joint Minerals Local Plan should seek to protect and enhance features of the natural environment, where possible, whilst taking account of the fact that minerals can only be worked where they are found.

Historic environment

- The Joint Minerals Local Plan should seek to protect and enhance natural and historic resources, where possible, whilst taking account of the fact that minerals can only be worked where they are found.

Transport of minerals

- The Joint Minerals Local Plan should ensure that new mineral developments have good links to the Advisory Lorry Route, where possible.
- The Joint Minerals Local Plan should ensure that the environmental/climate change impact of the transportation of minerals by road is minimised and sustainable transport infrastructure, including wharves and railheads is safeguarded.

Water environment

- The Joint Minerals Local Plan should ensure that new minerals developments are not at risk from flooding and do not increase the risk of flooding elsewhere.
- The Joint Minerals Local Plan should take into account the presence of Source Protection Zones and the Principal Aquifer that coincides with the Chalk of the South Downs, to ensure that development will not lead to increased environmental risk.
- The Joint Minerals Local Plan should take account of vulnerability in the Plan area to the impacts of climate change.

Protecting communities

- The Joint Minerals Local Plan should seek to minimise any potential impacts on communities. The potential negative impacts of any new mineral development on the health and amenity of residents, businesses and visitors to West Sussex will be minimised, mitigated and, where possible, avoided. In addition, and where relevant, opportunities will be taken to maximise benefits for communities.

Climate Change

- The Joint Minerals Local Plan should seek to minimise carbon emissions in West Sussex. This can be achieved through minimising transportation of minerals and ensuring energy efficiency where possible.

Outcomes of earlier stakeholder engagement

2.87. The spatial portrait and policy considerations affecting minerals supply in West Sussex were set out in a Background Paper and published for consultation in June 2014. This Background Paper, known as

'Background Paper 1: Setting the Context – Spatial Portrait' includes the following:

- National and local policies and strategies as relevant to the Joint Minerals Local Plan;
- A spatial portrait of West Sussex;
- Identification of the main issues and challenges in relation to minerals development in West Sussex based on the spatial portrait - for use in developing the Vision, Strategic Objectives and Spatial Strategy; and
- A suggested framework for monitoring the achievement of the vision and objectives.

2.88. Specific questions were asked regarding the background paper as follows:

- Are there any omissions or additions to the Spatial Portrait and key challenges/issues identified?
- Are there any omissions or additions to the Spatial Strategy which should be considered?

2.89. Respondents generally agreed that the Spatial Portrait had adequately taken into account the relevant matters. The following were raised as specific matters to be taken into account:

- The fact that that high quality restoration and aftercare is not only an issue for the economy but also for the environment and social wellbeing;
- the presence of silica sand and the need to ensure that sites permitted for silica sand extraction were not subsequently used to supply sand was identified;
- proper recognition of the High Weald AONB;
- greater emphasis on groundwater;
- water quality and in particular the objectives of the South East River Basin Management Plan;
- the control of vehicle movements and the need to assess and understand the traffic impacts of potential mineral sites on the Strategic Road Network and where necessary, how these impacts can be mitigated;
- the potential for the impact of adverse effects on rural communities;

- impacts on public rights of way use of recycled minerals over and above marine or land won minerals and recognition of secondary and recycled 'materials' not just aggregates;
- sustainable development should include the pursuance of environmental gains and enhancement of our natural capital
- need to work with the Sussex Local Nature Partnership
- appropriate restoration and also the potential to enhance the local environment and landscape during extraction, not just once sites are restored;
- Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006;
- the economic and social benefits of a protected countryside;
- location of markets for minerals;
- the county's network of Biodiversity Opportunity Areas.

Identification of the Vision and Objectives

2.90. The Authorities used the policy context, spatial portrait and all feedback from stakeholders on the issues and challenges (as summarised above) to develop a draft Vision and draft Strategic Objectives. This identified the following key areas as those which needed to be covered by the Vision and Objectives:

- Minerals production and use
- Recycled and Secondary Aggregates
- Soft and Silica Sand
- Network of Facilities
- Mineral Resources
- Health and Amenity
- Landscape and Townscape Character
- Natural and Historic Environment
- Flood Risk and Water Resources
- Transport
- Oil and Gas
- Mitigation and Restoration
- Carbon and Climate Change

Identification of the Vision and Objectives

2.91. A draft vision and strategic objectives were subject to sustainability appraisal. Recommendations resulting from this process were as follows:

- The Vision should make an overarching statement in relation to

flooding and the water environment as a hook for the Strategic Objectives.

- The Vision should make an overarching statement in relation to soil as a hook for the Strategic Objectives if the protection of and/ or enhancement of soil ends up being directly referred to in the Strategic Objectives.

2.92. The above recommendations were not fully incorporated into the draft Vision in the Draft JMLP; however, the draft Vision states: "Will have ensured minerals have been produced in a manner that protects and enhances the historic and natural environment", and this provides a general hook for soil, flooding and the water environment to be taken through into the Strategic Objectives.

Sustainability Appraisal of the final Draft Vision and Objectives

2.93. The SA of the final draft Vision that was published for consultation as part of the draft JMLP noted that it sets out a positive vision for the future to be achieved by the end of the plan period in 2033 which encourages sustainable economic growth as required by the NPPF. The SA also notes that overall, the Draft Vision and Draft Objectives were considered likely to have positive or negligible effects on the SA objectives.

2.94. Significant positive effects were identified in all social, economic and environmental categories as many of the draft JMLP Objectives aligned with the aspirations of the SA objectives.

Vision and Objectives – Proposed Submission Draft

2.95. Consultation on the Draft JMLP revealed general support for the draft vision though some comments requested greater emphasis towards protecting the two Areas of Outstanding Natural Beauty alongside the South Downs National Park (SDNP). Changes to the Vision were made to reflect this point (as shown above).

2.96. There were also comments in support of the draft strategic objectives. Some noted comments noted apparent conflicts between them. In particular, an apparent contradiction between the strategic objectives to minimise traffic movements and seek a managed retreat from quarrying in the SDNP due to possible increases in traffic resulting from the importation of soft sand. A slight change to the relevant strategic objective was made in relation to this matter.

3. Minerals Supply and Demand

Aggregates – Land won sharp sand and gravel

Link to Proposed Submission Plan Policy

3.1. This chapter explains the derivation of the strategic minerals supply policy in the Proposed Submission JMLP that is concerned with land won sharp sand and gravel. The wording of this policy, showing the changes that were made to the draft policy, is as follows:

Policy M1: Sharp sand and gravel
Proposals for land won sharp sand and gravel extraction, including extensions of time and physical extensions to existing sites, will be permitted provided that: **(a) the proposal is needed to ensure ~~that~~ a *steady and adequate* ~~landbank equivalent to at least seven years~~ supply is maintained; *and*** **(b) the proposal is located outside the AONB / South Downs National Park unless there are exceptional circumstances and that it is in the public interest, in accordance with Policy M13, to locate within those areas; *and*** **(c) where transportation by rail or water is not practicable or viable, the proposal is well-related to the Lorry Route Network.**

Key related documents

3.2. The following documents provide further information and evidence concerning the supply of land won sharp sand and gravel:

- Background Paper 2: Minerals in West Sussex (Version 2, December 2014)
- Engagement Event – 13 August 2014: Summary of Outcomes
- West Sussex Annual Monitoring Report 2015/16
- Assessment of Need for Aggregates: Local Aggregate Assessment (January 2017)
- Draft Joint Minerals Local Plan Consultation 2016 - Outcomes Report

Explanation of the issue

Sharp Sand and Gravel in West Sussex

3.3. Sharp sand and Gravel, of varying quality, is found to the south of the South Downs National Park in the south-west of the County in superficial or 'drift' deposits. Coarser, silty gravels lie over the chalk to the north of a line approximating to the route of the A27 and have been exploited historically in dry workings. Overlying the clay to the south, cleaner, better-sorted gravels have been exploited historically through wet working, as evidenced by the lakes around the eastern and southern fringes of Chichester. Historic gravel sites are clustered around Chichester and south of the Downs from the Funtington area in the west to Slindon in the east. There is now only one permitted site in West Sussex for sharp sand and gravel, located at Kingsham. Background Paper 2 includes geology mapping which shows the distribution of the resource.

National Policy and Demand

3.4. The NPPF requires MPAs to plan for a steady and adequate supply of aggregates through the production of a Local Aggregates Assessment (LAA). This is to ensure that aggregate minerals continue to be available to support sustainable economic growth and our quality of life (NPPF para. 142).

3.5. Para 145 of the NPPF expects MPAs to maintain landbanks (how long reserves at existing permitted sites will last), for sand and gravel, of at least seven years. With predicted annual requirements based on a rolling average of 10 years of historic sales data and factoring in 'relevant local information' about supply and demand, including future house building and infrastructure plans.

3.6. The LAA has a crucial role to play in monitoring the supply and demand of aggregates annually, and is used to determine the likely future demand during the JMLP plan period, to 2033.

Supply and Demand

3.7. Background Paper 2 (Versions 1 and 2) set out the 10 year average of sales for sand and gravel (combined with soft sand, due to commercial confidentiality). A combined shortfall of 4.27mt was set out (para 3.8)[5].

[5] This was based on the 2014 LAA, which has now been replaced with an updated LAA.

Paragraph 3.9 of Background Paper 2 (Version 1 and 2) made note of National Planning Practice Guidance, and the consideration of splitting the reserves for minerals with different properties, however, due to commercial confidentiality, the Authorities are unable to disclose data relating to the different sand and gravel minerals (Sharp sand and gravel and soft sand[6]). Instead historical evidence estimates were considered and set out in the Background Papers and presented at the engagement event which suggested a split of 80% and 20% for soft sand and sharp sand and gravel, or a split of 70% and 30%.

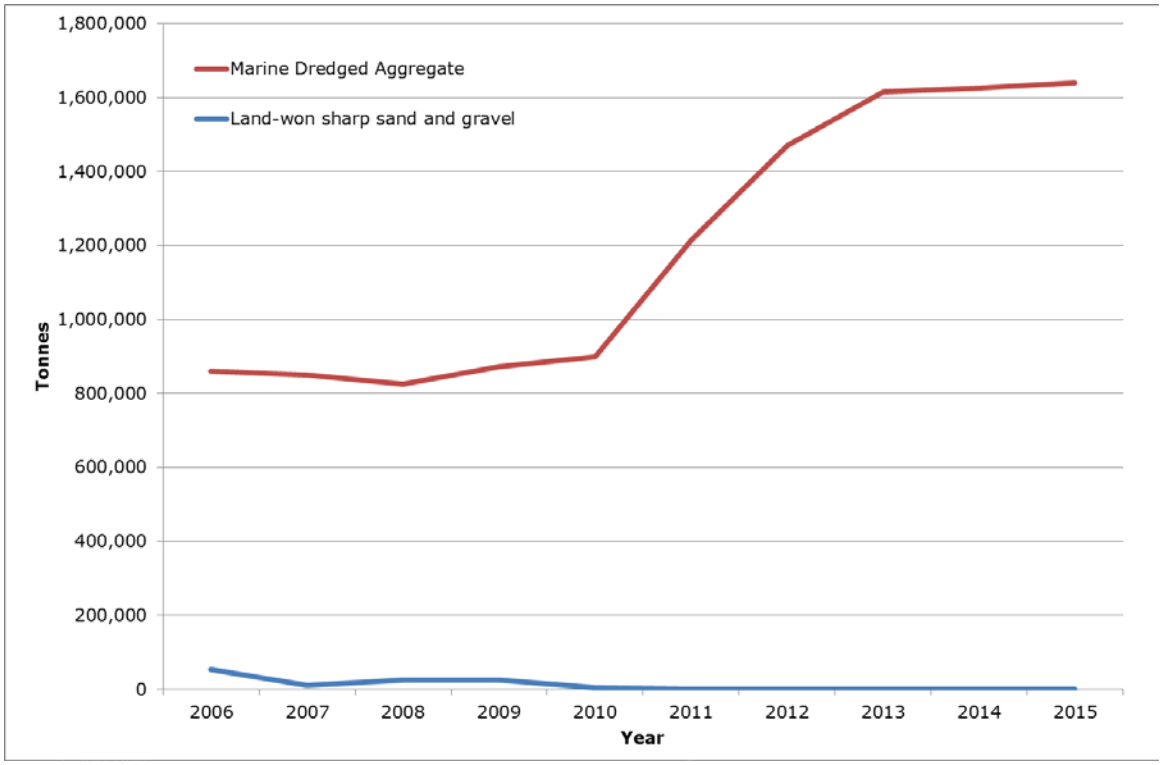
3.8. The difference between the current 3-year, 5-year and 10-year averages is shown below:

- 3-year average = zero
- 5-year average = zero
- 10-year average = 9,793 tonnes per annum

3.9. The 3 and 5 year averages show zero tonnes per annum when considering potential demand, which is due to reductions in aggregate sales, particularly during the recession years. During this period, there has also been a marked increase in the sales of marine dredged aggregate, which has the same uses and land won sharp sand and gravel. Figure 2 below shows the previous ten year sales of both sharp sand and gravel and marine dredged aggregate. It should be noted that the LAA uses landings data rather than sales data for marine dredged aggregate demand calculations due to operators of sites selling to one another, therefore marine dredged aggregate sales include an element of double counting.

[6] Soft sand is considered in a separate chapter of this Background Document

Figure 2: Sales of land-won sharp sand & gravel and marine dredged aggregates



3.10. In order to fully understand the requirements for sharp sand and gravel, evidence, as set out in the latest LAA, was used. The most recent LAA sets out demands for sharp sand and gravel separately from soft sand. The main outcomes of the current LAA are that:

- The ten-year average of sharp sand and gravel sales is 9,793 tonnes per annum
- Taking account of *other relevant local information*, annual demand may be as high as 12,711 tonnes per annum.
- The need over the plan period (to 2033), based on the highest calculated demand, is 218,086 tonnes.
- The current reserves are of sharp sand and gravel are 900,000
- There is a surplus of as much as 733,524 tonnes permitted in West Sussex, and therefore no need to allocate further sites.
- The landbank, based on current reserves against the highest calculated likely demand, is 71 years.

Outcomes of earlier stakeholder engagement

3.11. One of the key questions asked as part of the stakeholder engagement exercise in 2014 was:

- *Are there any other issues or evidence which should be considered for the purposes of planning for a steady and adequate supply of soft sand and sharp sand and gravel through the Plan period?*

3.12. Responses received around the split of soft sand and sharp sand and gravel were, in the main, supportive of a split, but no suggestions of how to undertake this split were provided. There were a number of comments surrounding the calculation of future need for aggregate, which were supportive of using 3-year of 5-year averages rather than ten year averages.

Related Vision and Objectives

3.13. The parts of the Vision and the Objectives which relate specifically to sharp sand and gravel are:

West Sussex:

- Will have contributed to the supply of minerals, in particular aggregates, clay, chalk, building stone, silica sand and oil and gas, to support growth in West Sussex. In particular social and economic progress of both the Coastal West Sussex and Gatwick Diamond strategic growth areas will have been supported through the provision of aggregate to enable the delivery of new development.

- Will be a place which seeks to meet its own needs for minerals and encourage the sustainable use of natural resources, whilst aspiring to source more and more minerals from alternatives to primary extraction, and from areas outside the South Downs National Park and Areas of Outstanding Natural Beauty.

Strategic Objective 1: To promote the prudent and efficient supply and use of minerals, having regard to the market demand and constraints on supply in the Plan area.

Identification and evaluation of reasonable alternative options

3.14. Following on from the engagement that was undertaken during 2014, the Authorities set out to identify and evaluate options for sharp sand and gravel.

3.15. Based on the evidence on demand, as well the requirements of national policy, outcomes of early stakeholder engagement, and the relevant

JMLP Vision and Objectives (as set out above), two reasonable policy alternatives were considered and evaluated for supplying land-won sharp sand and gravel, as set out below:

Option SSG1 **Safeguard existing permitted reserves of sharp sand and gravel**
This option ensures that existing permitted reserves are not sterilised by other non-minerals development and so are available for the supply of sharp sand and gravel during the plan period.
Evaluation
This option is in accordance with national policy in that it ensures that a minimum 7-year landbank, via existing permitted reserves, will be maintained during the Plan period. The option is also consistent with the draft Vision and Objectives.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes. Deliverable and consistent with national policy.

Option SSG2 **Allow windfall sites to come forward in certain circumstances**
This option ensures that proposals for new sharp sand and gravel sites, including extensions to existing sites, can be considered on their merits taking into account circumstances pertaining at the time of the application. This option would result in a policy being included in the Plan that would specify the circumstances (using criteria) under which a 'windfall' site would be allowed to come forward. Related criteria would include a demonstration of need for the mineral.
Evaluation
This option provides the Plan with additional flexibility by ensuring that the Plan does not 'close the door shut' on any proposals for land won sharp sand and gravel. Such an option provides the Plan with additional flexibility.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes. Deliverable and consistent with national policy.

Option SSG3 **- Safeguard existing permitted reserves of sharp sand and gravel** **- Identify sufficient additional allocations for land won sharp sand and gravel to meet a shortfall in marine dredged aggregate that would occur if wharf capacity cannot meet demand for Marine Dredged Aggregate (MDA).**
This option ensures that existing permitted reserves are not sterilised by other non-minerals development and so are available for the supply of sharp sand and gravel during the plan period. The allocation of further reserves would ensure that any reduction is supplies of marine dredged sand and gravel is compensated for.
Evaluation
This option is in accordance with national policy in that it ensures that a minimum 7-year landbank will be maintained during the Plan period. However evidence suggests that there will not be any decrease in supplies of marine dredged aggregate – the assessment of wharf capacity v need for MDA suggests there would be surplus wharf capacity to allow the landing of MDA even if certain wharves were redeveloped to meet regeneration aspirations. Furthermore it is likely to be more sustainable for reductions in MDA to be compensated for by increasing supplies of secondary aggregate.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
No. The allocation of additional land-won sharp sand and gravel sites is not justified and so would be inconsistent with national policy.

Outcome of the Sustainability Appraisal of the Reasonable Alternatives

3.16. Policy Options SSG1 and SSG2 were subject to SA as reasonable alternatives.

3.17. Policy Option SSG1 includes a reference to safeguarding. The SA recommended that this policy option, and any resulting policies, do not refer to 'safeguarding' and instead should focus on minerals supply as the general safeguarding of mineral resources is considered more appropriately as a separate issue (see separate Chapter 4).

3.18. Policy SSG2 was appraised as having more minor negative effects than SSG1. The main outcome was that, although the Plan does not need to identify additional sites for allocation, SSG1 ensures existing supplies can be maintained and it was recommended that SSG1 and SSG2 be

combined such that the policy includes the criteria set out in SSG2 as allowing potential windfall sites to come forward should existing permitted reserves become constrained for any unforeseen circumstances would provide additional security to the maintenance of supply and flexibility in the plan. This would increase the sustainability of the approach to supply sharp sand and gravel through the JMLP.

Identification of the preferred approach

3.19. Policy M1 of the draft JMLP took account of the SA recommendations to combine options SSG1 and SSG2 and remove reference to safeguarding. The resulting Policy M1 was consulted on as part of the draft JMLP.

Sustainability Appraisal of the Draft Policy on Land won Sharp Sand and Gravel

3.20. SA of draft Policy M1 revealed that the policy was predominantly expected to have mixed minor positive and minor negative effects on the following SA objectives:

- SA Objective 1 (health, wellbeing and amenity of residents)
- SA Objective 2 (recreation)
- SA Objective 4 (minerals resources)
- SA Objective 5 (landscape)
- SA Objective 6 (biodiversity)
- SA Objective 7 (geodiversity)
- SA Objective 8 (historic environment)

3.21. Uncertain minor negative effects were expected for SA objectives 10 (air quality) and 13 (transport) due to the potential for increased traffic movements and associated emissions arising from mineral transport. Conversely, uncertain minor positive effects might occur in relation to SA objectives 12 (flooding) and 14 (greenhouse gas emissions) as sand and gravel workings are classed as water-compatible development and are potentially suitable development within all flood zones, and provision of sufficient sand and gravel sites within the plan area should reduce the need for additional importation of sharp sand and gravel into West Sussex, thereby reducing greenhouse gas emissions.

3.22. In terms of ecosystem services, the potential impact of draft Policy M1 on each of the main ecosystem services corresponds to the potential for positive or negative effects identified on the SA objectives described above.

Changes to Policy M1 between draft and proposed submission versions

3.23. As shown above, minor changes to Policy M1 were made between the draft and proposed submission versions of the policy. These changes clarify that each clause requires consideration, and clarify the position with regard to the need for development (in responses to comments made on the draft policy (See Draft Joint Minerals Local Plan Consultation 2016 - Outcomes Report).

Aggregates – Soft sand

Link to Draft Plan Policy

3.24. This chapter explains the derivation of the strategic minerals supply policy in the Proposed Submission JMLP that is concerned with soft sand. The wording of this policy, showing the changes that were made to the draft policy, is as follows:

Policy M2: Soft Sand
Proposals for land won soft sand extraction, including extensions of time and physical extensions to existing sites, will be permitted provided that: **(a) ~~it can be demonstrated that extraction cannot take place on~~ the site *is* allocated within Policy M11 of this plan; *or*** **~~the proposal contributes to the maintenance of at least a seven year landbank;~~** **(b) the proposal is located outside the South Downs National Park unless there are exceptional circumstances and that it is in the public interest, in accordance with Policy M13, to locate within th~~ose *Park* ~~areas~~; *and*** ***(c) the proposal is needed to ensure a steady and adequate supply is maintained; and*** **(d) where transportation by rail or water is not practicable or viable, the proposal is well-related to the Lorry Route Network**.

Key Related Documents

3.25. The following documents provide further information and evidence concerning soft sand:

- Background Paper 2 – Minerals in West Sussex (Version 2, December 2015)
- Capita Symonds, 'Soft Sand Study' (2012)
- West Sussex Annual Monitoring Report 2015/16
- Local Aggregates Assessment (January, 2017)
- Mineral Site Selection Report (January 2017)

- Draft Joint Minerals Local Plan Consultation 2016 - Outcomes Report

Explanation of the issue

Soft Sand in West Sussex

3.26. Soft Sand is won from the Folkestone Formation which is worked in a number of locations in West Sussex. The variable grain size and low clay content mean that little or no processing is required to produce high quality building sands for mortar (soft sand). The Folkestone Formation and therefore, the potential sites, largely lie within the South Downs National Park.

3.27. The authorities have considered 'soft sand' separately from 'Sharp sand and gravel' as soft sand has uses which are distinct from sharp sand (in particular as a mortar sand). This is consistent with the NPPF (para 145) that states: *"Minerals planning authorities should plan for a steady and adequate supply of aggregates by…calculating and maintaining separate landbanks for any aggregate materials of a specific type or quality which have a distinct and separate market."*

National Policy

3.28. National planning policy (para 145) requires local authorities to maintain landbanks (how long reserves at existing permitted sites will last), for sand and gravel, of at least seven years. With predicted annual requirements based on a rolling average of 10 years of historic sales data and factoring in 'relevant local information' about supply and demand, including future house building and infrastructure plans.

3.29. National policy also expects the protection of the environment, and at paragraph 116 states that planning permission should be refused for major developments in designated areas, including National Parks, except in exceptional circumstances and where it can be demonstrated that they are in the public interest.

3.30. Furthermore para 144 states that: *"When determining planning applications, local planning authorities should:…. as far as is practical, provide for the maintenance of landbanks of non-energy minerals from outside National Parks…"*

Supply and Demand

3.31. The AM2014 data shows that West Sussex consumed a total of 99,000 tonnes of land won sand and gravel, of which 40-50% was from West Sussex sources. The remainder was imported into West Sussex, largely from Essex, Hampshire and Surrey. Indicative data provided by the BGS suggests that West Sussex exported between 42,400 – 275,600 tonnes of land won sand and gravel in 2014 (see table 5 of the LAA).

3.32. Estimates of the future need for soft sand have considered the average of the past 10 year sales of land won soft sand as well as 'other relevant local information' – evidence suggests increases in demand of between 10 and 15% are reasonable based on planned increases to housing supply in West Sussex and neighbouring areas. To ensure the Plan allows flexibility the higher land won demand figures have been utilised in estimating future supply requirements. The calculations are set out in the latest (January 2017) Local Aggregates Assessment and summarised in the paragraph below.

3.33. Based on the above assumptions, the future annual demand for soft sand is estimated to be 375,509 tonnes per annum (tpa). This means that the total theoretical need over the Plan period to 2033 is 6,384,000. As reserves are estimated to be 3,060,500 tonnes, if supply levels are to increase above historical levels (as set out above) then additional reserves of 3,323,148 tonnes are required to meet demand up to 2033.

3.34. Existing reserves are sufficient to supply soft sand at levels equivalent to the 10 year average sales, and taking account of relevant local information, for 9.3 years. Work has been undertaken to establish whether there are any additional sites that could be allocated with a view to increasing the level of reserves in West Sussex. As soft sand resources are heavily constrained, by being situated mainly in the South Downs National Park this work has included an assessment of whether there are 'exceptional circumstances' and a 'public interest' that would justify the allocation of new or extended sand quarries within the SDNP. Based on current evidence, the assessment concluded that the exceptional circumstances do not exist to warrant allocation of additional soft sand sites or extensions with the SDNP (See Appendix 7 of the Minerals Site Selection Report). However, a site known as Ham Farm, that is located outside of the SDNP, was identified as suitable for the provision of 725,000 tonnes of soft sand. The assessment of the sites is set out in the Minerals Sites Selection Report.

Outcomes of earlier stakeholder engagement

3.35. In 2014, Background Paper 2 – Mineral Resources, was published for consultation. This background paper presented evidence in relation to the mineral resources in West Sussex and was intended to inform discussions with the community, and key stakeholders. The following specific questions were asked with regard to aggregate minerals:

- Is the data used to calculate the shortfall (presented above and within the LAA) of aggregates accurate? Is there any other data/evidence that should be used?
- Are there any other issues or evidence which should be considered for the purposes of planning for a steady and adequate supply of soft sand through the Plan period?
- The Authorities feel that the economic activity in the coming 10-15 years will not result in a significantly increased demand for aggregates supplied in West Sussex. Do you agree?

3.36. The consultation identified several issues which are of relevance to the future supply of soft sand. The key outcomes from consultation on this matter were as follows:

- Local parish councils and community groups concerns around:
  - Data issues and reliability
  - Commercial confidentially when considering a separate figure for soft sand
  - Protection of SDNP and AONBs
- Industry concerns included:
- Inclusion of silica sand in soft sand landbank
- Caution with using past sales to predict future demand, particularly when coming out of a recession

3.37. Soft sand reserves currently exist in neighbouring areas (and beyond) and are within a viable transport distance to markets in West Sussex. These supplies might also serve markets being served by exports from West Sussex and thus compensate for reduced levels of exports from West Sussex. Recent information on imports and exports has become available with the publication of the BGS/DCLG AM2014 survey information (summarised above and considered in the latest LAA (January 2017)).

Duty to cooperate engagement

3.38. Engagement on the future supply of soft sand in West Sussex has taken place with other Mineral Planning Authorities in the South of England, as well as via discussions concerning the West Sussex Local Aggregates Assessment at the South East Aggregates Working Party. Details of engagement undertaken with individual authorities concerning soft sand is included in the Minerals Sites Selection Report (January 2017). The outcome of these discussions is that there are currently soft sand reserves (in particular in Kent, Surrey, Oxfordshire and unitary authority areas in Berkshire) that might be used to supply parts of West Sussex. However there are constraints on the resources in both Surrey and Kent due to AONB designations and it will be necessary to continue to engage with these authorities in order to closely monitor the levels of reserves during the Plan period. The uneven distribution and the constraints on soft sand resources in the South East of England has been recognised as issues affecting maintenance of supplies which need co-ordination by all the relevant Minerals Planning Authorities. As such, a Statement of Common Ground on this matter is currently being prepared.

Related Vision and Objectives

3.39. The parts of the Vision and the Objectives which relate specifically to soft sand are as follows:

West Sussex:

- Will be a place where minerals are produced in ways which conserve and enhance the beautiful outdoors of West Sussex, including the special qualities of the South Downs National Park and Areas of Outstanding Natural Beauty, for the benefit of current and future generations.
- Will be a place where the production and transportation of minerals does not detract from it having thriving communities and being a special place to live and visit. In particular impacts resulting from the use of heavy vehicles in transporting minerals will have been minimised.
- Will have contributed to the supply of minerals, in particular aggregates, clay, chalk, building stone, silica sand and oil and gas, to support growth in West Sussex. In particular social and economic progress of both the Coastal West Sussex and Gatwick Diamond strategic growth areas will be supported through the provision of aggregate to enable the delivery of new development.
- Will be a place which seeks to meet its own needs for minerals and encourage the sustainable use of natural resources, whilst

aspiring to source more and more minerals from alternatives to primary extraction, and from areas outside the South Downs National Park and Areas of Outstanding Natural Beauty.

Strategic Objective 1: To promote the prudent and efficient supply and use of minerals, having regard to the market demand and constraints on supply in the Plan area.

Strategic Objective 3: To make provision for soft sand to meet the needs of West Sussex from outside the South Downs National Park, where possible; and only make provision for a declining amount of extraction within the SDNP over the plan period.

Identification and evaluation of reasonable alternative options

3.40. Based on the national policy for soft sand, the evidence concerning the existence of workable minerals resources in West Sussex, outcomes of early stakeholder engagement and the relevant JMLP Vision and Objectives, (described above), a series of potential options for soft sand were identified.

3.41. The options were then evaluated to establish those which may be considered 'reasonable alternatives'. 'Reasonable alternatives' are those options which are essentially conceivably deliverable as well as consistent with the draft Vision and Objectives and national planning policy. The term 'reasonable alternatives' is derived from regulations[7] which set out a requirement to appraise 'reasonable alternatives' in terms of their likely environmental impacts.

3.42. The reasonable alternative options then undergo Sustainability Appraisal (SA) which involves an assessment of likely environmental impacts as well as social and economic ones. In the case of soft sand, six options were considered, but only one was considered reasonable, as set out below:

[7] Environmental Assessment of Plans and Programmes Regulations 2004 (commonly referred to as the 'Strategic Environmental Assessment Regulations'), which implement the requirements of the European Directive 2001/42/EC (the 'Strategic Environmental Assessment Directive')

Option SS1: • **Safeguard existing permitted reserves** • **Identify sufficient additional allocations for land won soft sand within and beyond the national park**
This option involves the safeguarding of existing permitted reserves of soft sand, as they contribute to land-won supply. The option also involves the identification of specific additional allocations both within and beyond the South Downs National Park.
Evaluation
This option would ensure that existing permitted reserves would be safeguarded which is in accordance with national policy. It would ensure that there is a steady and adequate supply of soft sand to support sustainable economic growth with a 7 year landbank maintained throughout the Plan period. However, it is not consistent with paragraph 144 of the NPPF as it has been shown that the need can be practically met from sources outside the South Downs National Park. In addition this option is not consistent with the NPPF as the identification of sites within the SDNP does not meet the 'exceptional circumstances' and 'public interest' tests in paragraph 116. Details are included in Appendix 7 of the Mineral Sites Selection Report which brings together the broader considerations of the test (e.g. need and alternatives) with the site specific elements (e.g. detrimental effect). As there is some scope for developing elsewhere outside the SDNP and meeting the need in some other way (by increased reliance on imports) then this option is not in consistent with national policy. The option is also inconsistent with the Vision which seeks reductions in minerals working with the SDNP.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
No. The NPPF exceptional circumstances tests associated with permitting major development in national parks have not been met. The option is not consistent with the Vision.

Option SS2:

- **Safeguard existing permitted reserves**
- **Identify sufficient additional allocations for land won soft sand within and beyond the South Downs National Park but allocations in SDNP limited to extensions of existing sites**

This option involves the safeguarding of existing permitted reserves of soft sand, as they contribute to land-won supply. Allocations outside the SDNP would be identified first, with the identification of extensions to existing sites within the SDNP only if required to contribute to supply.

Evaluation

This option would ensure that existing permitted reserves would be safeguarded which is in consistent with national policy. It would seek to provide a supply of soft sand to support sustainable economic growth. However, it is not consistent with paragraph 144 of the NPPF as it has been shown that the need for soft sand can be practically met outside the South Downs National Park.

This option would only accord with the Vision if the development of soft sand sites takes place in a manner which conserves and enhances the townscape and landscape character of West Sussex and in particular the special qualities of the SDNP, and would allow for the gradual reduction in production from within the SDNP over the Plan period.

As physical extensions to existing mineral sites are likely to be considered 'major development', due to their potential for causing significant environmental impacts, the option has to consider whether the exceptional circumstances and public interest tests, set out in national policy (NPPF para 116), are met. The outcome of the 'tests' is set out in Appendix 7 of the Mineral Sites Selection Report, as it brings together the broader considerations of the test (e.g. need and alternatives) with the site specific elements (e.g. detrimental effect). The assessment concluded that the exceptional circumstances and public interest tests have not been met as there is scope for developing elsewhere outside the SDNP as well as meeting the need in some other way. This option is therefore not consistent with national policy.

Taken forward as a reasonable alternative option for Sustainability Appraisal?

No. Assessment against consistency with the NPPF para 116 tests, concluded that the allocation of extensions within the SDNP would not meet the exceptional circumstances and public interest test. This option is therefore not consistent with national policy and so is not considered to be a reasonable alternative.

Option SS3: • **Safeguard existing permitted reserves** • **Identify sufficient additional allocations and/or areas of search in West Sussex but beyond the South Downs National Park i.e. do not allocate additional sites or extensions to existing sites within the SDNP.** • **Make up any shortfall from imports**
This option involves the safeguarding of existing permitted reserves of soft sand, as they contribute to land-won supply. It would rely on additional allocations or areas of search being identified in West Sussex but outside the SDNP.
Evaluation
This option would ensure that existing permitted reserves would be safeguarded and continue to contribute to supplies of soft sand which is consistent with national policy. The identification of sites or areas of search outside the SDNP is in accordance with para 144 and 116 of the NPPF. Based on the currently identified potential sites, there is less certainty that this option would ensure a 7 year landbank was maintained during the plan period. The option is more likely to be reliant on imports from other areas to meet estimated supply requirements.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes. Sustainability appraisal of this option will help to assess the sustainability implications associated with an increased reliance on imports of soft sand which would result from this option if sufficient sites or areas of search cannot be identified outside the SDNP.

Option SS4: • **Safeguard existing permitted reserves** • **Identify sufficient sites and additional areas of search beyond the national park i.e. no allocations within the Park**
This option involves the safeguarding of existing permitted reserves of soft sand, as they contribute to land-won supply. It would rely on additional allocations to be made outside the SDNP, combined with an area of search within West Sussex where knowledge of mineral resources may be less certain but within which planning permission may be granted particularly if there is a shortfall in supply.
Evaluation
This option would ensure that existing permitted reserves would be safeguarded which is in accordance with national policy. The allocation of sites outside the SDNP does not cause issues with of consistency with para 144 and 116 of the NPPF. This option is not deliverable as a suitable area of search (within which there is a reasonable level of certainty that suitable soft sand resources are available), beyond the SDNP, could not be defined.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
No. It was not possible to identify sufficient suitable sites and area/s of search beyond the NP to meet requirements.

Option SS5: • **Do not allocate additional sites** • **Safeguard existing permitted reserves** • **Make up any shortfall from imports by rail (for which there is a capacity headroom)**
This option involves a reliance on remaining permitted reserves which would be safeguarded. It would also be reliant on imports by rail to make up any shortfall.
Evaluation

This option would ensure that existing permitted reserves would be safeguarded which is in accordance with national policy.

This option would be consistent with paras 144 and 116 of the NPPF as it does not allocate any sites within the SDNP.

A suitable site for additional soft sand has been identified at Ham Farm (see the Minerals Sites Selection Report) and so placing full reliance on imports via rail for future supplies is not entirely necessary.

The option is consistent with the Vision and NPPF which seek to reduce levels of road transport however it is not clear that the economics of rail transportation would make this a deliverable option.

Consideration would also need to be given to the need for onward transportation of the soft sand by road to the end users.

Taken forward as a reasonable alternative option for Sustainability Appraisal?

No. It isn't clear that the level of rail transportation to the extent relied upon by this option is deliverable.

Option SS6:

- **Do not allocate additional sites**
- **Safeguard existing permitted reserves**
- **Make up any shortfall from imports by road**

This option involves a reliance on remaining permitted reserves which would be safeguarded. It would also rely on imports by road to make up any shortfall.

Evaluation

This option would ensure that existing permitted reserves would be safeguarded which is in accordance with national policy.

This option would be consistent with para 144 and 116 of the NPPF as it does not allocate any sites within the SDNP.

The site selection work has shown that there is a suitable soft sand site that could be allocated and this would make a local contribution to supplies.

It is possible that imports could be provided by road (see the Minerals Sites Selection Report).

Taken forward as a reasonable alternative option for Sustainability Appraisal?
No. A suitable site for supply of additional soft sand has been identified within the Plan Area and so this option is not appropriate.

Outcome of the Sustainability Appraisal of the Reasonable Alternatives

3.43. As can be seen from above, only one policy option (SS3 (referred to as option SS2 in the SA)) was considered as a reasonable alternative option for soft sand and so underwent sustainability appraisal.

3.44. This policy option is expected to have significant negative effects for:

- SA objectives 10 (air quality) and
- 13 (transport), due to the increased dependence on imports to meet requirements which cannot be met from indigenous supplies, which is likely to result in increases in lorry traffic transporting soft sand into West Sussex by road.

3.45. Due to a lack of information concerning viability and landowner intentions, the deliverability of extracting additional soft sand from suitable sites located within the limited resource outside of the SDNP is uncertain and so it is possible that imports of soft sand may be more likely to occur than development of new extraction sites within West Sussex.

3.46. Therefore, the SA recommended that this policy option explicitly take a hierarchical approach to soft sand provision, by clearly prioritising supply from existing permitted reserves first and not allocating extensions or additional sites in the SDNP, then identifying additional allocations/areas of search beyond the SDNP, and finally allowing imports from outside the County if required. In addition, the SA recommends that the policy specifies that where imports are allowed, priority should be given to those that can be delivered via non-road transport modes.

3.47. Mixed minor positive and minor negative effects were identified for the following:

- SA objectives 2 (recreation)
- SA Objective 4 (minerals resources)
- SA Objective 5 (landscape)
- SA Objective 6 (biodiversity)

- SA Objective 7 (geodiversity)
- SA Objective 8 (historic environment)

3.48. For example, for SA objective 5 (landscape) there could be positive effects associated with not allocating sites in the SDNP and also longer term restoration of existing sites, but negative effects through the continued operation of existing sites in the SDNP and potential site allocations/areas of search coming forward outside of the SDNP.

3.49. However, proposed development management policies included in the JMLP (e.g. public amenity and health, character, landscape, biodiversity and geodiversity) would provide mitigation which should help to avoid potential negative effects associated with any new proposals coming forward.

3.50. Minor negative, but uncertain, effects were identified as follows:

- SA objectives 1 (health and amenity) due to impacts such as dust, noise, vibration and traffic associated with new soft sand workings that may come forward
- SA objectives 9 (soil quality) due to the potential for loss of best and most versatile agricultural land.

3.51. Uncertain minor positive effects were identified as follows:

- SA objectives 3 (local economy) because providing support for the maintenance of supplies from existing permitted reserves and identifying sites allocations and/or areas of search that could come forward is likely to help sustain and enhance the vitality and viability of the local economy
- 12 (flooding) as sand and gravel workings are classed as water-compatible development and are therefore suitable in all flood zones.

3.52. The SA also recommended that this policy option and any resulting policy should not refer to mineral ‘safeguarding’ and instead focus on mineral supply, as mineral safeguarding is specifically addressed in separate policy options.

3.53. In terms of ecosystem services, the potential impact on each of the main ecosystem services was found to correspond to the potential for positive or negative effects identified on the SA objectives, as described above. For example, this policy option is considered likely to have significant

negative uncertain effects in relation to Regulating ecosystem services due to the potentially inability to protect air quality or minimise road traffic.

Identification of the Preferred Approach

3.54. As set out in the Mineral Sites Selection Report, the site selection process only identified one soft sand site, Ham Farm, as suitable for allocation and, while this will provide a supply of soft sand (now estimated to be 725,000 tonnes), there will still be a theoretical shortfall (currently estimated to be 3,323,148 tonnes) and so the preferred approach (included in draft Policy M2), which was based on Option SS2, took a hierarchical approach to soft sand extraction, as recommended by the SA, by allowing for 'windfall sites' to come forward and assessed for their suitability against specific criteria (including all the other policies of the Plan) and ensuring that such proposals would have to demonstrate that the allocated site cannot be brought forward first.

3.55. The Plan does not allocate any extensions or new sites within the SDNP to meet supply requirements as the exceptional circumstances and public interest tests have not been met. This means that there will also be an increased reliance on imports from neighbouring authorities, particularly later in the plan period when the current reserves are likely to become exhausted. The approach also allows for proposals for extensions or new sites be put forward within the SDNP and their suitability assessed against the exceptional circumstances and public interest tests.

3.56. The policy also expresses a preference for rail and water transport of minerals, but recognises that this may not always be possible. Where it is not possible, then sites should be well related to the lorry route network in order to minimise the use of local roads by HGVs.

Sustainability Appraisal for the Draft Policy on Soft Sand

3.57. The outcome of the SA on the draft policy was largely the same as that which resulted from the SA of option SS2 set out above.

Changes to Policy M2 between draft and proposed submission versions

3.58. As shown above changes to Policy M2 were made between the draft and proposed submission versions of the policy. These changes are in response to comments made on the draft policy and clarify when criteria

apply (with insertion of 'or' and 'and' between clauses) and the position with regard to need for development. The changes also recognise that, in light of the demand for soft sand, it would be disproportionate to demonstrate that the Ham Farm allocation cannot be developed before permission for a suitable site elsewhere was granted. The main comments on the draft policy and the Authorities' response to them are set out in the Draft Joint Minerals Local Plan Consultation 2016 - Outcomes Report.

Silica Sand

Link to Draft Plan Policy

3.59. This chapter explains the derivation of the strategic minerals supply policy in the draft JMLP that is concerned with silica sand. The wording of this policy, showing the changes that were made to the draft policy, is as follows:

Policy M3: Silica Sand
Proposals for silica sand extraction, including extensions of time and physical extensions to existing sites, will be permitted provided that: **(a) There is a demonstrable need for silica sand of a specific quality and quantity that will be met by the proposal;** **(b) the proposal will contribute to maintaining a stock of permitted reserves of at least 10 years for individual sites and 15 years for sites where significant new capital is required, to support the level of actual and proposed investment required for new or existing plant and the maintenance and improvement of existing plant and equipment;** **(c) the proposal is located outside the South Downs National Park unless there are exceptional circumstances and that it is in the public interest, in accordance with Policy M13, to locate within th*e Park*** ~~**ose areas**~~**; *and*** **(d) where transportation by rail or water is not practicable**

or viable, the proposal is well-related to the Lorry Route Network.

Key Related Documents

3.60. The following documents provide further information and evidence concerning the supply of silica sand:

- British Geological Survey 'United Kingdom Minerals Yearbook 2013' (page 82 -83)
- Mineral Products Association 'The Mineral Products Industry at a Glance' (2015) (page 14).
- Background Paper 2: Minerals in West Sussex (Version 1, June 2014)
- Engagement Event – 13 August 2014: Summary of Outcomes
- Background Paper 2: Minerals in West Sussex (Version 2, December 2014)
- Silica Sand Study (Cuesta Consulting Ltd, 2016)
- West Sussex Annual Monitoring Report 2015/16
- Draft Joint Minerals Local Plan Consultation 2016 - Outcomes Report

Explanation of the issue

Silica Sand in West Sussex

3.61. Silica sand is sand with a silica content of at least 95%. It has a wide range of uses which depend on the varying chemical and physical properties of the sand. The rarest and purest silica sand is suitable for glass manufacturing. Other uses of silica sand include: horticultural, equestrian, sports pitches and resin coatings (used in metal casting).

3.62. Silica sand is a locally and nationally important resource and in West Sussex can be found in the 'Folkestone Formation' that runs through and near to the South Downs National Park.

National policy

3.63. Paragraph 146 of the NPPF states: *"Minerals planning authorities should plan for a steady and adequate supply of industrial minerals by:*

Providing a stock of permitted reserves to support the level of actual and proposed investment required for new or existing plant and the

maintenance and improvement of existing plant and equipment, as follows:…. - at least 10 years for individual silica sand sites."

3.64. Whilst national policy encourages minerals planning authorities to plan for a steady and adequate supply of industrial minerals, it also recognises that National Parks and AONBs have the highest status of protection in relation to landscape and scenic beauty (NPPF paragraph 115). For this reason the NPPF (paragraph 116) states that planning permission should be refused for major developments in these designated areas, except in exceptional circumstances and where it can be demonstrated that they are in the public interest. Furthermore para 144 states that: *"When determining planning applications, local planning authorities should:…. as far as is practical, provide for the maintenance of landbanks of non- energy minerals from outside National Parks, the Broads, Areas of Outstanding Natural Beauty and World Heritage sites, Scheduled Monuments and Conservation Areas;"*

Supply and Demand

3.65. According to the BGS and the MPA UK sales of silica sand have been produced at a consistent rate of around 4mt per annum since 2008[8].

3.66. There are alternatives to the Folkestone Formation resources elsewhere in the country, particularly with regard to the relatively low purity specialist applications relating to agricultural, horticultural, sports and leisure end-uses. These alternative resources are still quite limited in extent (compared with resources of more general construction aggregate) but many of them fall outside nationally designated landscapes and (subject to planning consent) are capable of supplying the geographical areas which could potentially be served from the South Downs. In some (but not all) of these applications, the alternatives also include the option of utilising recycled glass.

3.67. There is considerable uncertainty, at present, regarding the long-term security of supply of silica sand to support glass manufacturing within the UK. Equally, however, whilst this might have long-term implications for the need for resources within the South Downs area, there is no clear evidence that is likely to be the case for the period of the emerging Joint Minerals Local Plan. It is also pertinent to note that, at present, there is no indication from the UK glass industry of an impending critical shortage.

[8] BGS United Kingdom Minerals Yearbook 2013 (page 82 -83)
Mineral Products Association 'The Mineral Products Industry at a Glance' (2015) (page 14).

Outcomes of earlier stakeholder engagement

3.68. In 2014, Background Paper 1 - Setting the Context – Spatial Portrait and Background Paper 2 – Minerals in West Sussex, were published for consultation.

3.69. Background paper 1 presents a spatial portrait of West Sussex and identifies key issues relevant to strategic mineral planning. It sets out how evidence will be used to inform the development of a vision, strategic objectives and a spatial strategy to guide future mineral development in the Plan area.

3.70. Background paper 2 presents evidence in relation to the 'apportionment' of sand and gravel, and provides for other minerals such as chalk, brick clay, silica sand, oil and gas. These papers informed discussions with the community, and key stakeholders.

3.71. The following questions were asked in respect of Background Paper 1: Setting the Context - Spatial Portrait and indirectly relate to the supply of silica sand:

- Are there any omissions or additions to the Spatial Portrait and key challenges/issues identified?
- Are there any omissions or additions to the Spatial Strategy which should be considered?

3.72. The following silica sand specific questions were asked with regard to Background Paper 2: Minerals in West Sussex:

- Are there any additional issues or evidence for silica sand that have not been identified?
- Is there a need to allocate mineral sites, other than sand and gravel sites, in the Plan? If yes, please set out the additional allocations which should be considered and provide reasons to justify such an approach.

3.73. The key comments and outcomes from the consultation on Background Paper 1 which relate to silica sand were as follows:

- The Mineral Products Association note that consented reserves of Silica Sand lie within the plan boundary.

- Should the SDNP be required to provide Mineral sites for extraction, unless or until sites without the SDNP have been proven to be unavailable? Surely, National Parks have a greater weight than AONBs alone (Duncton Common).

- Silica sand should be added to the 'potential for working list' and considered as part of the Mineral Local Plan and Coates Pit (Ref: F/14/56) should be inserted into the List of Sites (MPG on behalf of the Barlavington Estate).

- The Fittleworth and District Association expressed concern that mineral development will be given priority over protection of the SDNP by maximising mineral developments.

3.74. The key outcomes from consultation on Background Paper 2 which relate to silica sand were as follows:

- Great weight should be given to the benefits of mineral extraction (MPA). The Folkestone Formation, contains an important national resource of industrial silica sand.

- Paragraph 'for any sites within the SDNP, consideration of whether exceptional circumstances exist, taking into account the great weight that should be given to conserving landscape and scenic beauty and consideration of whether the need can be met from outside the SDNP' reflect national planning policy.

- The dormant site named Coates Pit contains permitted reserves of silica sand.

- Industrial silica sand used in glass manufacture and other specialist uses is different to construction sand.

- Horncroft should be allocated as a strategic silica sand site as the type of sand at Horncroft is extremely rare and is only worked in 3 locations in England – Cheshire, Surrey and Norfolk. Some of these locations are close to exhaustion with further economically viable resources difficult to find. The presence of a proven high quality silica sand resource in West Sussex is nationally significant (MPG for Barlavington Estate).

3.75. In the light of the feedback more detailed technical investigations in relation to silica/industrial sand resources and sites in the County were undertaken.

Outcomes from Duty to Co-operate discussions

3.76. Most minerals planning authorities with deposits of silica sand have or are including strategic silica sand sites (Essex, Central Bedfordshire and Norfolk); criteria based policies to assess silica sand applications which may come forward (County Durham, Hampshire, North Yorkshire and Central Bedfordshire); and Mineral Safeguarding Areas (Staffordshire, Central Bedfordshire) within their emerging/adopted Minerals Local Plans.

3.77. Information provided by other authorities indicates that England contains considerable deposits of lower quality silica sand, suitable for uses in cement manufacturing, horticulture, sports and landscaping purposes (and other uses). Deposits of high quality sand suitable for glass making is less readily available, but can be found in North Yorkshire, Staffordshire, Norfolk and Surrey as well as in Scotland.

Related Vision and Objectives

3.78. The parts of the Vision and the Objectives which relate specifically to silica sand are as follows:

West Sussex:

- Will be a place where minerals are produced in ways which conserve and enhance the beautiful outdoors of West Sussex, including the special qualities of the South Downs National Park and Areas of Outstanding Natural Beauty, for the benefit of current and future generations.

- Will have contributed to the supply of minerals, in particular, aggregates, clay, chalk, building stone, silica sand and oil and gas, to support growth in West Sussex. In particular social and economic progress of both the Coastal West Sussex and Gatwick Diamond strategic growth areas will be supported through the provision of aggregate to enable the delivery of new development

- Will ensure minerals have been produced in a manner that protects and enhances the historic and natural environment, and contributes to a low carbon, circular economy.

Strategic Objective 1: To promote the prudent and efficient supply and use of minerals, having regard to the market demand and constraints on supply in the Plan area.

Strategic Objective 4: To protect the South Downs National Park by only providing for silica sand in exceptional circumstances and when in the public interest.

Identification and Assessment of the Options

3.79. Options for supplying silica sand were identified and an assessment of the options was undertaken to establish those which may be considered 'reasonable alternatives'. 'Reasonable alternatives' are those options which are essentially conceivably deliverable as well as consistent with the Vision and Objectives and national planning policy. The term 'reasonable alternatives' is derived from regulations[9] which set out a requirement to appraise 'reasonable alternatives' in terms of their likely environmental impacts. In the case of silica sand, four options were considered, but only one was considered reasonable, as set out below:

Option SiS1: **Identify specific sites for silica sand to serve an identified need. Sites would be within the SDNP.**
This option involves the allocation of specific site/s to meet an identified need. Due to the location of the resource, any sites would be within the SDNP.
Evaluation
This option would ensure that there is a steady and adequate supply of industrial minerals in accordance with paragraph 146 of the NPPF. There is insufficient evidence to justify that any need for silica sand should be met from new sites or for extensions to existing sites from within the National Park.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
No as there is no unmet need that would justify this option. NPPF Para 116 exceptional circumstances and public interest tests, associated with the allocation of sites in the SDNP, are not met.

[9] Environmental Assessment of Plans and Programmes Regulations 2004 (commonly referred to as the 'Strategic Environmental Assessment Regulations'), which implement the requirements of the European Directive 2001/42/EC (the 'Strategic Environmental Assessment Directive')

Option SiS2: **Identify extensions to existing sites for silica sand to serve an identified need. Sites would be within the SDNP.**
This option involves the allocation of extensions to existing sites to meet an identified need. Due to the location of the resource and the existing sites, any extensions would be within the SDNP.
Evaluation
There is insufficient evidence to justify that any need for silica sand should be met from extensions to existing sites within the National Park. National Planning Practice Guidance states that the suitability of each proposed site should be considered on its individual merits rather than expressing a preference for extensions over new sites. The policy option would give a preference for extensions over new sites. This is not consistent with the National Planning Practice Guidance as in some circumstances a new site may have fewer negative impacts (e.g. cumulative impacts) than an extension and may therefore be preferable.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
No, as there is no unmet needs that would justify this option. NPPF Para 116 exceptional circumstances and public interest tests, associated with the allocation of sites in the SDNP, are not met.

Option SiS3: **Criteria-based policy to assess unallocated silica sand sites that are proposed for development during the plan period.**
This option would involve the inclusion of a criteria-based policy against which proposals for unallocated 'windfall' silica sand sites or extensions will be assessed. The policy would set out the circumstances in which a proposal for silica sand extraction within the Plan area would be considered acceptable. It is likely that sites would be within the SDNP due to the location of the resource.
Evaluation

This approach, of not identifying sites, would provide less certainty to the industry and communities about how a steady and adequate supply of industrial minerals, as set out in the NPPF, would be provided within West Sussex. However, the policy resulting from this option would allow for sites to be assessed on their merits should they come forward.

Due to the location of the resource which predominately falls within the boundary of the SDNP, the exceptional circumstances and public interest tests would have to be applied to any applications that came forward for development within the National Park, and this would be reflected in the policy.

Based on the evidence out in the Silica Sand Study, it appears that there are alternatives to developing new silica sand quarries within South Downs National Park and so a non-site specific, criteria based approach is considered to be a reasonable alternative.

The policy would be consistent with the NPPF in that it gives a level of protection for the special qualities of the South Downs National Park whilst not preventing silica sand sites from being permitted, if they can be justified.

The policy would recognise both the national need for silica sand and the importance of adhering to the National Park purposes and Duty.

Taken forward as a reasonable alternative option for Sustainability Appraisal?

Yes. This option provides a flexible approach to the supply of silica sand and is consistent with national policy.

Option SiS4:
Combination of options

A combination of options may be the best way to ensure overall provision for silica sand. For example, SiS1 combined with SiS3 would ensure that provision is made for existing sites and that any windfalls that come forward would have a criteria based policy against which to be considered.

Evaluation

As only one of the options identified (SiS3) is considered to be a reasonable alternative, any combination of options will involve an option that is not considered to be a reasonable alternative.

Taken forward as a reasonable alternative option for Sustainability Appraisal?
No, as only option SiS3 was considered deliverable and consistent with national policy.

Outcome of the Sustainability Appraisal of the Reasonable Alternatives

3.80. Only one policy option (SiS3) was considered to be a reasonable alternative option for silica sand and so underwent Sustainability Appraisal (N.B. This reasonable alternative option was renumbered 'SiS1' for the purposes of SA). The policy option was appraised as mainly having minor negative uncertain effects and mixed positive and negative uncertain effects. Minor negative uncertain effects were expected on SA objectives 1 (health, wellbeing and amenity of residents), 6 (biodiversity), 9 (soil), 10 (air quality) and 13 (transport). Unallocated silica sand sites could have minor negative effects as a result of the associated mineral activities (e.g. traffic, noise, dust, land take etc.). However, proposed development management policies likely to be included in the JMLP (e.g. public amenity and health, biodiversity and geodiversity, transport, and air, soil and water quality) would provide mitigation that would help to avoid potential negative effects.

3.81. Mixed positive and negative uncertain effects were also expected for SA objectives 2 (recreation), 4 (conservation and supply of mineral resources), 5 (landscape), 7 (geodiversity) and 8 (historic environment). For example, the policy option was expected to have mixed minor positive and significant negative uncertain effects on SA objective 5 (landscape) as unallocated silica sand sites are likely to be located within the SDNP due to the location of the resource, thereby negatively impacting on this nationally important landscape designation. Sites may also have minor positive effects in the long term as the restoration of sites could lead to positive effects for the landscape. However, mitigation for the potential significant negative effects on landscape would be considered via proposed development management policies likely to be included in the JMLP (e.g. landscape). Furthermore, the policy option itself would require the stringent exceptional circumstances and public interest tests (set out in paragraph 116 of the NPPF) to be applied to any applications that come forward for development due to the location of the silica sand resource in the SDNP.

3.82. In terms of ecosystem services, the potential impact on each of the main ecosystem services was found to correspond to the potential for positive or negative effects identified on the SA objectives, as described above for the policy option SiS1. For example, this policy option was considered likely to have significant negative uncertain effects (as part of a mixed effect on SA objective 5) in relation to Cultural ecosystem services due to the potential inability to protect landscape character.

Identification of the Preferred Approach

3.83. The preferred approach to the supply of silica sand is to rely on criteria which will set out the circumstances in which proposals for silica sand extraction may be considered acceptable. The Plan does not identify any silica sand sites or Areas of Search. Wording of the Proposed Submission Policy on Silica Sand is provided above showing minor changes made to the draft Policy.

Implementation

3.84. The Authorities will undertake annual monitoring of silica sand annual sales from sites within the Plan area. The Authorities will also maintain regular Duty to Co-operate discussions with authorities with deposits of silica sand to ascertain whether or not national reserves of silica sand continue to be sufficient and, whether or not any emerging unmet needs elsewhere could be met by resource from West Sussex in a manner that is consistent with national policy.

Sustainability Appraisal of the Draft Policy on Silica Sand

3.85. The outcome of the SA on the draft policy (M3) was identical to that which resulted from the SA of option SiS1 set out above. The appraisal did not result in any specific recommendations that the authorities needed to respond to.

Changes to Policy M3 between draft and proposed submission versions

3.86. As shown above, minor changes to Policy M3 were made between the draft and proposed submission versions of the policy. The main comments on the draft policy and the Authorities' response to them are set out in the Draft Joint Minerals Local Plan Consultation 2016 - Outcomes Report.

Chalk

Link to Draft Plan Policy

3.87. This chapter explains the derivation of policy in the Proposed Submission JMLP that is concerned with chalk. The wording of this policy, showing the changes that were made to the draft policy, is as follows:

Policy M4: Chalk
Proposals will be permitted for ~~small scale~~ chalk extraction, including extensions of time and physical extensions to existing sites, provided that: **(a) There is a demonstrable need for the material for local use, such as an agricultural lime, building stone for repair of historic buildings or another local use;** **(b) the chalk cannot be reasonably sourced from existing permitted quarries;** **(c) they are located outside the AONB/South Downs National Park unless there are exceptional circumstances and that it is in the public interest, in accordance with Policy M13, to locate within th~~ose~~ *Park* ~~areas~~;** **(d) where transportation by rail or water is not practicable or viable, the proposal is well-related to the Lorry Route Network.**

Key Related Documents

3.88. The following documents provide further information and evidence concerning chalk in West Sussex:

- British Geological Survey (2007). Mineral Safeguarding Areas and Mineral Consultation Areas for West Sussex.
- Background Paper 2: Minerals in West Sussex (Version 2, December 2014)
- Background Paper Engagement: Report of Outcomes, October 2014
- West Sussex Annual Monitoring Report 2015/16

Explanation of the issue

Chalk in West Sussex

3.89. Chalk is a source of limestone raw materials and acts as an important aquifer in the South East, providing the principal source of water supply in West Sussex. Chalk in West Sussex is mainly extracted for agricultural lime production and has also been used as a building stone and for cement manufacture.

3.90. The hills of the South Downs are predominantly chalk, and so the majority of the chalk resource lies within the South Downs National Park. Geologically, the chalk can be divided into the Grey Chalk Subgroup and the White Chalk Subgroup. The Grey Chalk Subgroup generally contains the most clay and has the lowest chemical purity. The chalk formations in West Sussex include the Holywell Nodular Chalk, New Pit Chalk and Lewes Nodular Chalk formations of the White Chalk Subgroup. Chalk pits lie predominantly along the northern scarp edge, possibly due to historical factors such as the ease of transporting the agricultural lime down the scarp slope for use in the fields. Pits are also positioned along the north-south transport routes and are understood to supply to areas within a local 20-25 mile radius as it is a low value material[10].

3.91. Chalk extraction can have long periods of inactivity and as a result quarry faces can be highly visible especially within the South Downs National Park. The visual impact of some workings in West Sussex is due to the fact that they were established many years ago and were subject to few or no conditions relating to reclamation.

3.92. There has been no extraction of chalk for cement manufacture in West Sussex since the Shoreham Cement Works closed in 1991 therefore the need for chalk within West Sussex is local supply, mainly for agricultural liming purposes. The use of chalk as a building stone is mainly confined to the southern part of West Sussex. Amberley Chalk has been used as an external building stone and was quarried from pits within the Amberley area. Amberley Chalk was also quarried for building stone alongside the River Arun at Houghton[11]. The Chalk can be seen in the construction of the Amberley Museum and Heritage Centre[12]. Chalk can

[10] BGS (2007). Minerals Safeguarding Areas and Minerals Consultation Areas for West Sussex.
[11] BGS (2015) Strategic Stone Study: A Building Atlas of West Sussex (including part of the South Downs National Park).
[12] BGS (2015). Strategic Stone study. A Building Stone Atlas of West Sussex (including part of the South Downs National Park).

also be used as an additive in brick manufacture[13]. Chalk is generally unsuitable as an exterior building stone but there are many examples of chalk being used for interior work such as mouldings, ceiling vaulting, arches and transept walls in churches in West Sussex, including Chichester Cathedral.

National Policy

3.93. There are no landbank requirements for chalk unless it is required for cement production. Paragraph 146 of the NPPF requires that *"Mineral planning authorities should plan for a steady and adequate supply of industrial minerals by providing a stock of permitted reserves to support the level of actual and proposed investment required for new or existing plant and the maintenance and improvement of existing plant and equipment as follows:……..at least 15 years for cement primary (chalk and limestone)….to maintain an existing plant".*

3.94. National policy also expects the protection of the environment, and at paragraph 116 states that planning permission should be refused for major developments in designated areas, including National Parks, except in exceptional circumstances and where it can be demonstrated that they are in the public interest.

3.95. Furthermore para 144 states that: *"When determining planning applications, local planning authorities should:…as far as is practical, provide for the maintenance of landbanks of non- energy minerals from outside National Parks…"*

Supply and Demand

3.96. There are a total of four chalk pits within West Sussex, all of which are located within the South Downs National Park. Two of the chalk pits are active (Duncton Chalk Pit and Newtimber Chalk Pit). The remaining chalk pits are currently inactive but all have extant reserves (see Table 1 below). Golding Barn and Cocking Chalk Pits have both relinquished their rights to extract chalk.

Table 1: Chalk pits in West Sussex

Site Name	Status
Duncton Chalk Pit	Active
Newtimber Chalk Pit	Active

[13] WSCC (2014) Engagement Event: Summary of Outcomes.

Upper Beeding Chalk Pit	Inactive*
Washington Chalk Pit	Inactive
* Site subject to automatic suspension due to insufficient information submitted to allow determination of the Review of Mineral Permission application NB: Golding Barn and Cocking Chalk pits have both relinquished the rights to extract chalk.	

3.97. Based on annual average production rates, there is a landbank of 90 years for chalk[14]. The landbank for 2015/16 is lower than previous years because one site has relinquished its rights to extract chalk, therefore these reserves have been excluded. There has also been a revised estimate of the reserves at the remaining sites. Since the extraction of chalk for use in the cement making process ceased at Shoreham Cement Works in 1991, the annual production of the mineral in West Sussex has declined significantly.

3.98. Upper Beeding Quarry has been excluded from the permitted reserves (see Table 1 above) because the site is currently subject to an automatic suspension due to insufficient information being submitted to allow the determination of the Review of Mineral Permission application. The Dudman Group currently operates an aggregate recycling facility from the site. A 'call for sites' submission was made by the operator for an extension to the site to recommence chalk extraction in connection with cement manufacture, however the site is not being taken forward in the Joint Minerals Local Plan because the landowner does not support the proposal. Policy SD32 (Shoreham Cement Works) of the South Downs Local Plan Preferred Options (September, 2015) seeks a sustainable mixed use development of the land with an environmentally-led restoration. The emerging Local Plan policy does not support further minerals development of the site.

3.99. Currently, extraction of chalk within West Sussex occurs on a small scale to supply local agricultural lime production and has also been used as a building stone and for cement manufacture. In the past, chalk from Duncton Quarry has been used as part of the A27 road widening programme, however, the use of chalk in this way does not utilise its particular characteristics which are not present in other local minerals.

[14] West Sussex County Council and South Downs National Park Authority (2017). Annual Monitoring Report 2015/16.

Table 2: Chalk Permitted Reserves and Annual Sales – 2006/07 to 2015/16

Year	Total chalk reserve remaining on sites with planning permission (mt)	Annual Sales (mt)
2006/07	3.35	(c)
2007/08	3.00	0.117
2008/09	9.88*	0.049
2009/10	12.48**	(c)
2010/11	12.43	(c)
2011/12	12.43	(c)
2012/13	12.41	(c)
2013/14	12.03	(c)
2014/15	(c)***	(c)
2015/16	(c)****	(c)
Annual Average		0.046

*The increase in permitted reserves in 2008/09 was due to an extension at one site becoming active.
**The increase in permitted reserve since 2008/09 is due to a revised calculation for one chalk site provided by a new operator of the site. Estimates had been used previously.
*** 2014/15 Upper Beeding Quarry has been excluded from the permitted reserves because the site is currently subject to an automatic suspension due to insufficient information being submitted to allow the determination of the Review of Mineral Permission application. The total permitted reserves figure cannot be shown for reasons of confidentiality.
****Reserves at one site have been excluded because they have relinquished their rights to extract chalk. There has also been a revised estimate of the reserves at the remaining sites.

Outcomes of earlier stakeholder engagement

3.100. In 2014, Background Paper 2 Minerals in West Sussex (version 1 in June 2014 and version 2 in December 2014) were published for consultation. This Background Paper presented evidence in relation to chalk resources and supplies in West Sussex and informed discussions with the community, and key stakeholders.

3.101. The key outcomes from consultation on this matter included a comment from a key stakeholder that there may be a need to allocate additional

chalk reserves depending on the outcome of discussions with the industry regarding the potential for future cement production. As part of the "call for sites" process, an extension to Upper Beeding Quarry was put forward to supply chalk to Shoreham Cement Works.

3.102. In response to this, the Authorities noted that the landowner of Shoreham Cement Works had not shown support for the recommencement of cement manufacturing activities through the Joint Mineral Local Plan and that alternative land use options are being explored through the South Downs National Park Local Plan.

Related Vision and Objectives

3.103. The parts of the Vision and the objectives which relate specifically to chalk are as follows:

West Sussex:

- Will have contributed to the supply of minerals, in particular aggregates, clay, **chalk**, building stone, silica sand and oil and gas, to support growth in West Sussex…
- Will be a place which seeks to meet its own needs for minerals and encourage the sustainable use of natural resources, whilst aspiring to source more and more minerals from alternatives to primary extraction, and from areas outside the South Downs National Park and Areas of Outstanding Natural Beauty.
- Will be a place where minerals are produced in ways which conserve and enhance the beautiful outdoors of West Sussex, including the special qualities of the South Downs National Park and Areas of Outstanding Natural Beauty, for the benefit of current and future generations.

Strategic Objective 1: To promote the prudent and efficient supply and use of minerals, having regard to the market demand and constraints on supply in the Plan area.

Identification and Assessment of the Options

3.104. Several options concerning the future supply of chalk were identified taking account of the following:

- National policy concerning chalk and national parks;
- the current supply and demand position in West Sussex;
- outcomes of early stakeholder engagement; and,
- the relevant JMLP Vision and Objectives (described above).

3.105. Although there is a large landbank for chalk, the quality of this mineral varies significantly and there may be justification to allow new sites to come forward to meet a particular need. Such proposals could come forward provided they met certain criteria as presented in the options below. New sites are unlikely to be supported as they would constitute 'major development' and the majority of the chalk outcrop is within the South Downs National Park, unless it was demonstrated that there are "exceptional circumstances" in accordance with national policy[15].

Option CH1: **Criteria-based policy (small scale sites)**
Allow proposals for small scale chalk sites subject to meeting specific criteria if it can be demonstrated that existing active, inactive or dormant sites cannot meet the need for reasons of type, quality and/or distance to the market. Preference would be given to sites close to the Advisory Lorry Route (ALR) and with a preference for sites outside the South Downs National Park. Proposals for large scale sites and those that propose the use of chalk as an aggregate or fill material would not be supported.
Evaluation
This approach recognises that there is a large permitted reserve of chalk with a number of inactive sites that could be brought back into operation if required and so would only allow small scale chalk sites to be developed subject to meeting policy criteria and if an identified need is demonstrated.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes. The option would ensure the Plan is able to respond to 'windfall' applications for proposals for new small scale chalk sites on the basis of need.

Option CH2: **Criteria-based policy (allowing extensions only)**

[15] See NPPF para 116

Allow proposals for extensions to existing chalk sites subject to meeting specific criteria. Extensions to sites would only be permitted if it can be demonstrated that existing active, inactive or dormant sites cannot meet the need for reasons of type, quality and/or distance to the market. Preference would be given to extensions close to the ALR and with a preference for extensions to sites outside the South Downs National Park. Proposals for the use of chalk as an aggregate or fill material will not be supported.
Evaluation
This approach would ensure that extensions to chalk sites can come forward, subject to meeting certain policy criteria, if there is an identified need but recognising that there is a large permitted reserve of chalk with a number of inactive sites that could be brought back into operation if required. Extension to sites are often sought and such proposals may be suitable and allow for continued supply of chalk.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes. The option would ensure the Plan is able to respond to 'windfall' applications for proposals for extensions to existing sites on the basis of need.

Option CH3: **Criteria-based policy (Any size site)**
Allow proposals for new chalk sites of any size subject to meeting specific criteria. New sites will only be permitted if it can be demonstrated that existing active, inactive or dormant sites cannot meet the need for chalk for reasons of type, quality and/or distance to the market. Preference would be given to extensions to existing sites, close to the ALR and with a preference for sites outside the South Downs National Park.
Evaluation

This approach would allow chalk sites of any size to be developed subject to meeting certain policy criteria and if there is an identified need but recognising that there is a large permitted reserve of chalk with a number of inactive sites that could be brought back into operation if required.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
No. The extent of the permitted reserves, the low level of demand for chalk and the location of the majority of the chalk resource within the South Downs National Park means that there is no justification to permit anything other than small scale sites.

Outcome of the Sustainability Appraisal of the Reasonable Alternatives

3.106. Both policy options (CH1 and CH2) allow proposals for new sites (small scale sites and extensions) to be assessed against a criteria-based policy. Due to the similarities between these types of sites when assessed against the SA objectives, they were expected to have the same effects on all SA objectives. For example, both policy options were expected to have minor positive effects on SA objective 3 (local economy), as they provide support to new sites, thereby making a positive contribution to the local economy via new jobs and/or continuing to support existing jobs.

3.107. The policy options are expected to largely have minor negative uncertain effects and mixed positive and negative effects. For example, both policy options are expected to have mixed significant positive and minor negative effects on SA objective 8 (historic environment) as sites permitted by these policy options could help conserve the historic environment in West Sussex and maintain its local distinctiveness, as the chalk worked in the sites could be used as restorative and conservation material (for example in the crypt of Chichester Cathedral), thereby contributing to conserving and enhancing West Sussex's historic environment. Sites permitted by the policy options may also be able to preserve findings and therefore benefit our understanding of the local archaeology. However, the proposed policy options may also have minor negative effects on SA objective 8, as some sites may involve activities that could negatively affect the historic environment (e.g. archaeology), heritage assets and their setting due to transport, noise or vibration, or extraction methods.

3.108. Despite the SA of options CH1 and CH2 showing potential negative effects on certain SA objectives, proposed development management policies likely to be included in the JMLP (e.g. public amenity and health, biodiversity and geodiversity, transport, and air, soil and water quality) would provide mitigation which should help to avoid them.

3.109. In terms of ecosystem services, the potential impact on each of the main ecosystem services was found to correspond to the potential for positive or negative effects identified on the SA objectives, as described above, for policy options CH1 and CH2. For example, the policy options were considered likely to have significant positive uncertain effects (as part of a mixed effect on SA objective 8) in relation to **Cultural** ecosystem services due to the potential ability to protect and enhance the historic environment.

Identification of the preferred approach

3.110. There is no requirement in national policy to provide a landbank of chalk, unless it is for cement production and it is not anticipated that chalk from West Sussex would be needed for such purposes during the plan period. Therefore the evidence suggests that it is not necessary to identify new sites for chalk production in the Joint Minerals Local Plan as there are sufficient reserves in existing permitted quarries to meet local needs. The **strategy** for chalk is therefore to safeguard existing quarries and to include a criteria-based policy allowing small scale proposals and including extensions to existing sites. Proposals whereby the excavated chalk is to be used for aggregate or fill material would be resisted.

3.111. Wording of the Proposed Submission Policy (M4) on Chalk, showing changes made to the draft policy, is provided at the start of this chapter.

Sustainability Appraisal of the Draft Policy on Chalk

3.112. The outcome of the SA on the draft policy was largely the same as that which resulted from the SA of options CH1 and CH2 set out above.

Changes to Policy M4 between draft and proposed submission versions

3.113. Very few comments were received on the draft policy M4. The restriction of development to small scale sites was removed as it was considered that it was not possible to adequately define ‘small scale’ and so this made the policy ineffective. In considering proposals, the

appropriateness of a site's scale will be determined by the need for the mineral being adequately demonstrated and consideration of the suitability of a site within its location.

Clay

Link to Draft Plan Policy

3.114. This chapter explains the derivation of policy in the Proposed Submission JMLP that is concerned with clay. The wording of this policy, showing the changes that were made to the draft policy, is as follows:

Policy M5: Clay

(a) Proposals will be permitted for the extraction of *brick* clay provided that:

(i) they would *help* maintain a landbank of at least 25 years of permitted clay reserves for individual brickworks; *and* ~~or~~

(ii) *where* the ~~type of~~ clay required ~~is not available at currently permitted sites and is needed to provide an~~ *for* appropriate blend*ing* for the manufacture of bricks *is no longer available adjacent to the brick making factory*.

(b) Proposals for the ~~small scale~~ extraction of clay, for uses other than brick making, will be permitted provided that:

(i) there is a need for the clay for engineering purposes; and

(ii) the clay cannot be used for brick-making; or

(iii) the resource is within an existing sand and gravel quarry and the extraction of clay would be ancillary to the extraction of sand and gravel.

(c) Proposals that accord with Part (a) or (b) will be permitted provided that:

(i) They are located outside the AONB/South Downs National Park unless there are exceptional circumstances and that it is in the public interest, in accordance with Policy M13, to locate within those areas;

(ii) they are extensions of time and and/or physical extensions to existing clay pits or, where this is not possible, they should be sited as close as possible to the site where the clay will be used;

(iii) where transportation by rail or water is not practicable or viable, the proposal is well-related to the Lorry Route Network.

Key Related Documents

3.115. The following documents provide further information and evidence concerning chalk in West Sussex:

- British Geological Survey (2007). Mineral Safeguarding Areas and Mineral Consultation Areas for West Sussex.
- Background Paper 2: Minerals in West Sussex (Version 2, December 2014)
- Background Paper Engagement: Report of Outcomes, October 2014
- West Sussex Annual Monitoring Report 2015/16
- Minerals Site Selection Report (January 2017)

Explanation of the issue

Clay in West Sussex

3.116. There are a number of clay types in West Sussex as follows:

- Weald Clay
- Wadhurst Clay
- Gault Clay
- the Lambeth Group
- London Clay Formation
- Brickearth and
- Fuller's Earth

3.117. The distribution of the clay resource in West Sussex is shown in Figure 1 of this document and in the Annual Monitoring Report.

3.118. The Weald and Wadhurst clays are the principal resources which have been identified as regionally and nationally important[16]. The Weald clay forms a broad band across the north and central part of West Sussex and is worked at Warnham and Laybrook Brickworks.

3.119. The Wadhurst clay is found in the north eastern part of the County between East Grinstead and Horsted Keynes. It is currently worked from two sites: West Hoathly and Freshfield Lane Brickworks, both of which are within the High Weald AONB.

3.120. The Gault Formation forms an outcrop, east/west across the county. It has been worked at several locations in the past as a cement raw

[16] BGS (2007). Minerals Safeguarding Areas and Mineral Consultation Areas for West Sussex.

material and landfill sealant, but now it is only worked at Pitsham where handmade bricks with aesthetic and restoration uses are manufactured. Much of this resource is situated within the South Downs National Park, including Pitsham Brickworks.

3.121. Other clay formations including: the Lambeth Group, the London Clay Formation, Brickearth and Fuller's Earth, have not been worked in the recent past and are unlikely to be worked in the future due to their poor quality or because the amount of overburden would make it uneconomic to extract.

3.122. Brick clay is used in the manufacture of structural products such as bricks, pavers, clay tiles and clay pipes. Brickmaking has long been established in the central and north eastern parts of the county and clay is exploited at a number of locations. Clay and shale can also be mixed with chalk in cement manufacture, although there are no cement works currently operating in West Sussex and Shoreham Cement Works closed in 1991. Clay can also be used to line landfills, canals, lakes and be used as a source of lightweight aggregate. Historical information suggests that clay was imported to Shoreham Cement Works from Horton (former clay pit and landfill site)[17].

3.123. Historically brickworks have been located close (often adjacent) to the source of clay used at the brickworks and their ongoing operation is linked to the availability of clay at those sources. The market for manufactured bricks extends beyond the Plan Area.

3.124. At the time of the Minerals Local Plan (2003) there was a pattern of rationalisation and modernisation of brick and tile making in the county and it was considered unlikely that new greenfield enterprises would be proposed during the plan period, other than small extensions. During the nineteenth century peak virtually every Parish had at least one tile works or brickyard.

National Policy

3.125. National Policy [18] requires, through the National Planning Policy Framework that Mineral Planning Authorities *"should plan for a steady and adequate supply of industrial minerals by:*

- *co-operating with neighbouring and more distant authorities to co-ordinate the planning of industrial minerals to ensure adequate*

[17] Paragraph 2.38. Minerals Local Plan (2003)
[18] NPPF, paragraph 146

provision is made to support their likely use in industrial and manufacturing processes;

- *Ensuring safeguarding or stockpiling so that important minerals remain available for use;*
- *Providing a stock of permitted reserves to support the level of actual and proposed investment required for new or existing plant and the maintenance and improvement of existing plant and equipment, as follows:*

> *….at least 25 years for brick clay, and for cement primary and secondary materials to support a new kiln.*
>
> *….taking account of the need for provision of brick clay from a number of different sources to enable appropriate blends to be made".*

3.126. National policy also expects the protection of the environment, and at paragraph 116 states that planning permission should be refused for major developments in designated areas, except in exceptional circumstances and where it can be demonstrated that they are in the public interest.

3.127. Furthermore para 144 states that: *"When determining planning applications, local planning authorities should:…. as far as is practical, provide for the maintenance of landbanks of non- energy minerals from outside National Parks, the Broads, Areas of Outstanding Natural Beauty, World Heritage Sites, Scheduled Ancient Monuments and Conservation Areas …"*

Supply and Demand

3.128. As stated above, the NPPF expects minerals planning authorities to plan for clay such that at least 25 years stock of permitted reserves for brick clay is maintained to support the level of actual and proposed investment required for new or existing plant and the maintenance and improvement of existing plant and equipment.

3.129. There are currently five active brickworks in West Sussex (See Table 3) which process clay for bricks or tiles. Two brickworks (Keymer Brick and Tile Works and Rudgwick Brickworks) have closed within recent years and are currently undergoing restoration.

Table 3: List of active Brickworks in West Sussex and clay type

SDNP / WSCC	Brickworks	Clay Type	Product	Landbanks
SDNP	Pitsham Brickworks	Gault Formation	Hand-made bricks, chimneys, tiles (Independent works).	24 years
WSCC	Wealden/Warnham Brickworks	Weald Clay Formation	Commercial bricks	In excess of 25 years
WSCC	Laybrook Brickworks	Weald Clay Formation	Commercial bricks	In excess of 25 years
WSCC	Freshfield Lane Brickworks	Wadhurst Clay; East Grinstead Clay; Tunbridge Wells Sandstone	Commercial bricks	In excess of 25 years
WSCC	West Hoathly	Wadhurst Clay Formation	Commercial bricks	9 years

N.B. Estimates have been made for sites where returns were not provided.

3.130. A supporting statement for a planning application for the expansion of Warnham Brickworks to accommodate a second kiln and associated machinery (039/10/NNH) in 2010 noted that the south east is a net importer of bricks from other parts of the UK. Bricks are imported from the Midlands, Belgium and the Netherlands. The south east uses about 25% of total UK brick sales, reflecting the high level of construction activity in the region. Planning permission was granted for the expansion of Warnham Brickworks to increase brick supply to help meet demand for bricks and it was noted that the vast majority of products are sold within the counties of Hampshire, Essex, Hertfordshire, Surrey, East Sussex, West Sussex, Kent, Oxfordshire and East Anglia.

3.131. There is currently no demand for clay for use in cement manufacture and this is unlikely to change during the life of the Plan. A comment from

stakeholders noted that it is viable to transport clay 25-30 miles[19] but the Authorities have received no Duty to Co-operate request for clay to be used in neighbouring authorities.

3.132. Table 4 below shows that there is a total permitted clay reserve of 18.7 million tonnes which equates to 67 years of extraction at current rates. The estimated landbank of individual sites is shown in Table 3

Table 4: Clay Landbank 2006/07 - 2015/16

Year	Total clay reseve remaining on sites with planning permission	Annual production (mtpa)
2006/07	12.6	0.46
2007/08	15.1	1.06
2008/09	14.9	0.49
2009/10	15.9	0.35
2010/11	17.3	0.39
2011/12	16.8	0.33
2012/13	14.5	0.29
2013/14	14.3	0.25
2014/15	16.1*	0.35
2015/16	18.7*	0.28
Annual Average	**-**	0.42
*The reserve figures for 2014/15 and 2015/16 have increased due to revised returns/estimates at two separate sites.		

3.133. Table 4 shows that there are currently three brickworks in West Sussex that have permitted reserves which are expected to last beyond 25 years. Additional reserves are required for West Hoathly brickworks to ensure that it has a continued supply of clay to serve the brickworks. An

[19] WSCC (2014). Joint West Sussex Minerals Local Plan Engagement Event August 2014: Summary of Outcomes.

extension to the existing claypit was put forward by the operator, Ibstock, through the 'call for sites' exercise in 2014. The site extension area is 8 hectares and would yield 2 to 3 years supply of clay, extending clay working in this location to around 2031 (subject to a separate planning permission being obtained). This site has been considered through the site assessment and selection process and considered suitable for allocation. The details can be found in Minerals Sites Study Version 2 (March 2015) and the Minerals Site Selection Report (January 2017).

3.134. Clay sites are usually extensions to existing sites, reducing the distance that the material needs to travel to the brickworks. However, clay can travel further and there may be occasions where sites may need to be identified further away from the brickworks if that is the most appropriate location for extraction or if a particular type of clay is needed to supply the brickworks. However, such 'satellite' sites lead to more vehicle movements as material is transported to the brickworks. Extensions to existing sites are more likely to be located within the High Weald Area of Outstanding Natural Beauty or South Downs National Park as three out of the five brickworks are located within these designated landscapes.

3.135. There is a possibility that some windfall provision of clay could come forward during the plan period as a result of prior extraction from housing sites. Although there have been no known recent cases of this happening in West Sussex, it is possible that the higher levels of housing development proposed in the county could result in some clay being brought forward in this way.

Outcomes of earlier stakeholder engagement

3.136. In 2014, Background Paper 2 Minerals in West Sussex (version 1 in June 2014 and version 2 in December 2014) was published for consultation. This Background Paper presented evidence in relation to clay resources in West Sussex and was intended to inform discussions with the community, and key stakeholders. A summary of the feedback received is as follows:

- Brick production fell heavily during the recession and brick clay usage is strongly linked to housing completions;
- There are generally sufficient supplies at individual brickworks but operators are always considering future reserves;
- Specialist brickworks (e.g. Freshfield Lane Brickworks) continue to be popular and new techniques are being sought to replicate clamp fired bricks.

3.137. In May 2015 a meeting was held with Ibstock Brick Ltd. – the main operator in West Sussex. This meeting was held to consider the operator's operations in West Sussex including its proposal to include an extension to the existing claypit at West Hoathly as a site allocation in the Plan. The operator also noted that in future it was likely that its brickworks (West Hoathly and Laybrook) would be supplied from its Little Standard Hill Farm and Ashdown Brickworks sites in East Sussex.

Duty to Cooperate

3.138. The minerals planning authority in East Sussex, East Sussex County Council, was contacted in light of Ibstock Brick Ltd.'s comments about sourcing future supplies from East Sussex. This contact revealed the information set out in the paragraphs below:

3.139. The Proposed Submission Draft (Reg 19) East Sussex South Downs and Brighton Hove Waste and Minerals Sites Plan (found sound in November 2016) proposes to safeguard both the Little Standard Hill Farm and Ashdown claypits.

3.140. In relation to Little Standard Hill Farm, condition 2 of permission MR/11 states: "The clay extracted from the site shall be used only for or in connection with the production of bricks or other clay products at the Ashdown Brickworks, except with the prior written approval of the Director of Transport and Environment."

3.141. Therefore, in the event that Ibstock wished to export clay from the site to West Hoathly Brickworks they would have to apply to ESCC for removal of this restriction, and in so doing demonstrate that:

a) The reserves were no longer needed in the long term at Ashdown brickworks; and

b) that the proposals are acceptable in terms of East Sussex Waste and Minerals Plan conditions: WMP 18 (transport) and DM policies, particularly WMP25 (general amenity) and WMP 26 (traffic impacts).

3.142. In relation to Ashdown Brickworks, Ibstock have indicated that there are sufficient reserves to last for the next 48 years and the current permission allows winning and working of minerals until 2052. There appears to be nothing in the current permission that would prohibit the export of clay from the site.

Related Vision and Objectives

3.143. The parts of the Vision and the objectives which relate specifically to clay are as follows:

West Sussex:

- Will have contributed to the supply of minerals, in particular aggregates, clay, chalk, building stone, silica sand and oil and gas, to support growth in West Sussex.
- Will be a place which seeks to meet its own needs for minerals and encourage the sustainable use of natural resources, whilst aspiring to source more and more minerals from alternatives to primary extraction, and from areas outside the South Downs National Park and Areas of Outstanding Natural Beauty.

Strategic Objective 1: To promote the prudent and efficient supply and use of minerals, having regard to the market demand and constraints on supply in the Plan area.

Identification and Assessment of the Options

3.144. Several options concerning the future supply of clay were identified taking account of the following:

- National policy concerning clay;
- current supply and demand position in West Sussex;
- outcomes of early stakeholder engagement; and
- the relevant JMLP Vision and Objectives (described above).

3.145. The options were assessed to identify 'reasonable alternatives' for Sustainability Appraisal as set out below:

Option CL1: Allow proposals to come forward at specific allocated sites only including Land Adjacent to West Hoathly Brickworks
This option involves the allocation of a specific site for clay at Land adjacent to West Hoathly Brickworks and/or some other suitable site(s) identified during the plan making process. This option would not allow proposals on unallocated sites.
Evaluation

If sites could be identified which relate to each brickworks then this approach would provide more certainty to individual brickworks to ensure that they have a 25 year supply of clay in accordance with NPPF. Only an extension to West Hoathly Brickworks has been identified and evaluated as suitable for allocation. The clay operators generally agreed that identifying specific sites as close as possible to existing brickworks was the most appropriate option. However, this approach would not allow new, unallocated sites to come forward on a policy basis if a need arises at individual brickworks.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
No. Supplying clay using this option alone is not considered to be sufficiently flexible and so would make the Plan ineffective. There is a significant risk that if no proposals were received for development of the allocated site then the requirements for clay supply would not be met.

Option CL2: Criteria-based policy (allowing extensions to existing sites only)
Allow proposals for unallocated 'windfall' extensions to existing clay sites subject to certain criteria intended to protect the community and the environment. Sites should be well-located to the ALR.
Evaluation

The clay operators generally agreed that identifying specific sites as close as possible to existing brickworks was the most appropriate option. However, this approach, of not identifying specific sites where extensions could occur, would provide less certainty to individual brickworks and communities. In addition, the option would not necessarily allow for the development of resources which are not adjacent to brickworks. This relies on there being a viable clay resource adjacent to existing sites nearby and also means that extensions to sites within protected landscapes would be subject to the exceptional circumstances test. However, this option is consistent with the short term planning approach adopted by the industry that means specific sites will not be identified by them at this stage because current supplies have not been exhausted and they often do not look long term at future supplies.

The policy option would give a preference for extensions over new sites and so is not consistent with the national Planning Practice Guidance states that the suitability of each proposed site should be considered on its individual merits rather than expressing a preference for extensions over new sites. This is because in some circumstances a new site may have fewer negative impacts (e.g. cumulative impacts) than an extension and so may be preferable.

Taken forward as a reasonable alternative option for Sustainability Appraisal?

No. This option alone does not provide sufficient certainty that a site exists which meets the objectives of the Plan and so could be developed to supply the requirements for clay during the Plan period. The option is not consistent with national Planning Practice Guidance.

Option CL3: Criteria-based policy (extensions to existing sites and 'satellite' sites only)

Allow proposals on unallocated sites subject to criteria intended to protect the community and the environment.

Sites should be located as close as practicable to the existing brickworks to where the clay will be supplied and well-located to the ALR.

Preference would be given to sites outside the AONB and National Park unless no suitable alternatives are available.

Evaluation

This approach would provide less certainty to individual brickworks and communities. However, the industry has indicated that a criteria-based policy approach may be appropriate to address the needs of brickworks that have not identified specific sites yet as they often do not look long term at future supplies until current supplies are exhausted. The clay operators generally agreed that identifying specific sites as close as possible to existing brickworks was the most appropriate option. This approach would also be consistent with national policy which requires Minerals Planning Authorities to take account of the need for provision of brick clay from a number of different sources to enable appropriate blends to be made.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes. The option provides for a more flexible (and so robust) supply of clay for brickworks.

Option CL4: Allocate specific sites and criteria based policy
A combination of options CL1 and CL2.
Evaluation
This option would give brickworks with less than 25 years of permitted reserves the certainty they need to ensure they remain viable and it would provide some flexibility over the plan period for sites that have not identified specific sites. However, it would not allow 'satellite' sites to come forward and so could restrict the supply of clay to brickworks if there are no viable resources nearby.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes. The option provides more flexible support for developments associated clay extraction and so could deliver the needs of the Plan.

Option CL5: Allocate specific sites and criteria based policy
A combination of options CL1 and CL3.
Evaluation

This option would give brickworks with less than 25 years of permitted reserves the certainty they need to ensure they remain viable and it would provide some flexibility over the plan period for sites that have not identified specific sites.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes. This option provides the most flexible support for clay extraction and so is most likely to deliver the needs of the Plan.

Outcome of the Sustainability Appraisal of the Reasonable Alternatives

3.146. Two reasonable alternative options underwent Sustainability Appraisal as follows:

- **Option CL1 (CL4 above) – Allocate a specific site (Land Adjacent to West Hoathly Brickworks) and include a criteria-based policy that allows extensions to existing sites only).**
- **Option CL2 (CL3 above) – Criteria-based policy (extensions to existing sites and 'satellite' sites only).**

3.147. ***Policy option CL1*** was predominantly expected to have mixed positive and negative uncertain effects, and minor negative uncertain effects. For example, the policy option was likely to have mixed positive and negative effects on SA objectives 2 (recreation), 4 (conservation and supply of mineral resources), 5 (landscape), 7 (geodiversity) and 8 (historic environment). However, the mixed negative effects were expected to be significant for SA objective 5 (landscape), as the allocated site (Land Adjacent to West Hoathly Brickworks) is located within the High Weald AONB which is a nationally important and sensitive landscape designation. Also, the mixed positive effects were expected to be significant for SA objective 8 (historic environment), as sites may work clay (e.g. Gault Formation) which is used in products such as hand-made bricks which have aesthetic and restoration uses, thereby contributing to conserving and enhancing West Sussex's historic environment. Minor negative uncertain effects were expected for SA objectives 1 (health, wellbeing and amenity of residents), 6 (biodiversity), 9 (soil), 10 (air quality) and 13 (transport) due to the effects associated with mineral operations (e.g. dust, noise, traffic levels, biodiversity impacts and land take). However, proposed development management policies likely to be included in the JMLP (e.g. public amenity and health, biodiversity and geodiversity, transport, and air, soil

and water quality) would provide mitigation which would help to avoid potential negative effects.

3.148. Due to the nature of ***policy option CL2***, it was expected to have similar effects to policy option CL1 on the SA objectives. However, key differences include that the mixed negative effects were expected to be minor and not significant for SA objective 5 (landscape), as while sites could result in landscape impacts in the short/long term, preference would be given to sites outside of the AONB and National Park. Furthermore, significant negative effects were likely for SA objectives 10 (air quality) and 13 (transport) as 'satellite' sites that could come forward under the policy option would lead to more vehicle movements, as material is transported to the brickworks from the 'satellite' sites, thereby increasing traffic movements and associated emissions. However, as mentioned above, proposed development management policies likely to be included in the JMLP would provide mitigation which should help to avoid potential negative effects.

3.149. In terms of ecosystem services, the potential impact on each of the main ecosystem services was found to correspond to the potential for positive or negative effects identified on the SA objectives, as described above for policy options CL1 and CL2. For example, the policy options were considered likely to have significant positive uncertain effects (as part of a mixed effect on SA objective 8) in relation to Cultural ecosystem services due to the potential ability to protect and enhance the historic environment.

Identification of the preferred approach

3.150. National policy requires Minerals Planning Authorities to provide for at least 25 years stock of permitted reserves for brick clay to support the level of actual and proposed investment required for new or existing plant and the maintenance and improvement of existing plant and equipment.

3.151. Table 3 shows that there are two brickworks in West Sussex (West Hoathly and Pitsham (2015/16 data) which have less than a 25 year stock of permitted reserves. An extension to West Hoathly brickworks was the only site put forward for consideration in the JMLP. There were no additional areas promoted for future extraction concerning Pitsham and there is insufficient data concerning Pitsham to justify a related allocation.

3.152. The preferred approach for clay is therefore to safeguard existing brickworks and clay pits, allocate an extension at West Hoathly brickworks and to include a criteria-based policy to allow new sites to come forward during the plan period if existing supplies are exhausted or if a particular source of clay is required to enable appropriate blends to be made.

3.153. Proposals for non-allocated sites would be assessed against Policy M5 and proposals for excavation of clay at the West Hoathly allocation would be assessed against site specific policy M11.

3.154. The wording of the Proposed Submission Policy (M5) on Clay is provided at the start of this section showing the changes made to the draft policy.

Sustainability Appraisal of the Draft Policy on Clay

3.155. The Sustainability Appraisal of draft policy M5 is set out below. The SA of policy M11, that includes the allocation of an extension to West Hoathly claypit, is considered in the Minerals Sites Selection Report.

3.156. Policy M5 is expected to have mostly mixed positive and negative uncertain effects, and minor negative uncertain effects. For example, the policy is likely to have mixed positive and negative effects on SA objectives 2 (recreation), 4 (conservation and supply of mineral resources), 5 (landscape), 7 (geodiversity) and 8 (historic environment). The mixed positive effects are expected to be significant for SA objective 8 (historic environment), as sites may work clay (e.g. Gault Formation) which is used in products such as hand-made bricks which have aesthetic and restoration uses, thereby contributing to conserving and enhancing West Sussex's historic environment. Minor negative uncertain effects are expected for SA objectives 1 (health, wellbeing and amenity of residents), 6 (biodiversity), 9 (soil), 10 (air quality) and 13 (transport) due to the effects associated with mineral operations (e.g. dust, noise, traffic levels, biodiversity impacts and land take). However, proposed development management policies in the JMLP (e.g. public amenity and health, biodiversity and geodiversity, transport, and air, soil and water quality) would provide mitigation which should help to avoid potential negative effects.

3.157. In terms of ecosystem services, the potential impact on each of the main ecosystem services corresponds to the potential for positive or negative effects identified on the SA objectives, as described above for Policy M2. For example, the policy is considered likely to have significant positive

uncertain effects (as part of a mixed effect on SA objective 8) in relation to **Cultural** ecosystem services due to the potential ability to protect and enhance the historic environment.

Changes to Policy M5 between draft and proposed submission versions

3.158. As shown above, minor changes to Policy M5 were made between the draft and proposed submission versions of the policy. These changes were made to improve the effectiveness of the policy. The restriction of development to small scale sites was removed as it was considered that it was not possible to adequately define 'small scale' and so this made the policy ineffective. In considering proposals, the appropriateness of a site's scale will be determined by the need for the mineral being adequately demonstrated and consideration of the suitability of a site within its location.

Building Stone

Link to Draft Plan Policy

3.159. This chapter explains the derivation of policy in the Proposed Submission JMLP that is concerned with the supply of stone below showing changes were made to the draft Policy:

Policy M6: *Building* Stone
Proposals will be permitted for ~~small scale~~ extraction of building stone, including extensions of time and physical extensions to existing sites, provided that: **(a) they are needed to provide suitable local building stone necessary for restoration work associated with the maintenance of historic buildings and structures and new build projects;** **(b) the stone cannot be reasonably sourced from existing permitted quarries;** **(c) they are located outside the AONB/South Downs National Park unless there are exceptional circumstances and that it is in the public interest, in accordance with Policy M14, to locate within those areas;** **(d) where transportation by rail or water is not practicable or viable, the proposal is well-related to the Lorry Route Network**

Key Related Documents

3.160. The following documents provide further information and evidence concerning clay:

- British Geological Survey (2007). Mineral Safeguarding Areas and Mineral Consultation Areas for West Sussex.
- Background Paper Engagement: Report of Outcomes, October 2014
- Background Paper 2: Minerals in West Sussex (Version 2, December 2014)
- West Sussex Stone Atlas, November 2015
- West Sussex Annual Monitoring Report 2015/16

Explanation of the issue

Stone in West Sussex

3.161. English Heritage and the British Geological Survey (BGS) have worked with planning authorities to develop a national database of strategic stone resources. The SDNPA has worked with English Heritage and BGS to complete a Strategic Stone Study[20] which also covers parts of West Sussex outside the SDNP. The outputs of this study include the production of data (including GIS information) linking the sources of specific stone (historic quarries etc) with specific historic buildings requiring the use of such stone for restoration/conservation.

National Policy

3.162. There is no requirement for the Authorities to make strategic provision for the production of sandstone as it is generally a small-scale industry which provides local stone of distinctive character. NPPF does however state that local planning authorities should safeguard mineral resource of local and national importance (para. 143, NPPF) and '*consider how to meet demand for small-scale extraction of building stone....for the repair of heritage assets'* (para. 144, NPPF).

Supply and Demand

3.163. In West Sussex sandstone is won from the Hythe Formation with two active quarries near Midhurst and Petworth. Horsham Stone is worked from sandstone and limestone units within the Weald Clay. It is a traditional source of building stone and high quality paving and roofing stone. Ardingly Stone is quarried from the lower Tunbridge Wells sand.

3.164. There are four active building stone extraction sites in West Sussex and one inactive site. There is only one active crushed rock extraction site in West Sussex. For more information on these sites see the West Sussex Annual Monitoring Report. In order to maintain commercial confidentiality, the production and landbank figures for crushed rock and building stone cannot be reported separately, but are reported in a combined figure. The permitted reserve of sandstone in 2013/14 was 2.53mt compared to 2.73mt in 2012/13.[21] There is currently a reserve of 2.43 million tonnes of permitted sandstone, and annual production (over

[20] West Sussex Stone Atlas, November 2015
[21] West Sussex AMR 2013/14 https://www.westsussex.gov.uk/media/5144/monitoringreport2013to14.pdf

the last ten years) ranges between 1000 tonnes (2011/12) and 40,000 tonnes (2006/07).

Table 5 – Sandstone Permitted Reserves and Annual Sales – 2004/05 to 2013/14

Monitoring Year	Total sandstone reserve remaining on sites with planning permission (mt)*	Annual Sales(mt)
2004/05	2.83	0.038
2005/06	2.94	0.033
2006/07	2.88	0.040
2007/08	2.88	0.032
2008/09	2.85	0.030
2009/10	2.77	0.026
2010/11	2.75	0.022
2011/12	2.75	0.001
2012/13	2.73	0.024
2013/14	2.53	0.021
Annual Average	-	**0.027**
*The total permitted reserve figures include bulk fill material and building stone.		

3.165.The Permitted sandstone sites are shown in Table 6 below

Table 6 – Sandstone Sites in West Sussex

	Sandstone Sites					
SDNPA	Bognor Common Stone Quarry, Fittleworth	500892 121398	37.80	Local Stone Co. Ltd.	21.02.42	(A) Sandstone quarrying with restoration by natural regeneration to woodland.
WSCC	Paddockhurst Stone Pit, Newhouse Farm, Balcombe	532765 132320	0.70	Paddockhurst Estate	31.12.16	(I) Quarrying of building stone. Restoration by natural regeneration.
WSCC/SDNPA	**Site Name and Address**	**Grid Ref.**	**Area in Ha.**	**Operator**	**Restoration Date**	**Comments (A) = Active, (I) = Inactive**
WSCC	Philpots Quarry, West Hoathly	535497 132293	3.40	Sussex Sandstone Ltd.	21.02.42	(A) Restoration by natural regeneration. Application for extension granted.
WSCC	Theale Farm Stone Quarry, Slinfold	512392 132002	1.10	I.O. Warren	31.03.12	(A) Extraction of building stone.
SDNPA	Winter's Pit, Easebourne, Midhurst	489401 123603	0.80	Shropshire Stone	30.04.10	(A) Extraction of building stone. Restoration to woodland.

3.166. The remaining sandstone reserve indicates that there is no overall need to identify new sites for sandstone production through the Joint Minerals Local Plan. However, it should be noted that the permitted reserve figure includes a high proportion of material that is not suitable as a building stone product and is only used for bulk fill. One operator estimate suggests that generally only 15% of permitted reserves at quarries are viable as a building stone product. There may therefore be justification for additional permissions at individual quarries for building conservation reasons.

Outcomes of earlier stakeholder engagement

3.167. In 2014, the following questions were asked in respect of Background Paper 1: Setting the Context - Spatial Portrait and relate to the supply of stone:

- Is there a need to allocate mineral sites, other than sand and gravel sites, in the Plan? If yes, please set out the additional allocations which should be considered and a provide reasons to justify such an approach.
- Are there any additional issues or evidence required for sandstone that have not been identified?

3.168. The only response relating specifically to stone concerned extraction from within the High Weald AONB. This response noted that sandstone has traditionally been extracted from sites within the AONB and offered support on the basis that such activity forms part of the cultural heritage of the High Weald and provides valuable traditional materials. The responses supported continued activity on the basis that it remains at the present scale taking account of the likelihood of any additional impacts on the wider landscape.

Related Vision and Objectives

3.169. The parts of the Vision and the Strategic Objectives which relate specifically to the supply of stone are as follows:

West Sussex:

- Will have contributed to the supply of minerals, in particular aggregates, clay, chalk, building stone, silica sand, and oil and gas, to support growth in West Sussex….
- Will be a place which seeks to meet its own needs for minerals and encourage the sustainable use of natural resources, whilst aspiring to source more and more minerals from alternatives to extraction of indigenous resources, and from areas outside the South Downs National Park and Areas of Outstanding Natural Beauty.

Strategic Objective 1: To promote the prudent and efficient supply and use of minerals, having regard to the market demand and constraints on supply in the Plan area.

Identification and assessment of reasonable alternative options

3.170. Five options were considered to ensure that a steady and adequate supply of sandstone is maintained over the plan period taking account of the following:

- National policy concerning stone;
- current supply and demand position in West Sussex;
- outcomes of early stakeholder engagement; and
- the relevant JMLP Vision and Objectives (described above).

3.171. The options are based around allocating specific sites and/or including a criteria based policy for sites to come forward when required during the plan period. Separate options concerning safeguarding the sandstone resource are considered in Chapter 4.

Option ST1: **Allow proposals to come forward at specific allocated sites only**
This option involves the allocation of specific sites for sandstone.
Evaluation
Evidence suggests that the projected demand for sandstone will be met from existing permitted quarries there is therefore no need to allocate any additional sites in the Plan. No sites were proposed by operators or landowners during the call for sites.
Taken forward as a reasonable alternative option for Sustainability Appraisal ?
No. It is highly unlikely that a site allocated in the Plan would ever be developed – inclusion of such a site is therefore not justified.

Option ST2: **Identify specific sites for sandstone if there is justification on the grounds of conservation and preservation of historic monuments and buildings and to maintain viability of the quarry.**
This option also involves the allocation of specific sites for sandstone.
Evaluation

Sites should be located as close as practicable to the historic monuments and buildings which will utilise the stone and well-located to the ALR. Preference would be given to sites outside the AONB and National Park unless no suitable alternatives are available. Evidence suggests that the projected demand for sandstone will be met from existing permitted quarries there is therefore no need to allocate any additional sites in the Plan. No sites were proposed by operators or landowners during the call for sites.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
No. There is insufficient justification for the allocation of a site.

Option ST3: **Identify extensions to existing sites for sandstone if there is justification on the grounds of conservation and preservation of historic monuments and buildings and to maintain viability of the quarry.**
This option involves the allocation of extensions to specific existing sites for sandstone.
Evaluation
Extensions should be to those sites located as close as practicable to the historic monuments and buildings which will utilise the stone and well-located to the ALR. Preference would be given to extensions to sites located outside the AONB and National Park unless no suitable alternatives are available. Evidence suggests that the projected demand for sandstone will be met from existing permitted quarries there is therefore no need to allocate any additional sites in the Plan. No sites were proposed by operators or landowners during the call for sites.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
No. There is insufficient justification for the allocation of a site.

Option ST4: **Criteria-based policy (specific sites and extensions to existing sites only)**
Include a criteria-based policy for proposals for specific sites, or extensions to existing sites, to be assessed against. Criteria should seek to ensure sites are located as close as practicable to to the historic monuments and buildings which will utilise the stone and well-located to the ALR. Preference would be given to sites and extensions located outside the AONB and National Park unless no suitable alternatives are available.
Evaluation
This approach provides less certainty that additional stone supplies would be permitted, however this is a minor issue as existing capacity is sufficient to meet needs during the plan period. Criteria which ensure that sites can only come forward near to the location where the mineral is required and close to the ALR will help ensure that unacceptable transportation impacts do not occur.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes. This option provides flexible support for development of sandstone resources.

Outcome of the Sustainability Appraisal of the Reasonable Alternative

3.172. Only one policy option ST4 (referred to as ST1 in the SA) was considered as a reasonable alternative option for consolidated bedrock. The policy option was expected to have a number of minor negative uncertain effects on the SA objectives, including SA objectives 1 (health, wellbeing and amenity of residents), 6 (biodiversity) and 9 (soil) due to the effects associated with mineral operations (e.g. dust, noise, traffic levels, and land take). However, proposed development management policies likely to be included in the JMLP (e.g. public amenity and health, biodiversity and geodiversity, and air, soil and water quality) would provide mitigation which would help to avoid potential negative effects.

3.173. The policy option was also expected to have a number of mixed effects, predominantly minor positive and minor negative uncertain (e.g. SA objectives 2 (recreation), 5 (landscape), 7 (geodiversity), 10 (air quality), and 13 (transport)). However, the policy option is likely to have mixed significant positive/ minor negative effects on SA objective 8 (historic environment). This is because sites permitted by the policy

option may involve activities that affect the historic environment, but sites could also help conserve the historic environment in West Sussex and maintain its local distinctiveness, in some cases conserving buildings using similar, local stone, thereby conserving and enhancing West Sussex's historic environment.

3.174. In terms of ecosystem services, the potential positive or negative impact on each of the main ecosystem services was found to correspond to the potential for positive or negative effects identified on the SA objectives, as outlined above for policy option ST1. For example, this policy option is considered likely to have significant positive uncertain effects (as part of a mixed effect on SA objective 8) in relation to Cultural ecosystem services due to the potentially ability to protect the historic environment.

Identification of the Preferred Approach

3.175. Unlike for some other minerals, national policy does not require Minerals Planning Authorities to provide for a specific level of stone supply but does expect demand for '*the repair of heritage assets'* to be catered for. The existing reserves and the low level demand for stone suggest that it is not necessary to identify new sites for stone production in the Joint Minerals Local Plan as there are sufficient reserves in existing permitted quarries to meet local needs. The proposed approach for stone is therefore to safeguard existing quarries and to allow new sandstone quarries if it can be demonstrated that the excavated stone will serve a specific local need that cannot be met from existing quarries. It will also be important to monitor sandstone use due to its importance for conservation and restorative purposes.

3.176. The wording of the Proposed Submission Policy (M6) on Building Stone is provided at the start of this chapter (showing changes made to the draft Policy).

Sustainability Appraisal of the Draft Policy on Stone

3.177. Policy M6 was expected to have a number of minor negative uncertain effects on the SA objectives, including SA objectives 1 (health, wellbeing and amenity of residents), 6 (biodiversity) and 9 (soil) due to the effects associated with mineral operations (e.g. dust, noise, traffic levels, and land take). However, proposed development management policies in the JMLP (e.g. public amenity and health, biodiversity and geodiversity, and air, soil and water quality) would provide mitigation which should help to avoid potential negative effects.

3.178. The policy was also expected to have a number of mixed effects, predominantly minor positive and minor negative uncertain (e.g. SA objectives 2 (recreation), 5 (landscape), 7 (geodiversity), 10 (air quality), and 13 (transport)). However, the policy was found likely to have mixed significant positive/minor negative effects on SA objective 8 (historic environment). This is because sites permitted by the policy may involve activities that affect the historic environment, but sites could also help conserve the historic environment in West Sussex and maintain its local distinctiveness, in some cases conserving buildings using similar, local stone, thereby conserving and enhancing West Sussex's historic environment.

3.179. In terms of ecosystem services, the potential positive or negative impact on each of the main ecosystem services corresponds to the potential for positive or negative effects identified on the SA objectives, as outlined above for Policy M6. For example, this policy is considered likely to have significant positive uncertain effects (as part of a mixed effect on SA objective 8) in relation to **Cultural** ecosystem services due to the potentially ability to protect the historic environment.

Changes to Policy M5 between draft and proposed submission versions

3.180. Very few comments were received on the draft policy M6. AS shown above, minor changes to were made between the draft and proposed submission versions of the policy to improve its effectiveness. The restriction of development to small scale sites was removed as it was considered that it was not possible to adequately define 'small scale' and so this made the policy ineffective. In considering proposals, the appropriateness of a site's scale will be determined by the need for the mineral being adequately demonstrated and consideration of the suitability of a site within its location.

Hydrocarbons (Oil and Gas)

Link to Plan Policies

3.181. This chapter explains the derivation of the following policies in the Proposed Submission JMLP concerning the supply of hydrocarbons (with changes that were made to the draft policy illustrated):

Policy M7a: Hydrocarbon development not involving hydraulic fracturing

Exploration and Appraisal

(a) Proposals for exploration and appraisal for oil and gas, not involving hydraulic fracturing, including extensions* to existing sites will be permitted provided that:

(i) *With regard to development proposals deemed to be major,* the site is located outside the South Downs National Park, High Weald AONB or Chichester Harbour AONB unless it has been demonstrated that there are exceptional circumstances and that it is in the public interest, and in accordance with Policy M13;

(ii) the site selected is the least sensitive, deliverable location from which the target reservoir can be accessed, taking into account impacts from on-site activities and off-site activities including HGV movements;

(iii) any *unacceptable* adverse impacts including (but not limited to) noise, dust, visual intrusion, transport, and lighting, on both the natural and built environment and local community, including air quality and the water environment, can be minimised, and/or mitigated, to an acceptable level;

(iv) restoration and aftercare of the site to a high quality standard would take place in accordance with Policy M24 whether or not oil or gas is found;

(v) No unacceptable impacts would arise from the on-site storage or treatment of hazardous substances and/or contaminated fluids above or below ground.

Production

(b) Proposals for oil and gas production, not involving hydraulic fracturing, including extensions* to existing sites, will be permitted provided that:

(i) they accord with (a)(i-iv) above;

(ii) no significant *unacceptable* adverse impacts would arise from the transport*, by vehicle or other means,* of oil/gas, and water*, consumables and waste to or* from the site;

(iii) the restoration and aftercare of the site to a high quality standard would take place in accordance with Policy M24.

(iv) No unacceptable impacts would arise from the on-site storage or treatment of hazardous substances and/or contaminated fluids above or below ground.

Activity beneath or proximate to designated areas

(c) Proposals for exploration, appraisal and production of oil and gas, not involving hydraulic fracturing, will be permitted underneath or in close proximity to *designated areas, assets and habitats* the South Downs National Park, AONBs, Source Protection Zone 1 and Sites of Special Scientific Interest, which demonstrate that special care will be taken to avoid harming the setting and/or special qualities and/or value of these designated areas*, assets and habitats*.

*** including *extensions of time,* physical extensions or extensions to operations within the existing site boundary. N.B. The suitability of proposals for alterations to permitted operations will be considered against the Development Management policies.**

Policy M7b: Hydrocarbon development involving hydraulic fracturing
Exploration and Appraisal
(a) Proposals for exploration and appraisal for oil and gas,

involving hydraulic fracturing, including extensions* to existing sites will be permitted provided that:

(i) any surface development is located outside the following areas (as shown on the policies map):

i. South Downs National Park
ii. Chichester Harbour AONB
iii. High Weald AONB
iv. *Groundwater* Source Protection Zone 1;
v. Sites of Special Scientific Interest (SSSI)
vi. Any other area given specific protection from hydraulic fracturing in legislation

(ii) the site selected is the least sensitive, deliverable location from which the target reservoir can be accessed, taking into account impacts from on-site activities and off-site activities including HGV movements;

(iii) any adverse impacts including (but not limited to) noise, dust, visual intrusion, transport, and lighting, on both the *natural and built* environment and local community, including air quality and the water environment, can be minimised, and/or mitigated, to an acceptable level;

(iv) restoration and aftercare of the site to a high quality standard would take place in accordance with Policy M24 whether or not oil or gas is found;

(v) No unacceptable impacts would arise from the on-site storage or treatment of hazardous substances and/or contaminated fluids above or below ground.

Production

(b) Proposals for oil and gas production, involving hydraulic fracturing, including extensions* to existing sites, will be permitted provided that:

(i) they accord with (a)(i-iv) above;

(ii) no significant adverse impacts would arise from the

transport*, by vehicle or other means,* of oil/gas, and water*, consumables and wastes to or* from the site;

(iii) the restoration and aftercare of the site to a high quality standard would take place in accordance with Policy M24.

(iv) No unacceptable impacts would arise from the on-site storage or treatment of hazardous substances and/or contaminated fluids above or below ground.

Activity beneath or proximate to designated areas

(c) Proposals for exploration, appraisal and production of oil and gas, involving hydraulic fracturing, will be permitted underneath or in close proximity to *designated areas, assets and habitats* the South Downs National Park, AONBs, Source Protection Zone 1 and Sites of Special Scientific Interest, which demonstrate that special care will be taken to avoid harming the setting and/or special qualities and/or value of these designated areas.

Groundwater

d) There is a presumption against hydrocarbon development involving hydraulic fracturing in Groundwater Source Protection Zones 1, 2 and 3 unless it is demonstrated that there will be no unacceptable impacts on groundwater.

*** including physical extensions or extensions to operations within the existing site boundary. N.B. The suitability of proposals for alterations to permitted operations will be considered against the Development Management policies.**

Key Related Documents

3.182. The following documents/links provide further information and evidence concerning hydrocarbons:

- Background Paper 2 – Minerals (Version 2, March 2015)
- Information on WSCC website: https://www.westsussex.gov.uk/planning/oil-and-gas-exploration-and-fracking/
- West Sussex Annual Monitoring Report 2015/16
- Draft Joint Minerals Local Plan Consultation 2016 - Outcomes Report

Explanation of the issue

Hydrocarbons in West Sussex

3.183. Onshore Hydrocarbons, in the form of oil and gas resources, are found across the Plan area. The Singleton oilfield has been in production since 1991 and the oilfields at Lidsey (production since 2005) and Storrington (production since 1994) are also in production at present.

3.184. Petroleum Exploration and Development Licences (PEDLs) have been granted by the Government since the early 1980s, there are currently 14 Licences which cover most of the Plan area. The Proposed Submission JMLP also includes a key diagram which shows the location of the Petroleum Development and Exploration Licenses (PEDLs).

3.185. There are currently three permitted exploration sites: Markwells Wood, Forestside (inactive - within the SDNP); Balcombe (inactive), and Broadford Bridge (inactive). High volume hydraulic fracturing[22] (also known as "fracking" has not previously been used as a method of extracting hydrocarbons in West Sussex.

National Policy

3.186. National policy, set out in the White Paper on energy[23], highlights the UK's current dependence on energy supplies from outside of the UK and the need to reduce that reliance. National energy policy is that oil and gas make an essential contribution to the country's prosperity and quality of life. They play an important part of the UK's energy mix during the transition to low carbon energy supplies. Government policy for Energy Infrastructure is set out in a series of National Policy Statements published in 2011.

3.187. NPPF states that mineral extraction should not have unacceptable adverse impacts on the natural or historic environment or human health (for example, the impact of increased activity on well-being). National planning practice guidance notes that unconventional hydrocarbons are emerging as a form of energy supply. It acknowledges that there is pressing need to establish (through exploratory drilling) whether

[22] "high volume hydraulic fracturing" means hydraulic fracturing of shale or strata encased in shale which -
(a) is carried out in connection with the use of the relevant well to search or bore for or get oil and gas, and
(b) involves, or is expected to involve, the injection of—
(i) more than 1,000 cubic metres of fluid at each stage, or expected stage, of the hydraulic fracturing, or
(ii) more than 10,000 cubic metres of fluid in total.

[23] Energy white paper: meeting the energy challenge, 2007

unconventional hydrocarbons are present and economically viable for production.

3.188. The NPPF requires that mineral planning authorities make provision for the extraction of mineral resources of local and national importance. This includes provision for the supply of conventional and unconventional hydrocarbons[24]. Unlike aggregate minerals, such as sand and gravel, national policy does not require that mineral planning authorities identify specific sites to deliver a specific supply of hydrocarbons.

3.189. The NPPF does not exclude designated landscapes from consideration for hydrocarbons. However, the national Planning Practice Guidance sets out that Local Plans should include:

- Petroleum Licence Areas and existing hydrocarbon extraction sites on policies map;
- criteria-based policies for each of the exploration, appraisal and production phases of hydrocarbon extraction. These policies should set clear guidance and criteria for the location and assessment of hydrocarbon extraction within the Petroleum Licence Areas.

3.190. Minerals Planning Authorities may also identify the specific location of proposed future development, should the onshore oil and gas industry wish to promote specific sites. New regulations[25] ensure that the process of high volume hydraulic fracturing can only take place below 1200 metres in specified groundwater areas (source protection zones 1), National Parks, Areas of Outstanding Natural Beauty and World Heritage Sites.

3.191. Further information about the types and stages of oil and gas development, as well as how planning interacts with other regulatory regimes is set out in Background Paper 2: Minerals[26]. Information on recent applications can be found on the WSCC website: https://www.westsussex.gov.uk/planning/oil-and-gas-exploration-and-fracking/.

Outcomes of earlier stakeholder engagement

3.192. In 2014, Background Paper 2 – Minerals in West Sussex was published which set out evidence in relation to hydrocarbons in West Sussex and informed discussions with the community, and key stakeholders.

[24] National Planning Policy Framework: Annex 2
[25] The Onshore Hydraulic Fracturing (Protected Areas) Regulations 2016
[26] https://www.westsussex.gov.uk/media/4152/bp2_v2.pdf

3.193. The following specific questions were asked with regard to hydrocarbons:

- What are the key issues which should be taken into account when considering the potential impact of onshore hydrocarbon development?

- Are different policy approaches required for different landscape areas (e.g. landscape character areas and/or designated landscapes) or the different type of oil and gas development in West Sussex?

3.194. Respondents indicated the following key issues should be taken into account when considering the potential impact of onshore hydrocarbon development:

- Highway safety and capacity
- Site location and selection
- Sound geological evidence and assessment of risks
- Access routes and onward transportation
- Mitigation and restoration
- Biodiversity
- Landscape
- Cumulative impacts
- Historic environment
- Local economy
- Tourism
- Tranquility
- Human health and amenity
- Pollution (noise, dust, smell, water, air, soil, light)
- Flood risk and drainage
- Traffic
- Flaring gas
- Water usage (in relation to water stress)
- Use, movement, storage and disposal of waste water and other materials
- Use of suitable planning conditions and obligations
- Compensation for effected communities
- Use of precautionary approach
- Reflect ability/ flexibility to reach target reservoir from other locations
- ‘Buffer’ from other development or sensitive areas
- ‘exclusion zones’ for environmentally sensitive areas
- Requiring EIA for all hydrocarbon developments covering the lifetime of the site
- Monitoring at each stage

- Recognition of the different level of impacts associated with conventional and unconventional hydrocarbon development
- Whether to allocate sites or use a criteria based policy approach
- The conclusions from the AMEC SEA report about the potential negative impacts

3.195. Respondents indicated that the Joint Mineral Local Plan policy approach in respect of oil and gas development in designated landscapes must be based upon the following:

- The fact that oil and gas development is major development for the purposes of paragraph 116 of the NPPF which sets out exceptional circumstances tests;

- the importance of ensuring the protection of landscape and scenic beauty of AONBs and the SDNP.

- the AONB Management Plans (and SDNPA Partnership Management Plans) as a material consideration;

- the need to take into account possible impacts on the local economy – in relation to tourism and leisure activity

Related Vision and Objectives

3.196. The parts of the Vision and the Strategic Objectives which relate specifically to the supply of hydrocarbons are as follows:

West Sussex:

- Will have contributed to the supply of minerals, in particular aggregates, clay, chalk, building stone, silica sand and oil and gas, to support growth in West Sussex….
- Will be a place which seeks to meet its own needs for minerals and encourage the sustainable use of natural resources, whilst aspiring to source more and more minerals from alternatives to primary extraction, and from areas outside the South Downs National Park and Areas of Outstanding Natural Beauty.

Strategic Objective 12: To protect the environment and local communities in West Sussex from unacceptable impacts of any proposal for oil and gas development, whilst recognising the national commitment to maintain and enhance energy security in the UK.

Identification and assessment of options

3.197. Options associated with the supply of hydrocarbons were identified and assessed to establish those which may be considered 'reasonable alternatives'. 'Reasonable alternatives' are essentially those options which are conceivably deliverable as well as consistent with the draft Vision and Objectives and national planning policy. The term 'reasonable alternatives' is derived from regulations[27] which set out a requirement to appraise 'reasonable alternatives' in terms of their likely environmental impacts.

3.198. The reasonable alternative options undergo Sustainability Appraisal (SA) which involves an assessment of likely environmental impacts as well as social and economic ones.

3.199. Four options were considered taking account of the following:

- National policy and legislation concerning hydrocarbons;
- outcomes of early stakeholder engagement; and
- the relevant JMLP Vision and Objectives (described above).

These options are considered below:

Option OG1: **Identify areas of search, aligned with PEDL areas, for location of headworks associated with extraction of oil and gas.**
This option involves the identification of areas of search which align with the PEDL areas.
Evaluation

[27] Environmental Assessment of Plans and Programmes Regulations 2004 (commonly referred to as the 'Strategic Environmental Assessment Regulations'), which implement the requirements of the European Directive 2001/42/EC (the 'Strategic Environmental Assessment Directive')

This option would align with the national planning practice guidance which recommends that appropriate provision for hydrocarbons is made by highlighting areas where proposals for hydrocarbon extraction may come forward. However, the option would not allow for the exclusion of protected groundwater source zones or other protected areas from the areas of search for unconventional hydrocarbons which would conflict with legislation restricting the use of hydraulic fracturing within these areas. As the PEDL areas include the SDNP and AONBs this option would be inconsistent with national policy (NPPF para 116) if the exceptional circumstances and public interest tests were not met – as hydrocarbon developments are likely to be considered major development due to the potential for significant environmental impacts.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes, but only if any policy based on this approach would include exclusions as set out above.

Option OG2: **Identify areas of search, aligned with PEDL areas and additional constraints, for location of headworks associated with extraction of oil and gas.**
This option involves the identification of areas of search which align with the PEDL areas but with the addition of additional constraints. This may remove certain areas from within a PEDL area.
Evaluation

This option would align with the national planning practice guidance which recommends that appropriate provision for hydrocarbons is made by highlighting areas where proposals for hydrocarbon extraction may come forward. The additional mapping of constraints would also help manage potentially conflicted objectives for the use of land. Under this option there could be separate 'areas of search' for conventional and for unconventional oil and gas. This would allow for the exclusion of protected groundwater source zones or other protected areas from the areas of search for development involving hydraulic fracturing in accordance with the government's intention to restrict the use of hydraulic fracturing within these areas. The areas of search for conventional hydrocarbons would include the SDNP and AONBs - therefore the option would only be consistent with national policy if the proposals for conventional hydrocarbons in these areas met the exceptional circumstances and public interest tests – as hydrocarbon developments are likely to be considered major development due to the potential for significant environmental impacts.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes, but may be more effective when combined with another option.

Option OG3: **Include criteria based policy for oil and gas sites to come forward as required.**
This option involves developing a criteria based policy for oil and gas sites to come forward as required.
Evaluation
This option would not align with the national planning policy guidance which recommends that appropriate provision for hydrocarbons is made by highlighting areas where proposals for hydrocarbon extraction may come forward. However, it would still ensure that any proposals for hydrocarbons can be considered against the policy.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes, but may be more effective when combined with another option – therefore, this option was combined with both OG1 and OG2 prior to undergoing Sustainability Appraisal.

Option OG4: ***A combination of options.***
This option involves a combination of the options above, e.g. OG 2 and OG3.
Evaluation
A combination of options would ensure that the 'areas of search' are mapped and that appropriate policies are put in place for decision making.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes, OG3 combined with OG1 and OG2.

Outcome of the Sustainability Appraisal of the Reasonable Alternatives

3.200. Two reasonable alternatives were considered for oil and gas which were based on a combination of the options considered above:

3.201. Option OG1

- Identify areas of search, aligned with PEDL areas, for location of headworks associated with extraction of oil and gas, and
- Include a criteria-based policy or policies assessing proposals for conventional and unconventional oil and gas development which come forward within the relevant area of search.

3.202. Option OG2

- Identify two areas of search for location of headworks associated with extraction of oil and gas:
  - one for conventional oil and gas which is aligned with PEDL areas.
  - one for unconventional oil and gas which is aligned with the PEDL areas but excludes 'protected areas' (as defined in the

draft 'Onshore Hydraulic Fracturing (Protected Areas) Regulations 2015).

and,

- Include a criteria-based policy or policies for assessing proposals for conventional and unconventional oil and gas development which come forward within the relevant area of search.

3.203. Both policy options were expected to have mostly minor negative uncertain effects on the SA objectives (e.g. SA objectives 1 (health, wellbeing and amenity of residents), 2 (recreation), 6 (biodiversity), 7 (geodiversity), 8 (historic environment), 9 (soil), 10 (air quality), 13 (transport) and 14 (greenhouse gases)), as a result of the associated mineral activities (e.g. traffic, noise, dust, land take etc). For example, levels of lorry traffic associated with developments may be substantial due to the transport of water used in operations and the transportation of extracted oil and gas. Furthermore, there is limited opportunity for conventional and unconventional oil and gas developments to have positive effects on the SA objectives (e.g. SA objectives 2, 7 and 8), due to the small scale of the sites and the nature of the developments lacking opportunity to contribute to the conservation of geological features and enhancement of recreation opportunities for example.

3.204. However, proposed development management policies likely to be included in the JMLP (e.g. public amenity and health, biodiversity and geodiversity, transport, and air, soil and water quality) would provide mitigation which should help to avoid potential negative effects.

3.205. Mixed positive and negative uncertain effects were also likely on SA objectives 4 (minerals resources) and 5 (landscape). For example, both policy options could result in permitting headworks and developments that could result in landscape impacts. However, it is likely that sites will be relatively contained and small scale.

3.206. The policy options could also result in minor positive effects in the long term as the restoration of potential developments could lead to positive effects for the landscape via restoration. However, policy option OG2 is likely to have significant positive effects as part of the mixed effect on SA objective 5, as a separate area of search is proposed for unconventional oil and gas which excludes protected areas (as defined in Regulations), which includes National Parks and AONBs. Furthermore aspects of both options would have to meet the exceptional circumstances and public interest tests due to the potential for applications for developments coming forward in designated areas.

3.207. In terms of ecosystem services, the potential impact on each of the main ecosystem services was found to correspond to the potential for positive or negative effects identified on the SA objectives, as described above for policy options OG1 and OG2. For example, policy option OG2 was considered likely to have significant positive uncertain effects (as part of a mixed effect on SA objective 5) in relation to Cultural ecosystem services due to the potentially ability to protect landscape character.

Identification of the Preferred Approach

3.208. Following the SA of the Options, it was considered that Option OG2 represented the most appropriate Option, as it scored positive effects in terms of the landscape objective due to the additional protection offered to protected areas. This Option was therefore developed into two policies (set out above in policies M7a and M7b) that provide for a clear restriction on any surface development involving hydraulic fracturing within the South Downs National Park, AONBs, Source Protection Zone 1 and Sites of Special Scientific Interest (SSSI).

3.209. The policies also include criteria to ensure that any potential adverse impacts from oil and gas development can be minimised and/or mitigated to an acceptable level. It includes the requirement for restoration and aftercare of sites, either after exploration and appraisal if oil and gas is not found, or after production has ceased.

3.210. Wording of the policies on Hydrocarbons included in the Proposed Submission Plan are provided at the beginning of this chapter which show the changes made to the draft policies.

Sustainability Appraisal of the Draft Policies on Oil and Gas

3.211. Although Policy M7a does not include hydraulic fracturing and Policy M7b does include hydraulic fracturing, the effects on the SA objectives are likely to be similar due to the similar level of protection within the policies as explained below.

3.212. Policies M7a and M7b are expected to have mostly minor negative uncertain effects on the SA objectives (e.g. SA objectives 1 (health, wellbeing and amenity of residents), 2 (recreation), 6 (biodiversity), 7 (geodiversity), 8 (historic environment), 9 (soil), 10 (air quality), 11 (water resources and quality), 13 (transport) and 14 (greenhouse gases), as a result of the activities associated with proposals for exploration and appraisal for oil and gas (e.g. traffic, noise, dust, land take etc). For example, levels of lorry traffic associated with developments may be substantial due to the transport of wastewater that would be taken off site and possible transportation of extracted oil and gas. Furthermore, there is limited opportunity for conventional and unconventional oil and gas developments to have positive effects on the SA objectives (e.g. SA objectives 2, 7 and 8), due to the small scale of

the sites and the nature of the developments lacking opportunity to contribute to the conservation of geological features and enhancement of recreation opportunities for example. However, proposed development management policies in the JMLP (e.g. public amenity and health, biodiversity and geodiversity, transport, and air, soil and water quality) would provide mitigation which should help to avoid potential negative effects. Uncertain minor negative effects are identified for policies M7a and M7b on SA objective 11 because they both permit proposals for exploration, appraisal and production underneath or within close proximity to Source Protection Zone 1 which could therefore adversely effect groundwater bodies.

3.213. Mixed positive and negative uncertain effects are also likely on SA objectives 4 (minerals resources) and 5 (landscape). For example, the policy could result in developments that could have landscape impacts. However, it is likely that sites will be relatively contained and small scale, and where they are potentially proposed in designated areas (e.g. SDNP and AONBs), and do not include hydraulic fracturing, the exceptional circumstances and public interest tests would have to be met. For proposals involving hydraulic fracturing, any surface development would not be allowed in SDNP or the AONBs under Policy M7b. The policy could also result in minor positive effects in the long term as the restoration of potential developments could lead to positive effects for the landscape via restoration.

3.214. In terms of ecosystem services, the potential impact on each of the main ecosystem services was found to correspond to the potential for positive or negative effects identified on the SA objectives, as described above for Policies M7a and M7b. For example, the policy is considered likely to have minor positive uncertain effects (as part of a mixed effect on SA objective 5) in relation to Cultural ecosystem services due to the potentially ability to protect landscape character.

Changes to Policy M7a and M7b between draft and proposed submission versions

3.215. Approximately 67% (499) of the responses received were concerned with the draft JMLP's proposed approach to the supply of oil and gas. The main comments on the draft policy and the Authorities' response to them are set out in the Draft Joint Minerals Local Plan Consultation 2016 - Outcomes Report.

3.216. In response, additions were made to both policies as well as to supporting text) to improve their effectiveness by clarifying matters with regard to certain aspects of the following:

- The built environment;
- onsite storage of substances;
- associated transport of consumables, products and waste;
- groundwater.

3.217. These changes did not affect the outcomes of the Sustainability Appraisal.

4. Safeguarding Minerals Resource

Link to Plan Policies

4.1. This chapter explains the derivation of the following policy concerning the safeguarding of minerals resources included in the Proposed Submission JMLP (showing the changes that were made to the draft policy):

Policy M9: Safeguarding Minerals
(a) Existing minerals extraction sites will be safeguarded against non-mineral development that prejudices their ability to supply minerals in the manner associated with the permitted activities. **(b) Sand and gravel, brick-making clay, ~~and~~ building stone resources and chalk reserves are safeguarded against sterilisation. Proposals for non-mineral development within the Minerals Safeguarded Areas will *not* be permitted *unless* ~~provided that~~:** **(i) Mineral sterilisation will not occur; or** **(ii) It is appropriate and practicable to extract the mineral prior to the development taking place, with regards to the other policies in the Plan; or** **(iii) The overriding need for the development outweighs the safeguarding of the mineral *and it has been demonstrated that prior extraction is not practicable or environmentally feasible*.**

4.2. The Proposed Submission JMLP includes maps of Minerals Safeguarding Areas for the following minerals:

- Sand and Gravel (including sharp sand and gravel, soft sand and silica sand)
- Chalk
- Clay
- Building Stone

4.3. For the Proposed Submission JMLP, amendments to the draft maps were made to ensure the boundaries of key settlements (excluded from safeguarding for certain minerals) is accurate.

Key Related Documents

4.4. The following documents provide further information and evidence concerning the safeguarding of minerals resources:

- Background Paper 5 – Safeguarding Mineral Resources (Version 2), 2014
- Mineral Safeguarding in England: Good Practice Advice', BGS, 2011
- British Geological Survey Mineral Safeguarding Area and Mineral Consultation Areas for West Sussex (2007)
- West Sussex Annual Monitoring Report 2015/16
- Draft Minerals Safeguarding Guidance, 2016
- Draft Joint Minerals Local Plan Consultation 2016 - Outcomes Report

Explanation of the issue

4.5. Mineral resources underlie the earth's surface and may be put out of reach of extraction if development takes place on top of them. In other words, once surface development has taken place, for minerals of local and national importance in West Sussex (other than hydrocarbons) it will be largely impossible to extract a mineral from beneath that surface development. There is therefore a need to consider the presence and importance of subsurface mineral resources before surface development takes place. The process of ensuring that this occurs is known as 'mineral safeguarding'.

4.6. Figure 3 below illustrates the process of minerals safeguarding.

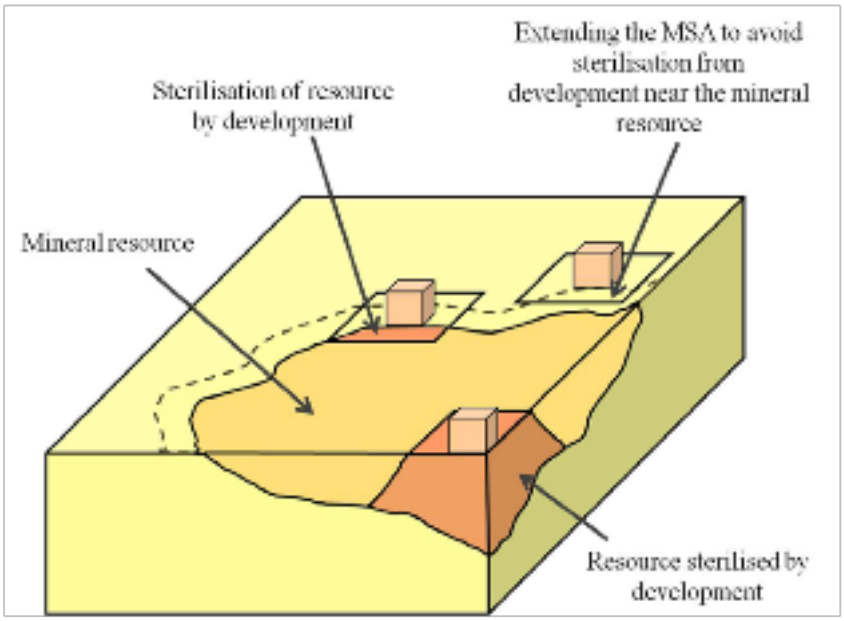


Figure 3: The sterilisation of mineral resource by surface development[28]

What are Mineral Safeguarding Areas and Mineral Consultation Areas?

Mineral Safeguarding Areas (MSAs)

4.7. MSAs are areas designated by Minerals Planning Authorities which cover areas of land beneath which there are known deposits of minerals which are desired to be kept safeguarded from unnecessary sterilisation by non-mineral development at the surface. Mineral Safeguarding Areas are defined in Minerals Local Plans.

Mineral Consultation Areas (MCAs)

4.8. MCAs are a mechanism that aims to ensure that in two tier authority areas, such as West Sussex, consultation takes place between county and district/borough planning authorities when mineral interests could be compromised by non-mineral development. MCAs should be defined as follows:

- Areas consistent with the extent of MSAs to ensure consultation on unpermitted resources;
- areas around permitted active mineral extraction sites and their associated facilities (this may also include inactive and dormant sites) where these are outside the MCA defined around MSAs;

[28] Taken from 'Mineral safeguarding in England: good practice advice', BGS, 2011

- areas around sites allocated for future mineral extraction within the Joint Minerals Local Plan where these are outside the MCA defined around MSAs;
- areas around safeguarded mineral infrastructure, such as wharves and railheads (mineral infrastructure safeguarding is considered in the next section).

4.9. In developing their approach to minerals resource safeguarding the Authorities have sought to be consistent with national policy. National policy requires, through the National Planning Policy Framework (NPPF), that local authorities[29]:

- Define MSAs 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 defined resources will be worked;
- define MCAs based on MSAs;
- set out policies to encourage the prior extraction of minerals, where practicable and environmentally feasible, if it is necessary for non-mineral development to take place;
- not normally permit other development proposals in MSAs where they might constrain potential future mineral developments.

4.10. Safeguarding does not automatically preclude other forms of development; the intention is to alert prospective developers of non-mineral land uses to the existence of mineral resources, so that they can be taken into account at the earliest possible stage of a development project. There is no presumption that resources defined in a MSA will be suitable, either environmentally or economically, for mineral extraction.

4.11. MSAs and MCAs for West Sussex were initially proposed in a British Geological Survey of West Sussex that was undertaken in 2007. Based on the assessment of best available geological knowledge, four mineral resources were considered of particular economic importance in the foreseeable future in West Sussex, which warranted consideration for safeguarding for future generations:

- Unconsolidated sand and gravel;
- Brick clay;
- Chalk;

[29] NPPF, paragraph 143

- Consolidated bedrock deposits (crushed rock, aggregate and building stone).

4.12. The 2007 study includes reasons for the inclusion and exclusion of certain mineral resources. The study recommends that the MCAs should be the same as the MSAs.

4.13. A recent review of the work undertaken by BGS confirmed that there have been no changes to national or local planning policy relevant to the approach to the identification of MSAs and so the 2007 study remains relevant to the policy approach in the Joint Minerals Local Plan.

4.14. Although deposits of oil and gas also exist in West Sussex there is no requirement to safeguard such deposits. This is in accordance with the Planning Practice Guidance[30] that states:

"There is normally no need to create mineral safeguarding areas specifically for extraction of hydrocarbons given the depth of the resource, the ability to utilise directional drilling and the small surface area requirements of well pads."

4.15. However it is proposed that existing surface sites, from where the exploration, development and production of hydrocarbons takes place, are safeguarded as minerals infrastructure.

Outcomes of earlier stakeholder engagement

4.16. In 2014, Background Paper 5 – Safeguarding Mineral Resources was published for consultation. This background paper presented evidence in relation to the safeguarding of mineral resources in West Sussex and was intended to inform discussions with the community, and key stakeholders.

4.17. The following specific questions were asked with regard to minerals safeguarding:

- Is there any evidence to suggest a need to amend the draft MSAs identified?
- Is there any evidence to suggest a need to amend the draft MCAs identified?

[30] Paragraph: 108 Reference ID: 27-108-20140306

- Is there any evidence to suggest the extension of the MCAs to 250m beyond the boundary of the safeguarded mineral resource sites/areas should be extended or reduced?
- Are there any additional ways in which the Joint Minerals Local Plan could address the issue of safeguarding mineral resources?
- Are there any additional exemptions which should be considered?
- alternative methods /approaches modifications to BP5/ other issues

4.18. The key outcomes from consultation on this matter were as follows:

- There is a need for a clear process to avoid sterilisation of minerals.
- Lower Greensand shown on the BGS maps should be safeguarded in the appropriate manner. No other areas or mineral resources additional to those identified in the background paper were identified for safeguarding.
- Silica sand must be considered.
- The brickclay safeguarded area should be refined and exclude developed areas such as roads, railways, rivers, lakes, towns and villages.
- To make consultation more focussed it may be better to have more narrowly defined MCAs around each operational site - as proposed for rail depots and wharfs.
- Extending MCAs to 250 metres beyond the boundary of sites generally considered acceptable with suggestion that it should be increased to 500 metres depending on site specific circumstances and for resources should be 400m.
- Acknowledgement that there is unlikely to be a process available to safeguard hydrocarbon resources.

Related Vision and Objectives

4.19. The parts of the Vision and the objectives which relate specifically to minerals resource safeguarding are as follows:

West Sussex:

- Will have contributed to the supply of minerals, in particular aggregates, clay, chalk, building stone, silica sand and oil and gas, to support growth in West Sussex. In particular social and economic progress of both the Coastal West Sussex and Gatwick Diamond strategic growth areas will have been supported through

the provision of aggregate to enable the delivery of new development.

- Will be a place which seeks to meet its own needs for minerals and encourage the sustainable use of natural resources, whilst aspiring to source more and more minerals from alternatives to primary extraction, and from areas outside the South Downs National Park and Areas of Outstanding Natural Beauty.
- Will safeguard valuable mineral resources, including the soft and silica sand of the Folkestone Beds, the sharp sand and gravel around Chichester, clay needed for individual brickworks, and building stone from needless sterilisation by other development.

Strategic Objective 6: To safeguard potential economically viable mineral resources from sterilisation.

Identification and assessment of options

4.20. Based on the national policy concerning minerals safeguarding, the evidence concerning the existence of workable minerals resources in West Sussex, outcomes of early stakeholder engagement and the relevant JMLP Vision and Objectives, the following possible minerals safeguarding options were identified and assessed to establish those which may be considered 'reasonable alternatives'. 'Reasonable alternatives' are those options which are essentially conceivably deliverable as well as consistent with the draft Vision and Objectives and national planning policy.

4.21. The reasonable alternative options undergo Sustainability Appraisal (SA) which involves an assessment of likely environmental impacts as well as social and economic ones.

Sand and Gravel

Option MSA/A1: **MSA to include the whole of the unconsolidated sand and gravel mineral resources, including a 250m buffer. Define a MCA around the same area.**
This option involves safeguarding the entire sand and gravel resource from sterilisation by non-minerals development.
Evaluation
This option provides the widest protection of the sand and gravel resource and will have the widest impact in terms of requiring notification of non-minerals surface development to the authorities for decisions about whether surface development can go ahead and for developers to consider whether the resource can be extracted prior to development. This option does not take account of any information that may be available concerning the viability of extraction in any particular area or whether any parts of the resource have been worked or already sterilised. It could therefore result in superfluous requirements being placed on planning authorities and developers where it is clear that the minerals resource in a particular area would never be worked.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes, this option is consistent with national policy and the Vision and Objectives.

Option MSA/A2: **MSA to include the whole of the unconsolidated sand and gravel mineral resources, including a 250m buffer <u>excluding urban areas</u>. Define a MCA around the same area.**
This option involves safeguarding the sand and gravel resource from sterilisation by non-minerals development where the resource does not underlay an urban area.
Evaluation

This option has a lesser impact in terms of notification of non-minerals surface development to the authorities for decisions about whether surface development can go ahead and for developers to consider whether the resource can be extracted prior to development. This option avoids consultation with the authorities in areas which are already sterilised in an urban area or are highly unlikely to ever be developed. Some clarification of 'urban area' is needed to ensure consistency in the application of this approach. There is a risk associated with this option that, as the extraction of sand and gravel in urban areas subject to redevelopment would not be considered, a potentially high quality resource would not be worked.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes, this option is consistent with national policy and the Vision and Objectives.

Clay

Option MSA/B1: **MSA to include the whole of the Weald and Wadhurst clay formations, including a 250m buffer. Define a MCA around the same area and around any brickworks that fall outside of these areas to safeguard them from proximal development (site area plus a 250m buffer). Do not blanket safeguard the Gault clay formation.**
This option involves safeguarding the entire clay resource and, in addition, any areas around brickworks which do not fall within the main Wadhurst and Weald clay resource e.g. Pitsham Brickworks (Gault Clay).
Evaluation
This option provides the widest protection of the resource and will have the widest impact in terms of requiring notification of non-minerals surface development to the authorities for decisions about whether surface development can go ahead and for developers to consider whether the resource can be extracted prior to development. This option does not take account of any information that may be available concerning the viability of extraction in any particular area or whether any parts of the resource have been worked or already sterilised. It could therefore result in superfluous requirements being placed on planning authorities and developers where it is clear that the minerals resource in a particular area would never be worked.
Taken forward as a reasonable alternative option for Sustainability

Appraisal?
Yes, this option is consistent with national policy and the Vision and Objectives.

Option MSA/B2:   **MSA to include the whole of the Weald and Wadhurst clay formations, including a 250m buffer, excluding urban areas. Define a MCA around the same area and an MSA and MCA around brickworks that fall outside of these areas, plus a 250m buffer to safeguard them from proximal development. Do not blanket safeguard the Gault clay formation.**
This option involves safeguarding the clay resource except that which underlays urban areas. Any areas around brickworks which do not fall within the main resource would also be safeguarded provided they do not underlay an urban area e.g. Pitsham Brickworks (Gault Clay).
Evaluation
This option has a lesser impact in terms of requiring notification of non-minerals surface development to the authorities for decisions about whether surface development can go ahead and for developers to consider whether the resource can be extracted prior to development. This option avoids consultation with the authorities in areas which are already sterilised in an urban area or are highly unlikely to ever be developed. Some clarification of 'urban area' is needed to ensure consistency in the application of this approach. There is a risk associated with this option that, as the extraction of clay in urban areas subject to redevelopment would not be considered, a potentially high quality resource would be sterilised.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes, this option is consistent with national policy and the Vision and Objectives.

Option MSA/B3:   **Do not safeguard the clay resource. Only identify MSAs and MCAs around existing and proposed clay pits (including a 250m buffer).**   **Do not blanket safeguard the Gault clay formation.**

This option involves safeguarding the clay resource only around existing and proposed clay pits.
Evaluation
This option has the least impact in terms of requiring notification of non-minerals surface development to the authorities for decisions about whether surface development can go ahead and for developers to consider whether the resource can be extracted prior to development. This option avoids consultation with the authorities in all areas except those around existing and proposed clay pits. This option has the greatest risk of causing the sterilisation of a potentially high quality resource.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
No, this option is not considered to offer the level of protection of the clay resource expected by national policy and the Vision and Objectives.

Chalk

Option MSA/C1: **<u>MSA to include the whole of the chalk outcrops</u>, including a 250m buffer. Define a MCA around the same area plus a 250m buffer safeguard them from proximal development.**
This option involves safeguarding the entire chalk resource
Evaluation
This option provides the widest protection of the resource and will have the widest impact in terms of requiring notification of non-minerals surface development to the authorities for decisions about whether surface development can go ahead and for developers to consider whether the resource can be extracted prior to development. This option does not take account of any information that may be available concerning the viability of extraction in any particular area or whether any parts of the resource have been worked or already sterilised. It could therefore result in superfluous requirements being placed on developers where it is clear that the minerals resource in a particular area would never be worked. It is important to note that there is no shortfall in reserves of chalk, and the demand for chalk is low and so it is harder to justify such a blanket safeguarding approach.

Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes, this option is consistent with national policy and the Vision and Objectives.

Option MSA/C2: ***MSA to include the whole of the chalk outcrops, including a 250m buffer excluding urban areas. Define a MCA around the same area, plus a 250m buffer to safeguard them from proximal development.***
This option involves safeguarding the entire chalk resource except that which underlays urban areas.
Evaluation
This option has a lesser impact in terms of requiring notification of non-minerals surface development to the authorities for decisions about whether surface development can go ahead and for developers to consider whether the resource can be extracted prior to development. This option avoids consultation with the authorities in areas which are already sterilised in an urban area or are highly unlikely to ever be developed. Some clarification of 'urban area' is needed to ensure consistency in the application of this approach. There is a risk associated with this option that, as the extraction of chalk in urban areas subject to redevelopment would not be considered, a potentially high quality resource would not be worked. It is important to note that there is no shortfall in reserves of chalk, and the demand for chalk is low.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes, this option is consistent with national policy and the Vision and Objectives.

Option MSA/C3: **Do not safeguard the whole chalk resource. Define MSAs and MCAs around existing active chalk quarries and any dormant/inactive quarries (if the evidence shows that there is a need to do so) plus a 250m buffer to safeguard them from proximal development.**

This option protects existing chalk quarries (including dormant and inactive sites) from proximal development but does not safeguard any of the chalk resource.
Evaluation
This option has much less impact on developers, and local authorities would only need to consult the MPA if development was proposed in close proximity to an existing active, inactive or dormant chalk quarry. Due to the extent of the chalk resource and the fact that it is only used on a small scale for local projects, it may not be necessary to safeguard the entire resource. There is a risk that this option would lead to the sterilisation of potentially high quality chalk resources.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes, this option is consistent with national policy and the Vision and Objectives.

Option MSA/C4: **<u>Do not safeguard the whole chalk resource</u>. <u>Identify MSAs around existing active and proposed chalk pits to secure their future, including a 250m buffer zone</u> to safeguard them from proximal development. Define an MCA around the same area.**
This option involves not safeguarding any of the chalk resource but protects existing active and proposed chalk quarries from proximal development. The resource associated with inactive or dormant quarries would not be safeguarded.
Evaluation
This option has the least impact on developers and local authorities would only need to consult the MPA if development was proposed in close proximity to an existing active or proposed chalk quarry. Due to the extent of the chalk resource and the fact that it is only used on a small scale for local projects, it may not be necessary to safeguard the entire resource. However, existing or proposed quarries would still be safeguarded from proximal development. This option carries the greatest risk of causing sterilisation of potentially high quality chalk resources.

Taken forward as a reasonable alternative option for Sustainability Appraisal?
No, this option is considered not to be sufficiently different to Option MSA/C3 to warrant separate consideration as an alternative option.

Consolidated Bedrock (Building Stone)

Option MSA/D1: **<u>MSA to include the whole of the Hythe Formation, Horsham Stone, Ardingly Sandstone and Cuckfield Stone formations</u>, including a 250m buffer. Define a MCA around the same area and around any existing active or dormant/inactive quarries (if the evidence shows that there is a need to do so) that fall outside of the MSA plus a 250m buffer to safeguard them from proximal development.**
This option seeks to safeguard the entire stone resource from sterilisation. Existing active and dormant/inactive quarries would also be protected from redevelopment.
Evaluation
This option provides the widest protection of the stone resource and will have the widest impact in terms of requiring notification of non-minerals surface development to the authorities for decisions about whether surface development can go ahead and for developers to consider whether the resource can be extracted prior to development. This option does not take account of any information that may be available concerning the viability of extraction in any particular area or whether any parts of the resource have been worked or are already sterilised. It could therefore result in superfluous requirements being placed on developers where it is clear that the minerals resource in a particular area would never be worked. There is no shortfall in reserves of stone, and the demand for this mineral is low and so it is harder to justify such a blanket safeguarding approach.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes, this option is consistent with national policy and Vision and Objectives.

Option MSA/D2: **<u>MSA to include the whole of the Hythe Formation, Horsham Stone, Ardingly Sandstone and Cuckfield Stone formations</u>, including a 250m buffer but <u>excluding urban areas</u>. Define MCAs around the same area and around any existing active or dormant/inactive quarries (if the evidence shows that there is a need to do so) that fall outside of the MSA plus a 250m buffer to safeguard them from proximal development.**
This option involves safeguarding the stone resource except where it underlays urban areas. Existing active and dormant/inactive quarries would also be protected from development not involving the extraction of building stone.
Evaluation
This option has a lesser impact in terms of requiring notification of non-minerals surface development to the authorities for decisions about whether surface development can go ahead and for developers to consider whether the resource can be extracted prior to development. This option avoids consultation with the authorities in areas which are already sterilised in an urban area. Some clarification of 'urban area' is needed to ensure consistency in the application of this approach. There is a risk associated with this option that, as the extraction of stone in urban areas subject to redevelopment would not be considered, a potentially high quality resource would be sterilised. It should be noted that there is no shortfall in reserves of stone, and the demand for this mineral is low.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes, this option is consistent with national policy and the Vision and Objectives

Option MSA/D3: **<u>Do not safeguard the building stone resource</u>. <u>Only identify MSAs to include an area around existing active and proposed quarries</u> to secure their future, including a 250m buffer zone. Define an MCA around any existing active or dormant/inactive quarries (if the evidence shows that there is a need to do so) plus a 250m buffer to safeguard them from proximal development.**

This option does not involve safeguarding the stone resource but only safeguards existing and proposed stone quarries from redevelopment. It would also be necessary to consult the authorities on development proposed at or near to dormant/inactive stone quarries.
Evaluation
This option has the least impact on developers and local authorities would only need to consult the MPA if development was proposed in close proximity to an existing active, inactive or dormant stone quarry. Due to the fact that stone is only used on a small scale for local projects, it may not be necessary to safeguard the entire resource. However, existing quarries should still be safeguarded from proximal development to ensure a source of supply for the future. There is a risk that this option would lead to the sterilisation of potentially high quality stone resources.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes, this option is consistent with national policy and the Vision and Objectives

Outcome of the Sustainability Appraisal of the Reasonable Alternatives

4.22. Mixed minor positive/minor negative effects were expected on half of the SA objectives from the policy intention for mineral safeguarding areas (MSAs), including the following SA objectives:

- 1 (health, wellbeing and amenity of residents),
- 2 (recreation),
- 3 (local economy),
- 5 (landscape),
- 8 (historic environment),
- 13 (transport) and
- 14 (greenhouse gases).

4.23. This is generally because MSAs may potentially restrict non-mineral developments that could themselves have negative effects on sensitive receptors such as communities, biodiversity, heritage assets etc., hence a minor positive effect. However, the MSAs may also lead to mineral extraction activities that could also have negative effects on sensitive receptors, hence the mixed effects identified. As the principle of minerals safeguarding does not mean that extraction will be

automatically allowed in all areas identified as MSAs, or that non-mineral development will be prevented in these areas, most effects are uncertain, and will depend on the specific nature and design of proposals that come forward within MSAs, which will not be known until the planning application stage.

4.24. Significant positive effects are expected for two SA objectives: 4 (conservation and supply of mineral resources) and 7 (geodiversity). This is due to the principle of safeguarding, which ensures that mineral resources will be protected from unnecessary sterilisation by other development, by ensuring that minerals resources will be adequately and effectively considered in all planning decisions. Due to these considerations, within MSAs, geological formations may be preserved and in some instances created, depending on whether mineral extraction takes place, and this should contribute to maintaining and enhancing geodiversity.

4.25. In terms of ecosystem services, the potential impact on each of the relevant main ecosystem service was found to correspond to the potential for positive or negative effects identified on the SA objectives, as described above for the policy intention. For example, the policy intention is considered likely to have significant positive effects on SA objective 7 in relation to Cultural ecosystem services due to the potential ability to protect geodiversity.

4.26. The options for delineating MSAs and MCAs, identified as reasonable alternative options were appraised. The options generally propose:

- Safeguarding the entire known resource, safeguarding areas around existing and proposed sites, including buffer zones of 250m within the MSAs, and excluding urban areas from safeguarding areas.
- Defining MCAs around the same areas as MSAs, defining MCAs around particular workings (e.g. brickworks that fall outside resource areas), and defining MCAs around existing active, dormant and inactive sites.

4.27. It is difficult to predict the SA effects of each of these options, as the same uncertainties exist with respect to whether non-minerals development proposals will come forward in any of these areas or if minerals extraction will occur prior to that development taking place. Therefore, the sustainability effects under any of the options are likely to be the same as described above for the MSA policy intention, although the effects are more likely to occur within the safeguarding areas. Thus,

effects may be more widespread under the options which seek to safeguard the entire resource, and particularly for those resources that cover a wider area in the County (e.g. the Chalk resource which stretches across the County west to east).

4.28. In light of paragraph 4.2.10 of the BGS Mineral safeguarding in England: good practice advice[31], the SA recommended that 'excluding urban areas' should not be included as part of the options considered. The SA considered that excluding urban areas from MSAs so that non-minerals development in urban areas is not constrained by the presence of mineral resources is not in accordance with paragraph 143 of the NPPF due to the risk that a high quality resource would be sterilised. The SA suggested that the burden on developers and planning authorities, in urban areas which were under an MSA designation, could be managed by including simple exemption criteria for minor developments (e.g. householder extensions), as outlined in paragraphs 5.2.3 – 5.2.8 in the BGS Mineral safeguarding in England: good practice advice[32].

4.29. The authorities' response to this is that the exclusion of urban areas is not inconsistent with national policy, which gives MPAs sufficient latitude to make such an exclusion. Such exclusions are proposed with the wide distribution of resources in mind as well as the demand for such resources.

Identification of the Preferred Approach

4.30. The preferred approaches to minerals safeguarding, and the policy proposed for inclusion in the Proposed Submission JMLP in the Plan, are set out below:

Sand and Gravel[33]

4.31. The preferred approach to safeguarding soft sand and sharp sand and gravel is to include the whole of the unconsolidated sand and gravel mineral resources including that which underlies the urban areas[34]. The soft sand resources may also have the potential to be of silica sand quality which is of national importance. This approach reflects the distribution of the resource and ensures that the safeguarding of these resources is maximised. The MSAs for soft sand (including potential for

[31] BGS (2011) Mineral safeguarding in England: good practice advice.
[32] BGS (2011) Mineral safeguarding in England: good practice advice.
[33] Includes sharp sand and gravel, soft sand and silica sand.
[34] Urban areas are defined as the settlement areas in District and Borough Local Plans

silica sand) and sharp sand and gravel are shown on a map that forms part of the Plan. This approach follows option MSA/A2.

Clay

4.32. West Sussex contains regionally important brick-making raw materials. The most important clay resources that have been included in the brick clay safeguarding area are the Weald and Wadhurst formations but urban areas have been excluded for Weald Clay only, which reflects the particular demand for Wadhurst Clay and narrower distribution of the resource. The Gault formation clay, which supplies Pitsham brickworks, is only extracted in small quantities and not economically significant[35]. The preferred approach is therefore to safeguard the Weald and Wadhurst clay resource as described. Alos, although the Gault clay resource will not be safeguarded, Pitsham brickworks will be safeguarded from proximal development to ensure continued production. The safeguarding area will include a 250 metre buffer and avoid urban areas to minimise unnecessary consultation in areas which are already sterilised by development. This approach follows option MSA/B3.

Chalk

4.33. Due to the wide extent of the chalk resource and the limited demand for chalk, there is no need to safeguard the entire resource. Prior extraction of chalk is not likely to be practicable due to the market for this mineral and the cost of transporting it. The existing and active chalk extraction sites within West Sussex hold sufficient reserves to meet the need over the Plan period and so the preferred approach is to safeguard these sites only. The existing safeguarded active and inactive[36] chalk quarries that have unworked permitted reserves are listed in the Annual Monitoring Report. The reserve associated with the Shoreham Cement Works is proposed to be safeguarded although it is recognised that further extraction in this area would likely be inconsistent with the emerging South Downs National Park Local Plan that identifies this area for allocation for non-minerals related mixed uses[37], however it is considered likely that proposals for associated non-minerals development would be of sufficient importance to outweigh ongoing

[35] British Geological Survey (2007). Mineral Safeguarding Areas and Mineral Consultation Areas for West Sussex.
[36] See Glossary for definition of 'inactive'
[37] See South Downs Local Plan Preferred Options, Strategic Site Policy SD32: Shoreham Cement Works, https://www.southdowns.gov.uk/planning/planning-policy/national-park-local-plan/

safeguarding of the reserve and this can be properly assessed at the planning application stage. This approach follows option MSA/C3.

Sandstone (building stone)

4.34. In West Sussex, sandstone is only used on a small scale for local projects. The Strategic Stone Study provides an excellent database of the most significant building stone types and which quarries they were sourced from. The Study identifies a total of 282 quarries in West Sussex, 56 of which can be attributed to specific buildings. If the character of historic buildings is to be maintained, supplies of new matching stone are needed for repair and for new construction. Safeguarding the most important building stones will ensure that they are available for the repair of historic buildings in the future. The preferred approach is therefore to safeguard the Hythe Formation, Horsham Stone, Ardingly Sandstone and Cuckfield Stone resources for stone matching purposes (excluding urban areas). This approach follows option MSA/D2.

Oil and Gas

4.35. The precise extent of oil and gas resources in West Sussex is unknown. Sterilisation of oil and gas resources is not likely to occur due to the depth at which they occur, and the ability to use horizontal drilling, and so the safeguarding of oil and gas resources is not necessary. West Sussex's existing onshore hydrocarbon production facilities will be safeguarded from proximal development under provisions for safeguarding mineral infrastructure.

4.36. The wording of the Proposed Submission Policy on safeguarding minerals resources, showing changes made to the draft policy, is set out at the beginning of this chapter.

Sustainability Appraisal of the Draft Policy on Minerals Safeguarding

4.37. Mixed minor positive/minor negative effects were expected on half of the SA objectives from the policy intention for mineral safeguarding areas (MSAs), including SA objectives 1 (health, wellbeing and amenity of residents), 2 (recreation), 3 (local economy), 5 (landscape), 8 (historic environment), 13 (transport) and 14 (greenhouse gases). This is generally because MSAs may potentially restrict non-mineral developments that could themselves have negative effects on sensitive

receptors such as communities, biodiversity, heritage assets etc. hence a minor positive effect. However, the MSAs may also lead to mineral extraction activities that could also have negative effects on sensitive receptors, hence the mixed effects identified. As the principle of minerals safeguarding does not mean that extraction will automatically be allowed in all areas identified as MSAs, or that non-mineral development will be prevented in these areas, most effects are uncertain, and will depend on the specific nature and design of proposals that come forward within MSAs, which will not be known until the planning application stage.

4.38. Significant positive effects are expected for SA objectives 4 (conservation and supply of mineral resources) and 7 (geodiversity). This is due to the principle of safeguarding, which ensures that mineral resources will be protected from unnecessary sterilisation by other development, by ensuring that minerals resources will be adequately and effectively considered in all planning decisions. Due to these considerations, within MSAs, geological formations may be preserved and in some instances created, depending on whether mineral extraction takes place, and this should contribute to maintaining and enhancing geodiversity.

4.39. In terms of ecosystem services, the potential impact on each of the relevant main ecosystem services was found to correspond to the potential for positive or negative effects identified on the SA objectives, as described above for the policy intention. For example, the policy intention is considered likely to have mixed effects on SA objective 7 in relation to Cultural ecosystem services due to the potential ability to protect geodiversity.

Implementation

4.40. In order to ensure that consultation takes place between county and district planning authorities MCAs have been defined based on the MSAs. District and Borough Councils will be required to consult the Authorities on proposals for non-mineral development within MCAs. The Authorities will assess the likelihood of the presence of minerals worthy of safeguarding and may seek additional information. Developers may be required to carry out investigative work to ascertain whether economically viable mineral resources are present and the potential for their prior extraction. To assist implementation of the safeguarding process, separate guidance is being published alongside the Plan which sets how the process should function and describes non-minerals development which it is proposed would be exempted from the safeguarded process. Targeted consultation on the safeguarding process

took place with district and borough planning authorities during March 2016. Draft Guidance was published with the draft JMLP for consultation and a workshop was subsequently held in June 2016. The current draft guidance takes account of the outcome of that consultation. Further comments are invited on the latest draft of the guidance during the representations period on the Proposed Submission JMLP.

Changes to Policy M9 between draft and proposed submission versions

4.41. Consultation on the draft policy resulted in contrasting comments about its strength. The main comments and the Authorities' response to them are set out in the Draft Joint Minerals Local Plan Consultation 2016 - Outcomes Report.

4.42. There were many comments about how the mineral safeguarding policy would be implemented in practice. Amendments have been made to the Minerals Safeguarding Guidance to ensure that these points have been addressed.

4.43. Amendments to Policy M9 and supporting text were made to clarify when non-mineral development overrides the safeguarding of a mineral resource. These changes did not affect the outcome of the Sustainability Appraisal.

4.44. The MSAs have also been amended to ensure the boundaries of key settlements (which, in some cases, are excluded from safeguarding) are consistent with the built-up area boundaries in District and Borough Local Plans.

5. Safeguarding Minerals Infrastructure

Link to Draft Plan Policies

5.1. This chapter explains the derivation of the following policy concerning the safeguarding of minerals infrastructure included in the Proposed Submission JMLP, showing the changes that were made to the draft policy:

Policy M10: Safeguarding Minerals Infrastructure

(a) Development on, or near to, sites hosting *permanent* ~~existing~~ minerals infrastructure that would prevent or prejudice *its operation* ~~the use of existing minerals infrastructure~~ will not be permitted unless:

- **(i) The site or infrastructure is no longer suitable for continued minerals use; or**
- **(ii) redevelopment of the site or loss of the infrastructure would form part of a strategy or scheme that has wider social and/or economic benefits that clearly outweigh the retention of the site or the infrastructure for minerals use; and,**
- **(iii) a suitable replacement site or infrastructure has been identified and *is available* ~~permitted~~;**

(b) Where safeguarded infrastructure situated within a host quarry, wharf or rail depot facility, they are safeguarded for the life of the host site.

(c) The following *permanent* wharves and railheads are safeguarded for *the purposes of* ~~their~~ minerals transportation ~~purposes~~:

- **(i) ARC Wharf, Shoreham (inset map 3)**
- **(ii) Turberville and Penneys Wharf, Shoreham (inset map 3)**
- **(iii) Halls Wharf, Shoreham (inset map 3)**
- **(iv) Rombus Wharf, Shoreham (inset map 3)**
- **(v) Railway Wharf, Littlehampton (inset map 4)**
- **(vi) Chichester Railway Sidings (inset map 5)**
- **(vii) Ardingly Rail Depot (inset map 6)**
- **(viii) Tinsley Goods Yard, Crawley (inset map 7)**
- **(ix) Crawley Goods Yard (inset map 7)**
- **(x) Crawley Goods Yard (inset map 7)**

(d) Development on, or near to, sites hosting temporary minerals infrastructure, that would prevent or prejudice its

operation, will not be permitted, for the duration of the temporary permission, unless:

(i) the site or infrastructure is no longer in, or suitable for, continued minerals use; or

(ii) redevelopment of the site or loss of the infrastructure would form part of a strategy or scheme that has wider social and/or economic benefits that clearly outweigh the retention of the site or the infrastructure for minerals use;

(e) The following temporary wharves are safeguarded for the purpose of mineral transportation:
(i) Kingston Railway Wharf (inset map 4)
(ii) New Wharf (inset map 4)

Key related documents

5.2. The following documents provide further information and evidence concerning the safeguarding of minerals infrastructure:

- Background Paper 4: Safeguarding Minerals Infrastructure (Version 1, June 2014)
- Background Paper 4: Safeguarding Minerals Infrastructure (Version 2, December 2014)
- Engagement Event – 13 August 2014: Summary of Outcomes
- Assessment of Need for Aggregates: Local Aggregate Assessment (January 2017)
- West Sussex Wharves and Railheads Study (February 2014)
- West Sussex Annual Monitoring Report 2015/16
- Draft Minerals Safeguarding Guidance, 2016
- Draft Joint Minerals Local Plan Consultation 2016 - Outcomes Report

Explanation of the issue

5.3. In order to facilitate sustainable economic growth, and to provide a steady and adequate supply of minerals, it is important that minerals infrastructure is safeguarded. National policy, through paragraph 143 of the NPPF, stipulates that minerals infrastructure, including railheads, wharves, associated processing infrastructure, as well as sites for concrete batching, producing coated materials and recycled and secondary aggregate facilities must be safeguarded.

5.4. Of particular importance are the wharves and railheads, which are needed to allow for importation to West Sussex of aggregates (namely sand and gravel, and crushed rock). Wharves and railheads come under increasing pressure from non-minerals development due to their attractive locations for regeneration projects and/or higher value uses. However once these kinds of facilities are lost, they are unlikely to be regained.

Outcomes of earlier stakeholder engagement

5.5. Early engagement was undertaken through the publication of Background Paper 4: Safeguarding Minerals Infrastructure (Version 1, June 2014). This paper was mainly concerned with the safeguarding of wharves and railheads, with a focus on the outcomes of the wharves and railheads study. The study provided key information on:

- The current use of wharves and railheads;
- capacity (including potential), without undertaking a full review of capacity;
- likely future demand for aggregate imports up to 2031;
- imports, exports, and cross boundary issues;
- scenarios for the safeguarding of wharves, taking account of Shoreham Joint Area Action Plan aspirations, and the viability of sites.

5.6. Prior to the completion of the Wharves and Railheads Study (2013), a draft was circulated for comment to minerals operators, the JAAP Authorities, and Shoreham Port Authority. In general, they were content with the study and the comments received resulted only in minor changes including improvements to clarity. Following completion of the study, a Statement of Common Ground was produced for Shoreham Port due to the complexities being faced in this area of ensuring continued supply of minerals whilst meeting regeneration aspirations of the JAAP. The Statement of Common Ground provided a way forward, in that the Authorities concerned would work together to find a suitable solution.

5.7. The initial evidence, taken from the Wharves and Railheads Study, and the LAA (2014) suggested that in order to achieve a steady and adequate supply of minerals to meet projected demand and to meet regeneration aspirations, there would be a requirement for Shoreham Port Authority to be willing to identify additional capacity of 96,000 tonnes, through general terminus.

5.8. There were a number of comments made on the background paper by stakeholders, and as a result a number of minor changes were made in the re-published background paper (version 2), and it became clear that, for wharves, further work was required in understanding the key issues due to the regeneration aspirations of the Shoreham JAAP, as well as the national policy requirements.

Related Vision and Objectives

5.9. The parts of the Vision and the objectives which relate specifically to safeguarding minerals infrastructure are:

West Sussex:

- Will have contributed to the supply of minerals, in particular aggregates, clay, chalk, building stone, silica sand and oil and gas, to support growth in West Sussex. In particular social and economic progress of both the Coastal West Sussex and Gatwick Diamond strategic growth areas will have been supported through the provision of aggregate to enable the delivery of new development.
- Will make a contribution to the needs of other areas in a manner which is consistent with this Vision, in particular by ensuring the supply of minerals via ports at Shoreham and Littlehampton and railheads at Chichester, Crawley and Ardingly.

Strategic Objective 1: To promote the prudent and efficient supply and use of minerals, having regard to the market demand and constraints on supply in the Plan area.

Strategic Objective 5: To protect and maintain the existing mineral development sites and infrastructure including capacity for importation of minerals via the ports of Littlehampton and Shoreham and the railheads at Chichester, Crawley and Ardingly.

Identification and assessment of reasonable alternative options

Wharves

5.10. Following engagement on the background papers, and signing of the SoCG, further evidence was gathered for wharves, which resulted in the scenarios from the wharves and railheads study (February 2014) no longer being suitable. The reasons for this were:

- An update on wharf capacity at Shoreham, resulting in existing and operational capacity being increased from 1.89mtpa to 2.27mtpa. Discussions with operators and SPA revealed that the data used in the Wharves and Railheads Study, dating back to 2008, was no longer robust;

- A change of approach in calculating demand for marine dredged aggregate, taking account of landings data (provided by The Crown Estate and SPA) for marine dredged aggregates, rather than sales data. The sales data does not provide a good baseline for calculating demand as a number of operators in Shoreham purchase aggregates from one another. This results in double counting of aggregates which inflates the estimate of demand for wharf capacity. Landings data provides a better indication of historic demand for wharf capacity;

- Updated calculations of demand for aggregates, taking account of planned housing and highways development in neighbouring authorities (*other relevant local information*), as set out in the April 2016 LAA.

5.11. The key headlines from the LAA (April, 2016) were as follows:

- The ten-year average sales/landings of marine dredged aggregates and crushed rock at West Sussex wharves totals 1,021,190 tonnes per annum (2005-2014);

- The maximum expected demand, taking account of other relevant local information is 1,349,328 tonnes per annum to 2033; and

- The estimated operational capacity in West Sussex totals 2,274,000tonnes per annum.

5.12. Using the key data in the April 2016 LAA, the Authorities produced an updated list of options considered for the draft JMLP:

- **Option W1:** Maintain current capacity by safeguarding all currently operational minerals wharves in West Sussex (2.27mpta)

- **Option W2:** Safeguard wharves in the Eastern Harbour Arm at Shoreham and at Littlehampton (ARC Wharf, Halls Wharf, Turberville and Penneys Wharf, Railway Wharf) (1.95mtpa)

- **Option W3:** Safeguard wharves in the Eastern Harbour Arm at Shoreham and at Littlehampton (ARC Wharf, Halls Wharf, Turberville and Penneys Wharf, Railway Wharf) and seek

safeguarding of potential Britannia wharf in Brighton & Hove (2.20mtpa)

- **Option W4:** Safeguard wharves in Eastern Harbour Arm at Shoreham and at Littlehampton (ARC Wharf, Halls Wharf, Turberville & Penneys, Railway Wharf); and seek safeguarding of Britannia wharf (and extension); and rely on 96ktpa general terminus capacity at Shoreham Eastern Harbour Arm (2.29mtpa capacity).

5.13. These were considered for their suitability for allocation in the Plan, as set out below, and subject to Sustainability Appraisal.

Option W1: **Maintain current capacity by safeguarding all currently operational minerals wharves in West Sussex (2.27mtpa)**
This option involves identifying all wharves in West Sussex currently used for the landing of minerals and safeguarding them from other forms of development
Evaluation
This option would result in the most minerals wharfage capacity being safeguarded. On the basis of estimated demand this would result in safeguarding a surplus of around 993ktpa. This provides for the most flexible approach and would inhibit the maximum amount of other development (such as housing) from coming forward at minerals wharves due to currently operational wharves being located on the Western Harbour Arm. This approach is **not** consistent with the Shoreham Harbour JAAP.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes. Consistent with national policy and the Vision and Objectives

Option W2: **Safeguard wharves in Eastern Harbour Arm at Shoreham and at Littlehampton (ARC Wharf, Halls Wharf, Turberville & Penneys, Railway Wharf) (1.95mtpa capacity)**
This option involves identifying and safeguarding those wharves which are currently active and not located within the Western Harbour Arm of Shoreham.
Evaluation

The option would result in a total capacity of 1.95mtpa wharf capacity being safeguarded, resulting in a surplus of 0.97mtpa capacity based on the highest demand for aggregates being landed at wharves. This provides sufficient capacity for a steady and adequate supply, whilst also allowing the aspirations of the JAAP to be met.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes. Consistent with national policy and the Vision and Objectives

Option W3: **Safeguard wharves in Eastern Harbour Arm at Shoreham and at Littlehampton (ARC Wharf, Halls Wharf, Turberville & Penneys, Railway Wharf); and seek safeguarding of Britannia wharf (and extension) (2.20mtpa capacity)**
This option involves identifying and safeguarding those wharves which are currently active and not located within the Western Harbour Arm of Shoreham, whilst also seeking safeguarding of Britannia Wharf (located in Brighton & Hove).
Evaluation
This option would result in a total capacity of 2.20mtpa being safeguarded for the landing of aggregates. This represents a surplus of 0.92mtpa capacity based on the highest demand that is expected through the Plan period. This provides sufficient capacity for a steady and adequate supply, whilst also allowing the aspirations of the JAAP to be met. Furthermore, Britannia wharf (not active at present) would provide an additional wharf to be opened as a result of any closure of wharves on the Western Harbour Arm.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes. Consistent with national policy and the Vision and Objectives

Option W4: **Safeguard wharves in Eastern Harbour Arm at Shoreham and at Littlehampton (ARC Wharf, Halls Wharf, Turberville & Penneys, Railway Wharf); and seek safeguarding of Britannia wharf (and extension); and rely on 96ktpa general terminus capacity at Shoreham Eastern Harbour Arm (2.29mtpa capacity)**
This option involves identifying and safeguarding those wharves which are currently active and not located within the Western Harbour Arm of Shoreham, whilst also seeking safeguarding of Britannia Wharf (located in Brighton & Hove), and the reliance (if required) to use 96ktpa general terminus capacity at Shoreham, as agreed through the SoCG (April 2014)

Evaluation
This option is the most flexible and would result in a total capacity of 2.29mtpa being safeguarded for the landing of aggregates. This represents a surplus of 1.01mtpa capacity based on the highest demand that is expected through the Plan period. This provides sufficient capacity for a steady and adequate supply, whilst also allowing the aspirations of the JAAP to be met. Furthermore, Britannia wharf (not active at present) would provide an additional wharf and should there be an unexpected increase in demand that the wharves could not handle, the use of Shoreham Harbour's general terminus has been agreed (96ktpa) should it be required (SoCG, 2014)
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes. Consistent with national policy and the Vision and Objectives

Railheads

5.14. The options produced in the West Sussex Wharves and Railheads Study (February 2014) were subject to mineral operator consideration at the same time as the wharf options (as set out above). These were considered for their suitability for allocation in the Plan, as set out below, and subject to Sustainability Appraisal:

Option RH1: **Maintain current capacity by safeguarding all currently operational railheads (1.22 mtpa)**
This option involves safeguarding all currently operational railheads, which are located at Crawley (x3), Ardingly, and Chichester.
Evaluation
This option would result in safeguarding all existing operational wharves, providing a total capacity of 1.22mtpa. This represents headroom in capacity of nearly 0.50mtpa.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes. This is in line with national policy and also the Vision and Strategic Objectives.

Option RH2: **Increase capacity by encouraging extensions to currently operational railheads, or safeguarding non-operational railheads (for example Horsham Sidings).**

This option involves actively seeking an increase in capacity or safeguarding non-operational railheads in order to increase the overall capacity of West Sussex to import aggregates by rail.
Evaluation
This option would result in safeguarding all existing operational wharves (1.22mtpa) whilst also seeking to increase capacity at existing operational railheads through safeguarding, or safeguarding non-operational railheads for consideration.
Taken forward as a reasonable alternative option for Sustainability Appraisal?
Yes. This is in line with national policy and the Vision and Strategic Objectives.

Outcome of the Sustainability Appraisal of the Reasonable Alternatives

Wharves

5.15. Policy Options W1-W4 were subject to SA as part of an assessment of reasonable alternatives. The outcomes of the SA of the options were that they are all likely to have similar effects on the SA objectives due to the similar aims and wording. The key differences to the scores for the options was with regards to the objective on local economy (SA objective 3), whereby Option W1 would likely have significant positive and significant negative effects on the objective, whilst options W2, W3, and W4 would likely have significant positive effect but minor negative effects on the local economy.

5.16. Policy option W1 is likely to have significant negative effects as it involves identifying all wharves in West Sussex currently used for the landing of minerals and safeguarding them. While this option provides the most flexible approach in terms of the capacity safeguarded, it would inhibit the maximum amount of other development (such as housing) from coming forward at minerals wharves due to currently operational wharves being located on the Western Harbour Arm. This could lead to significant negative effects on the local economy as the ambition of the Shoreham Joint Area Action Plan (JAAP) is for regeneration to take place on the Western Harbour Arm of Shoreham. Policy options W2, W3 and W4 are not expected to affect the regeneration plans of the JAAP, as the wharves safeguarded via these options will allow the aspirations of the JAAP to be met.

5.17. The SA scored mixed minor positive/minor negative effects on many of the SA objectives for the wharf options, including SA objectives 1 (health, wellbeing and amenity of residents), 2 (recreation), 5 (landscape), and 8 (historic environment). This is due to the reasons set out above, as well as the fact that they can restrict or impact non-mineral related developments on sensitive receptors. The options also scored minor positive effects on SA objectives 6 (biodiversity), 10 (air quality), 13 (transport) and 14 (greenhouse gases). Safeguarding operational wharves, non-operational wharves and/or existing terminals will help safeguard importation infrastructure that will help to minimise the transport of minerals by roads, with associated reductions in air pollution and greenhouse gas emissions.

Railheads

5.18. Options RH1 and RH1 for railhead safeguarding scored similarly to those above on wharves, due to the fact they aim to achieve the same thing – to safeguard importation infrastructure and required import capacity to ensure that West Sussex can maintain an adequate and steady supply of minerals.

5.19. Both options are likely to have a significant positive effect on SA objective 4 (mineral conservation). This is because both policy aims are to ensure that no inappropriate development occurs which could compromise the transportation of minerals by rail in West Sussex. The main difference to the scores is on SA objective 3 (local economy), whereby RH1 is likely to have significant positive but minor negative effects (like policy options W2, W3 and W4), and policy option RH2 having significant positive but significant negative effects (like policy option W1).

5.20. There were no recommendations for change as a result of the policy option SA for either wharves or railheads.

Identification of the preferred approach

5.21. Whilst the policy options for wharves and railheads were being assessed through the SA, discussions with Shoreham Port Authority and operators were undertaken. These revealed that the two existing and operational wharves (Kingston Wharf and New Wharf) in the Western Harbour Arm (the area the JAAP will seek to regenerate) are not importing materials to their sites by sea, instead importing materials by barge (from other Shoreham operators) or by HGV. Discussions with both the operators at

the sites has revealed that they are aware of JAAP regeneration aspirations and considering their relocation to other possible locations, namely in the Eastern Harbour Arm of Shoreham Port.

5.22. The Authorities were also informed of SPA's desire to undertake works to extend Britannia wharf, a wharf located in Brighton & Hove, in the Eastern Harbour Arm. This site is currently not operational, but is safeguarded by the East Sussex and Brighton & Hove Minerals Plan. Furthermore, due to the re-calculation of demand figures, the 96,000tpa capacity agreed by SPA in the SoCG is no longer required, and discussions with SPA resulted in the agreement to consider Rombus wharf as "potential" additional capacity in the Easter Harbour Arm.

5.23. Based on the above, the policy was amended, and included as Policy M10 of the draft Plan, which was subject to SA.

Sustainability Appraisal of the Draft Policy on Minerals Infrastructure Safeguarding

5.24. The SA of draft Policy M10 revealed that the policy would largely have mixed minor positive/minor negative effects on half of the SA objectives, including:

- SA objective 1 (health, wellbeing and amenity of residents)
- SA objective 2 (recreation)
- SA objective 3 (local economy)
- SA objective 5 (landscape)
- SA objective 8 (historic environment)
- SA objective 10 (air quality)
- SA objective 13 (transport)
- SA objective 14 (greenhouse gases)

5.25. One significant positive effect was expected for SA objective 4 (mineral resources) which is because safeguarding minerals infrastructure will not be classed as inappropriate development, as it contributes to the supply of mineral resources and products for the needs of society, not limiting the ability to extract or supply resources.

Changes to Policy M10 between draft and proposed submission versions

5.26. Consultation on the draft policy resulted in contrasting comments about its strength. The main matters raised were:

- The policy does not go as far as it could in comprehensively safeguarding sites from potential noise sensitive development coming forward;
- Wharves in the Western Harbour Arm of Shoreham Harbour should be safeguarded temporarily, until regeneration proposals come forward;
- Railway Wharf, Littlehampton, forms part of a proposed Economic Growth Area within the Submission Draft Arun Local Plan (currently in examination) and the supporting text should acknowledge this as it could impact the wharf;
- Concerns about the safeguarding of Ardingly Rail Depot and Chichester Rail Sidings; and
- Support shown by LPAs that have signed the Statement of Common Ground on safeguarding wharves at Shoreham Harbour.

5.27. The suggestion that temporary wharves at Shoreham Port should be specifically safeguarded was accepted by the Authorities as being consistent with national policy, which expects safeguarding of facilities regardless of whether they are permanent or temporary. The Policy was therefore amended to accommodate this. The changes made can be seen in the wording of the Policy at the beginning of this section. These changes did not affect the outcome of the Sustainability Appraisal.

5.28. More detail including the Authorities' response to the comments is set out in the Draft Joint Minerals Local Plan Consultation 2016 - Outcomes Report.

6. Glossary

Term	Acronym	Explanation
Aerodrome		'Aerodrome' means any area of land or water designed, equipped, set apart, commonly used or in prospective use for affording facilities for the landing and departure of aircraft and includes any area of space, whether on the ground, on the roof of a building or elsewhere, which is designed, equipped or set apart for affording facilities for the landing or departure of aircraft capable of descending or climbing vertically
Active Site		An active site in terms of minerals is: one where development to which a mineral of landfill permission relates; where a condition attached to the mineral permission or landfill permission is in operation; a single site which is both a mining and landfill site where either or both are operational, "mothballed" sites which are subject to on-going restoration (Paragraph 48 of Planning Practice Guide).
Aggregates		Sand, gravel and crushed rock (known as primary aggregates), mineral waste such as colliery spoil, industry wastes and recycled materials (known as secondary aggregates), and such material as construction and demolition waste (recycled aggregates). Aggregates are used in the construction industry to produce concrete, mortar, asphalt, etc.
Amenity		Something considered necessary to live comfortably
Woodland		Areas that had continuous woodland cover since at least 1600 and have been cleared only for underwood or timber production.
Annual Monitoring Report	AMR	A document that monitors the implementation of planning policies of the Local Plan. It also monitors progress in meeting the milestones in the Local Development Scheme.
Area of Outstanding Natural Beauty	AONB	An area designated by the Countryside Agency under Section 87 and 88 of the National Parks and Access to the Countryside Act 1949. The primary objective is conservation of the natural beauty of the landscape.
Authorities, the		West Sussex County Council and the South Downs National Park Authority
Biodiversity		Shorter term for 'biological diversity' that applies to all terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part.

Brownfield Site		A previously developed site.
Buffer		A separation distance between a mineral activity and a particular sensitive receptor that may be appropriate in specific circumstances where it is clear that, based on site specific assessments and other forms of mitigation measures (such as working scheme design and landscaping) a certain distance is required between the boundary of the minerals activity and, for example, an occupied residential property. Buffers (separation distances) are also applied between safeguarded minerals resources, and infrastructure and non-minerals development to reduce the risk of the non-minerals development limiting mineral extraction or infrastructure operations
Carbon emissions		Emissions into the atmosphere of carbon by gases, including carbon dioxide, carbon monoxide and methane, which are known to cause climate change. Such gases are often associated with the burning of fossil fuels. Carbon emissions are often also referred to as Greenhouse gas emissions.
Conservation Area		An area, as defined in the Planning (Listed Building and Conservation Areas) Act 1990, designated as being of special architectural or historical interest and therefore protected from any alterations which would destroy its character.
Dormant Site		Where planning permission was granted between 21 July 1943 and 22 February 1982, but where extraction has yet to take place. Most of these sites had few, if any, operating and restoration conditions attached to them. These may include the few remaining Interim Development Ordert which were granted between 21 July 1943 and 1 July 1948 (see Section 22 and Schedule 2 of the Planning and Compensation Act 1991)
Duty to Co-operate		Introduced through Section 110 of the Localism Act (2011). Requires planning authorities to carry out on-going constructive and active engagement throughout the preparation of development plan documents where there are cross-boundary issues or impacts.
Ecosystems Services		An ecosystems services approach provides a framework for looking at whole ecosystems in decision-making, and for valuing the ecosystem services they provide, to ensure that society can maintain a healthy and resilient natural environment now and for future generations.

Environment Agency	EA	Statutory consultee - Government agency that aims to protect and improve the environment. Responsible for permitting waste development.
Environmental Constraints		Reference to 'constraints' typically relates to physical features which can be mapped, however environmental constraints has also been used to refer to wider environmental features which potentially do not lend themselves to representation upon a map.
Green Infrastructure		A network of high-quality green and blue spaces and other environmental features. It needs to be planned and delivered at all spatial scales from national to neighbourhood levels. The greatest benefits will be gained when it is designed and managed as a multi-functional resource capable of delivering a wide range of environmental and quality of life benefits (ecosystem services) for local communities. Green infrastructure includes parks, open spaces, playing fields, woodlands, wetlands, grasslands, river and canal corridors allotments and private gardens.
Greenfield site		A site previously unaffected by built development.
Habitats Regulation Assessment	HRA	Statutory requirement for Planning Authorities to assess the potential effects of land-use plans on designated European Sites in Great Britain. The Habitats Regulations Assessment is intended to assess the potential effects of a development plan on one or more European Sites (collectively termed 'Natura 2000' sites). The Natura 2000 sites comprise Special Protection Areas (SPAs) and Special Areas of Conservation (SACs). SPAs area classified under the European Council Directive on the conservation of wild birds (79/409/EEC; Birds Directive) for the protection of wild birds and their habitats (including particularly rare and vulnerable species listed in Annex 1 of the Birds Directive, and migratory species).
Heritage Asset		Known features of historic or archaeological importance

Hydraulic Fracturing		Hydraulic fracturing is the process of opening and/or extending existing narrow fractures or creating new ones (fractures are typically hairline in width) in gas or oil-bearing rock, which allows gas or oil to flow into wellbores to be captured. In the context of Policy M7 "hydraulic fracturing" means hydraulic fracturing of shale or strata encased in shale which: (a) is carried out in connection with the use of the relevant well to search or bore for or get oil and gas, and (b) involves, or is expected to involve, the injection of: (i) more than 1,000 cubic metres of fluid at each stage, or expected stage, of the hydraulic fracturing, or (ii) more than 10,000 cubic metres of fluid in total.
Inactive		Any other sites which are not active, dormant, mining or landfill sites, and "mothballed" mining sites where no mineral or landfill restoration and aftercare are being carried out to any substantial extent (Paragraph 49 of Planning Practice Guide).
Landbank		The landbank is a stock of planning permissions for mineral extraction and it is used to secure and maintain an adequate supply of minerals. The length of the landbank is calculated by dividing the total reserve remaining on sites with planning permission by the annual requirement (based on the apportionment).
Listed Building		A building officially listed as being of special architectural or historic interest as defined in the Planning (Listed Building and Conservation Areas) Act 1990.
Local Aggregates Assessment	LAA	
Local Development Scheme		The programme for the preparation of a planning authority's Development Plan Documents.
Minerals Consultation Area	MCA	A mechanism that aims to ensure that in two-tier authority areas consultation takes place between county and district planning authorities when mineral interests could be compromised by non-mineral development.
Mineral Planning Authority	MPA	A local authority with responsibility for processing mineral applications. West Sussex County Council and the South Downs National Park Authority are both Mineral Planning Authorities.
Safeguarding	MSA	Areas of known mineral resources that are of sufficient economic or conservation value to warrant protection for generations to come.

	Mt	Million Tonnes
	Mtpa	Million Tonnes per Annum
National Nature Reserve	NNR	A site of national nature conservation importance managed by English Nature and established under the Wildlife and Countryside Act 1981.
National Park		A National Park must be an extensive tract of countryside, that because of its natural beauty and the opportunities it affords for open air recreation, Natural England considers it especially desirable that legal measures are taken to safeguard it under the provisions of the National Parks and Access to the Countryside Act of 1949. The statutory purposes of National Parks are to conserve and enhance the natural beauty, wildlife and cultural heritage of the area; and to promote opportunities for the understanding and enjoyment of the special qualities of the Park by the public.
Natural England		A statutory consultee - independent public body whose purpose is to protect and improve England's natural environment.
Plan Area		The geographical area covered by this Plan i.e. West Sussex.
Planning Permission		Formal consent given by the local planning authority to develop and use land.
Primary Aggregates		Virgin materials such as sand and gravel which are extracted from the ground.
Protected Species		Individual wildlife species which have statutory protection under a range of legislation provisions (e.g. the Wildlife and Countryside Act 1982, the Conservation (Natural Habitats, &c) Regulations 1994, Protection of Badgers Act 1992).
Recycled Aggregates		Aggregate which has been extracted from the ground (as primary aggregate), but which has subsequently been used and recovered for re-use. It comprises material derived from construction and demolition waste
Ramsar Site		Sites designated under the European Ramsar Convention to protect wetlands that are of international importance, particularly wildfowl habitats.
Regionally Important Geological and Geomorphological Sites	RIGS	A non-statutory regionally important geological or geomorphological site, designated by locally developed criteria.

Restoration		The process of returning a site to its former use, or restoring it to a condition that will support an agreed after-use, such as agriculture and forestry.
Review of Minerals Consents (Previously known as Review of Minerals Permissions (ROMPS))	ROMP	All mining sites, including any extensions to sites granted after the initial minerals planning permission, are subject to periodic reviews of planning permissions. There is no fixed period when periodic reviews should take place so long as the first review is no earlier than 15 years after planning permission is granted or, in the case of an old permission, 15 years of the date of the initial review. Any further reviews should be at least 15 years after the date of the last review (see section 10 of, and Schedule 3 to, the Growth and Infrastructure Act 2013). Mineral planning authorities should usually only seek a review of planning conditions when monitoring visits have revealed an issue that is not adequately regulated by planning conditions, which the operator has been made aware of and has not been able to address.
Scheduled Monument	SM	A nationally important archaeological site included in the Schedule of Ancient Monuments maintained by the Secretary of State under the Ancient Monuments and Archaeological Areas Act 1979.
Secondary Aggregates		Secondary aggregates can be a lower grade virgin material such as chalk, or previously used aggregate or used materials which were not previously aggregates, for example shredded tyres, incinerator bottom ash and glass cullet.
Site of Special Scientific Interest	SSSI	A site statutorily notified under the Wildlife and Countryside Act 1981 as being of special nature conservation interest. SSSI include wildlife habitats, geological features and landforms.
Silica Sand		Also known as industrial sand, contains a high proportion of silica in the form of quartz. It is produced from unconsolidated sands and crushed sandstones and is used for applications other than as construction aggregate.
Soft Sand		Fine sand suitable for use in such products as mortar, asphalt and plaster.
Special Area of Conservation	SAC	A site of international importance designated under the EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora.
Special Protection Area	SPA	A site of importance for rare and vulnerable birds under the EU Directive on the Conservation of Wild Birds.

Statutory consultee		Organisations with which the local planning authority must consult on the preparation of plans or in determining a planning application. Includes the Environment Agency, Natural England and Historic England.
Strategic Flood Risk Assessment	SFRA	A study carried out by local planning authorities in consultation with the Environment Agency. The SFRA provides information on the areas that may flood and the impacts of climate change.
Sustainability Appraisal	SA	A single appraisal tool which provides for the systematic identification and evaluation of the economic, social and environmental impacts of a proposal. The Planning and Compulsory Purchase Act requires a sustainability appraisal to be undertaken for all development plan documents.
Sustainable development		Various definitions, but in its broadest sense it is about ensuring well-being and quality of life for everyone, now and for generations to come, by meeting social and environmental as well as economic needs.