Consultation Document

East Sussex and Brighton & Hove
Waste & Minerals Development Framework

Information Paper 2

The Future Need for Minerals Production and Management

October 2009

East Sussex County Council

Brighton & Hove City Council

Contents

IP2

Appendices

Introduction

1.1 This 'Information Paper' on The Future Need for Minerals Production and Management, is one in a series that has been produced to support the preparation of the Waste and Minerals Development Framework (WMDF). The WMDF will contain planning documents ('Development Plan Documents' (DPDs)) that will help decide how and where waste should be dealt with and minerals produced in East Sussex and Brighton & Hove in the future (up to 2026). More information about them can be found on the Councils' websites:

- www.eastsussex.gov.uk/environment/planning/development/mineralsandwaste
- www.brighton-hove.gov.uk/index.cfm?request=b1148434

1.2 The Information Papers are being used provide the evidence for the development of the WMDF and to support consultation and discussion with members of the public and key stakeholders who are concerned with waste and minerals in East Sussex and Brighton & Hove.

1.3 The Papers are 'living drafts' which present the evidence as it stands at this stage and they will be periodically updated with any new information that comes to light. This will ensure the Councils' knowledge and understanding of waste and minerals remains robust and the evidence base for the WMDF is 'sound'.

1.4 The Information Papers were first published and consulted upon in July 2007, and were then revised in February 2008. This third version (October 2009) brings them up to date with new information and recent changes in legislation and policy.

1.5 Details of the other Information Papers that have been produced are included in Appendix 1.

1.6 If you would like to comment on or add to the WMDF evidence base that is presented in this Information Paper, please visit the consultation website http://consult.eastsussex.gov.uk and follow the instructions for the Information Papers. Alternatively you can send an e-mail to wasteandmineralsdf@eastsussex.gov.uk or write to:

Waste and Minerals Planning Policy Team

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Introduction

Please make sure that you refer to the section and paragraph numbers that your comments relate to.

Minerals in the Plan Area

2.1 Aggregate (sand and gravel), clay and gypsum are the three mineral types currently extracted in East Sussex. Chalk has been extracted in the recent past and a number of inactive or dormant sites remain within the plan area (see Map 1 East Sussex and Brighton & Hove Simplified Surface Geology). Oil and Gas have not been extracted, although some exploratory licences are held.

2.2 Historically, East Sussex has extracted low levels of aggregate from the land and has relied heavily on imports to meet the demands of the local construction industry. Marine dredged aggregates and crushed rock are imported through the three coastal ports - Rye Harbour, Newhaven and Shoreham. There are also a growing number of sites recycling aggregate for new uses.

Aggregates

2.3 The demand for aggregates across the region is managed through the 'apportionment'.Each County within a region is given a target figure, which includes an amount to be met through the recycling of construction and demolition waste.

2.4 There are two principal types of **aggregate** mineral in land reserves in East Sussex; sharp sand and gravel, and building (soft) sand. Sharp sand and gravel are primarily used for concreting purposes and this is an essential raw material for the construction industry. Building sand is largely used in the production of mortars and asphalt. Both types of material can be used as fill. Whilst several permitted sites exist, the only working land-won aggregates site in East Sussex is Stanton's Farm, which produces soft sand for building purposes. There is one coated roadstone plant currently operating in the Plan area. The Folkestone Beds provide the sole known potential source of soft sand in East Sussex however it comprises a very small area. For further details see Appendix 2.

2.5 **Seaborne aggregates** comprise marine- dredged [(1)] and imported crushed rock. Material is imported through Rye and Newhaven in East Sussex as well as Shoreham, which lies across the Brighton & Hove and West Sussex boundary. Marine dredged aggregates are mostly used for concreting purposes. Crushed rock is used either for road construction or it is subsequently processed to provide coated roadstone products. The capacity for receiving and processing marine dredged aggregates in the three ports is over 3 mtpa [(2)]but actual through-put has been much lower. Figures indicate that in the last few years there has been a slow decrease in marine-dredged aggregate and crushed rock imports. However more recent figures are now showing a possible recovery.

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1 sand and gravel from the sea bed
2 SEERA Aggregates Monitoring Report 2005 Table 8

Minerals in the Plan Area

2.6 The most recent figures available (March 2008) indicate that there were twelve sites [(3)] which produced **recycled aggregates** in the Plan area. Information on the amount of material produced is limited but the best estimate is 370,000 tonnes per annum (as at 2003). There is a policy expectation that recycled aggregates will form an increasing percentage of the regional apportionment and this is considered achievable in the plan period.

Clay

2.7 **Clay** is exploited for brick and tile manufacture both within the High Weald and on the open clay vale of the Low Weald. At present, clay working and associated manufacturing takes place at four sites throughout East Sussex:

- Aldershaw Farm, Sedlescombe/Battle;
- Chailey Brickworks;
- Hastings Brickworks
- Ashdown Brickworks.

2.8 Reserves at Chailey brickworks are low and further reserves need to be identified if production is to continue. Ashdown Brickworks has a capacity of 50 million stock bricks per annum. There is an extant planning permission for a new brick works and clay pit on a large site at Horamalthough consent has not yet been implemented. There are several other inactive sites in East Sussex. In the last few years clay has been used for flood defence works, however it is not certain how much material may be needed to serve defence construction in the future. For further details see Appendix 4.

Gypsum

2.9 **Gypsum** is an important raw material for the construction industry and is used for plaster and plasterboard products, in cement production and other industrial processes. The gypsum resource in East Sussex forms the largest deposit in the UK and is the only economic source of gypsum in the South East. An alternative to mined gypsum known as desulphogypsum (DSG) is a by-product from flue gas desulphurisation at coal fired power stations. DSG is a declining resource as the closure of coal fired power stations continues and technology moves forward.

2.10 British Gypsum Ltd mine and process gypsum at their site near Robertsbridge where there is also a plasterboard plant. Imported natural gypsum sourced from abroad is being used as a material in the plasterboard plant and in the recent past DSG has been imported by rail to the Robertsbridge Works for this purpose. Mined gypsum is exported for use in cement production.

Minerals in the Plan Area

2.11 There is evidence of an increase in the demand for gypsum in the UK as plasterboard-based building products become more popular. There is likely to be a continuing demand for natural gypsum in cement manufacture. Further detail is contained in the Appendix on Gypsum.

Chalk

2.12 **Chalk** extraction in East Sussex was originally associated with the cement industry. This declined during the 1960s and 1970s with the last plant closing in 1975. Since then most chalk workings have provided material for constructional fill and agricultural lime. However, in the Newhaven area the excavated chalk is particularly pure and was extracted at Tarring Neville Quarry to supply a local Artex products manufacturer. Quarry operations have now ceased and restoration needs to be considered.

2.13 There are no active chalk quarries in the county and chalk for agricultural use is currently sourced from outside the Plan area. Further information is contained in the Appendices.

Oil and Gas

2.14 Exploration for **oil and gas** (hydrocarbons) in East Sussex took place during the 1980s although no commercial finds were made. Some of the Plan area is covered by exploration licences, but there are no production sites. Any future oil and gas exploration or development in the licensed areas would require planning permission.

Mineral Waste

2.15 It is not considered that the production of mineral waste is a significant issue in the Plan area. The volume is low and the majority of reject minerals and products are believed to be reused or recycled.

Further Information

Further information is contained in the Appendices. More technical information on all Minerals in the plan area can be found in the following studies:

- Overview of Minerals in the Plan Area
- Aggregate Resource Study

Policies for Mineral Developments

Perceived Value of Minerals Production

3.1 Minerals are considered essential to provide the infrastructure, buildings and goods that society needs. National government sets policy to ensure that there is an adequate and steady supply of material to meet this demand. Extracting and processing minerals can create significant environmental impacts and it is therefore important that provision of adequate mineral resource is made in the most sustainable way.

National Policy

3.2 National policy sets out the way in which minerals planning can achieve this balance in a series of Mineral Planning Statements (MPS). Provision of minerals should follow a “hierarchical approach”: firstly reduce the quantity of minerals used and waste generated; then use recycled and secondary material before obtaining minerals by new primary extraction.

3.3 Minerals Planning Authorities (MPAs) are required to safeguard mineral resources as far as is practicable and to ensure working practices reduce the impacts of mineral extraction on health and the environment. In a two-tier authority area such as East Sussex, this takes the form of Mineral Safeguarding Areas and Mineral Consultation Areas (where districts and boroughs should notify the Mineral Planning Authority of any proposed development in these Areas).Mineral workings must give consideration both to high standards of site restoration and the potential for a wide range of after–uses. MPAs should develop a strategy for inactive sites if working is unlikely to take place in the foreseeable future.

Regional Policy

3.4 The minerals strategy for the South East region - set out in the South East Plan - provides a regional context to 2026. The plan details how individual Counties can contribute to the requirements of the Region. It identifies national and regionally important resources as well as setting out target figures for aggregate production. This is discussed below.

Local Policy

3.5 Local policies for minerals development are set out in the East Sussex and Brighton & Hove Minerals Local Plan. National Government agreed to 'save' policies from this plan until the new WMDF is in place. The policy on hydrocarbons was saved until the publication of the South East Plan. There is no replacement policy in the South East Plan, although the text encourages support for exploration and exploitation in appropriate locations.

Policies for Mineral Developments

Particular Locational Constraints and requirements

3.6 Minerals can only be extracted where they occur in the ground. The scope for finding alternative locations for mineral workings is therefore limited. Existing minerals policies support proposals within areas identified in the Minerals Local Plan as well as extensions to permitted sites.

3.7 National policy advises against major mineral developments in Areas of Outstanding Natural Beauty (AONB) and National Parks unless there are exceptional circumstances. Any such proposals would have to demonstrate that there were no suitable alternative sites outside the AONB. Development within an AONB or National Park must demonstrate that it is in the public interest before being allowed to proceed- the 'public interest test'. Formal arrangements on the way planning powers will be organised with the South Downs National Park Authority will be agreed after the new authority has been created.

3.8 Development must also take account of local environmental constraints such as the potential affects on surface water and groundwater. Water quality must either be improved or at least be maintained.

Aggregates

3.9 The Government publishes guidelines which provide a regional figure for the amount of land-won aggregates that should be produced. The Regional Assembly 'apportions' this to each Mineral Planning Authority based partly on previous sales. This ‘apportionment’ can then be tested through the Minerals Development Framework.

3.10 Regional aggregate policies [4] require supply in the South East to be met by

- increasing supplies of secondary and recycled materials,
- increasing imports of marine sand and gravel; and
- reducing the amount extracted from land.

3.11 The South East England Partnership Board is currently undertaking a partial review of apportionment figures which will feed into a review of the South East Plan. The current agreed figure for East Sussex and Brighton & Hove is 0.01mtpa. This figure is proposed to be revised upwards to 0.07mtpa and will be considered at the Examination in Public in October 2009.

3.12 The apportionment figure for East Sussex is shared with Brighton & Hove City Council. There are no sand and gravel reserves within the City Boundary although marine won aggregates are landed at Shoreham. MPAs are required to provide a sand and gravel “landbank” (a stock of mineral planning permissions) of at least 7 years. [5] National Policy previously required a 7 year landbank to be provided at

4 Policies M2 and M3 of the SE Plan
5 Minerals Planning Statement 1 Planning and Minerals (2006) and the Regional Spatial Strategy for the South East - the South East Plan

the end of a Minerals Local Plan period but MPS1 [6] indicates that if review and updating take place regularly then this is not specifically required. East Sussex and Brighton & Hove is able to comfortably meet the current proposed apportionment level with the existing level of sand and gravel reserves [7]within the County.

Secondary Aggregates

3.13 Producing secondary aggregates involves crushing and screening, resulting in dust, noise and traffic impacts which are controlled through planning consents and environmental permits.

3.14 Sites are usually best located in industrial areas or within or adjacent to minerals and waste facilities. Facilities also need to be close to the source of the material (generally construction industry waste) and the market for the end product. Sites are therefore best situated in close proximity to new development and areas of redevelopment. Any application for a facility would be need to be assessed against all material considerations, including environmental constraints.

Clay

3.15 National and regional policies require that clay should be extracted as close as practicable to an ancillary brickworks and that a sufficient supply of clay is identified (taken to be 25 years of reserves). [8] In addition, regional policy seeks to reduce the importation of clay by increasing alternative materials and prioritising use of the local resource. The aim of the County Council is to encourage transportation of clay products by rail or water. The County Council is required periodically to re-assess planning permissions including old dormant clay permissions which can cover extensive areas and that now have little or no commercial value.

Gypsum

3.19 The MPA is required to ensure gypsum reserves [9] are safeguarded to ensure current production rates for twenty years. This is to support the building product and cement industries. There are sufficient reserves at present in the plan area to meet this requirement. The use of desulphogypsum (DSG) imported by rail over the shortest practicable distance is encouraged; as is the use of substitute materials and utilising sustainable methods of transporting freight.

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6 para. 4.2
7 resources covered by existing planning permissions
8 Policy M4 of the South East Plan
9 resource with extant planning permission

Policies for Mineral Developments

Chalk

3.16 Almost the entirety of the East Sussex chalk resource is located within the boundary of the proposed South Downs National Park. Much of this area was previously designated as the Sussex Downs AONB. National policies protecting this designation would apply to any planning application, including any application for the extraction of chalk.

3.17 The South East Plan (2009) requires provision to be made in Local Development Documents for chalk as a regionally significant mineral of national importance, principally for supplying cement works. Where practicable, substitute and recycled waste materials should be used to conserve natural resources, high quality reserves should be safeguarded for appropriate end uses, and new handling facilities developed where this would increase the quantity of minerals and manufactured products being transported by rail or water.

3.18 The South East Plan requires a permitted reserve of chalk for cement manufacture, sufficient to last for at least 25 years at current production rates, to be maintained throughout the Plan period in Kent and Medway. The Plan does not identify a specific need for chalk supplies within East Sussex and Brighton & Hove. There are no cement works within East Sussex or Brighton & Hove.

Oil and Gas

3.20 National policy on oil and gas is to maximise the potential of UK reserves in an environmentally acceptable manner **(10)** The Crown has granted exploration licenses in the county although there is no specific requirement to protect this resource within the WMDF.

Wharf and Rail Facilities

3.21 Regional policies also require MPAs to look at the need for wharf and rail facilities for the handling and distribution of imported minerals and processed materials, and to safeguard strategic sites. Transportation of minerals and waste in the Plan area is covered in Information Paper 8.

List of other prepared Information Papers

List of other prepared Information Papers

1. The Future Need for Waste Management
2. The Future Need for Minerals Production and Management
3. Sustainable Resource Use and Management
4. Waste Management Methods and Technologies
5. Residual Waste Disposal
6. Spatial Portrait of East Sussex and Brighton & Hove
7. Hazardous Waste
8. Transportation of Waste and Minerals
9. Climate Change and Waste and Minerals
10. Waste Water and Sewage Sludge

Aggregates

Aggregates in East Sussex

Provision of aggregate material to meet the demands of the construction industry mainly comprises:

- land-won extraction of primary materials
- imports (either through wharfs or by road and rail)
- the production and use of secondary and recycled aggregates

East Sussex has low levels of production of land-won aggregates and has relied heavily in recent years on imports to meet the demands of the construction industry.

The relationship between land-won and marine-won resource was reflected in the Minerals Plan; recognising the major contribution made by imports of marine dredged sand and crushed rock to existing wharves in East Sussex and Brighton & Hove.

Sand and gravel is primarily used for concreting purposes and is an essential raw material for the construction industry. Building sand is largely used in the production of mortars and asphalt. Both types of material can be used for as construction fill.

Maine dredged aggregates are mostly utilised for concreting purposes, whilst crushed rock of various types is used locally in an unprocessed form for road construction or subsequently processed for the manufacture of coated roadstone products.

Data on sales and consumption of construction aggregates in East Sussex is limited by confidentiality constraints because of the relatively small number of sites in production. However, some conclusions can be drawn from the data available and from published SEERAWP [(11)] documents.

Aggregate Reserves

Reserves are considered to comprise mineral deposits with valid planning permission to extract, whether presently active or inactive.

Land based aggregate reserves are geologically limited. Stanton's Farm is the only operational sand quarry for soft sand within the Plan Area. At the two areas at Camber with planning approval, it is currently understood extraction will remain outside the County until 2014. This date will be kept under review with the site operator and reported via the Annual Monitoring Report.

Tables 7 and 8 below represent the MPA's understanding of the timing and production volumes for these sites.

Table 7: Permitted Aggregate Reserves 2009 (tonnes)

11 South East of England Regional Aggregates Working Party

Site	Permitted Reserve	Approximate yield (per annum over the life of the permission)	Active / Inactive
Stanton's Farm	0.38M	0.04M	Active
Scotney Court, Camber.	0.935M	0.3M	Inactive
Scotney Court Extension & Wall Farm, Camber.	3.230M	0.3M	Inactive
TOTAL	**4.545M**	**0.64M**	

Table 8: Summary of minerals sites covering the proposed apportionment of the partial review of aggregates provision

Site	Approximate Dates of extraction	Extraction time within the partial review period	Amount of aggregate (tpa)
Stanton's Farm	2007-2017	2007-2017	0.04M
Scotney Court Farm	2014 - 2017	2014-2017	0.3M
Scotney CourtExtension & Wall Farm	2018-2029	2017-2026	0.3M

The Camber deposits are primarily shingle coarse aggregate, the operator has confirmed they are not likely to yield building (soft) sand.

The two inactive sites with planning permission Nook Beach and Castle Water contain un-worked reserves, but due to their current inactive status and significant development constraints it is considered inappropriate to include their remaining reserves within the landbank.

Paragraph 72 of MPS 1 Practice Guide require MPA's to take account, when calculating landbanks, of the likelihood of inactive sites being worked. Both sites require planning condition review procedures under the Environment Act 1995 to be undertaken or completed in the near future. Unless information becomes available to the contrary it is the MPA's view that the development constraints at these sites means that it is very unlikely that working would be undertaken. Therefore the reserves have not been included in the calculation of estimated reserves. Similarly the sites will be given no further consideration as prospective sites within WMDF e.g. as Mineral Safeguarding/Consultation Areas.

Table 9 Estimated Reserves at Jan 2010.

Aggregates

Site	Approximate Dates of extraction	Estimated Reserve
Stanton's Farm (Building Sand)	2007 - 2017	240,000
Scotney Court	2014 - 2017	935,000
Scotney CourtExtension & wall Farm	2018 - 2029	3,230,000
Total Coarse Aggregate		**4,405,000**

Additional Identified Resources

The East Sussex Minerals Local Plan (1999) identified at Camber three large Areas of Search; Scotney Court, Wall Farm and Broomhill North. The first two sites have subsequently been granted planning permission as extensions to Lydd Quarry. No planning application for working Broomhill North has been forthcoming. It is understood this large area of land is still considered a mineral prospect to the industry, having a potential resource of about 0.4Mt, though overall quality is less certain.

Broomhill North lies within a SSSI and may be included in the expansion to the Ramsar designation in the area (see East Sussex and Brighton & Hove City Councils Habitats Regulation Assessment – Screening Report Draft July 2009).

Broomhill North remains a potential prospect for extraction. Identifying this area as a Mineral Consultation Area would allow further assessment of the resource, against alternatives at the appropriate time.

Summary of Marine Aggregate Reserves

Marine Aggregates landed in the Plan Area originate from within the South Coast and to a lesser extent (at Shoreham Port only) from the East English Channel (EEC) licence regions administered by the Crown Estate. There are significant numbers of licensed areas and areas where applications for permits have been submitted to Government. Table 10 includes the figures for reserves remaining in 2007. The South East Plan, in line with the more recently published National and Regional Guidelines for Aggregate Provision in England 2005-2020, allows for an increased proportion of primary aggregate production to be met by marine aggregates.

Table 10 indicates that the level of marine aggregate reserves remaining within licensed areas serving the South East region are very substantial. The principal constraint on the level of marine landings during the plan period is not considered to be the level of marine reserves but the security of port access (loss of wharves), channel and berth restrictions and investment in modern wharf infrastructure.

It is understood that there are few physical limitations at Shoreham Port. While the smaller vessels operating in the South Coast Region land at Shoreham it is understood that the larger vessels operating in the EEC can access the available wharves. This indicates a long term security of supply beyond the life of the existing South Coast licensed areas.

Table 10: Marine Aggregate Reserves (2005 – 2008 [12]) – September 2008

Region	Primary Aggregate reserve (Mt) (50:50 S&G)		Primary Sand reserve (Mt) (<20% G)		Annual Production		Years remaining at reported production	
	2005	2008	2005	2008	2005	2008	2005	2008
SouthCoast	66.89	42.33	7.10	15.15	5.40	4.23	12.39	10.01
EastEnglish Channel	-	27.40	-	0.02	-	2.59	-	10.58

Source: Crown Estate Licences as at 1 September 2008

Summary of Crushed Rock Reserves

Whilst chalk within the plan area represents a potential source of crushed rock, significant environmental constraints exist which would prejudice any further extraction. Chalk is therefore not considered a future source of aggregate within the plan area.

Imports

The importation of crushed rock from UK or foreign coastal quarries is limited by wharf capacity and market forces. It is not possible to calculate reserves at the origins of this crushed rock as the figure is determined by factors outside the scope of this report. In the context of demand within the Plan Area the supply can however be considered as substantial.

National and South East Regional Guidelines state that for the South East marine landings will amount to approximately 120mt or 25% of total indigenous production Including recycling) and 33% of primary aggregate production 2001-2016.

Crushed rock landings at Ports supply the southern part of the Plan Area, the scenario to the north is less certain. With an absence of hard rock quarries in neighbouring counties it is believed that some supply originates from rail served depots supplied from outside the region e.g. Salfords Depot, Surrey.

12 ½ year figures multiplied by 2 comparison

Aggregates

Meeting the Apportionment

Two apportionment figures need to be considered; 0.01Mtpa as stipulated in the South East Plan 2009 and a contingency figure of 0.07Mtpa as currently proposed in the draft revised apportionment.

Apportionment Figures

As described above, a separate apportionment for building (soft) sand and concreting aggregate will not be considered as per the South East Plan.

MPS 1 requires a landbank of at least 7 years to be maintained throughout the life of the Plan.

While the total aggregate reserve has been estimated to amount to in excess of 4 million tonnes, the availability of the mineral will be phased (Table 8).

In simple numerical terms the current size of the landbank may be calculated from Table 9 in Section 4.

SOUTH EAST PLAN (2010-2026)

Requirement for aggregate reserves over the 17 years of the Plan remaining, is 0.01Mtpa. Hence:

17 x 10,000 = 170,000 tonnes.

Reserves available from 2014 from the deposits at Camber for the remainder of the Plan Period are 4.405Mt.

This more than meets the requirement for the period of the plan, draft level of apportionment and 7 year landbank.

No new allocations are required to meet the apportionment.

SOUTH EAST PLAN Partial Review (0.07mtpa to 2026)

Requirement for aggregate reserves over the 17 years in the period remaining, is 0.07Mtpa. Hence:

17 x 70,000 = 1,190,000 tonnes.

Reserves available for the remainder of the Plan Period are 4.405Mt.

This more than meets the requirement for the period of the Plan.

No new allocations are required to meet the apportionment.

Actual Production vs Allocation

Historically East Sussex and Brighton & hove has had periods of negligible production - hence the current very low apportionment. Whilst a higher apportionment is now proposed, availability is likely to be constrained to current consents. The large reserve at Camber will mostly be depleted over the plan period (see below).

Marine aggregate and crushed rock landings comprise the most substantial element of the mineral supply chain in East Sussex and Brighton & Hove.

Below is an assessment of how actual production will be exhausted such as to negate any long term significant contribution to the regional allocation.

Stanton's Farm – Building Sand

The quarry is the only source of building sand within the Plan Area.

The Folkestone Beds comprise the uppermost division of the Lower Greensands and consist of a loosely consolidated fine grained quartzose sands. The outcrop of the deposit is very limited being a narrow strip in the western part of the Plan Area running eastwards from Ditchling. The fine grained nature of the sand means it readily meets British Standards for mortar sand. Further assessment of the area of the Folkestone Beds will take place during preparation of the Minerals Sites DPD, to ensure there is a strategy in place so this resource is not unnecessarily sterilised.

This area is within the proposed South Downs National Park which will further constrain future production.

Scotney Court and Scotney Court Extension

It is understood the land at Scotney Court (Lydd Quarry) will not contribute to the annual apportionment of the Plan Area until at least 2014. It is possible extraction rates at Lydd quarry may vary such that this date should be kept under review through the Annual Monitoring Report.

When it commences extraction then may achieve 300,000tpa but this site serves Kent as well as the eastern end of East Sussex. On this basis current reserves would have depleted by 2028/29. Scotney Court (and Scotney Court Extension) should be identified for safeguarding in the Core Strategy.

Broomhill North

In order to protect this mineral resource, Broomhill North should be proposed as a potential 'Mineral Consultation Area' for potential future aggregate working.

Aggregates

Conclusion

The current operational quarry at Stanton Farm and potential production at Camber will ensure that East Sussex and Brighton & Hove will meet its current and proposed sub-regional apportionment. However reserves are likely to be exhausted by 2028/29.

Aggregate landings presently constitute the significant majority (some 85%) of primary aggregate supplies within the Plan Area, with local supply of soft sand from Stanton Farm providing mortar and asphalt sand.

According to the Port Authorities at Shoreham, Newhaven and Rye, sufficient wharf capacity apparently remains in the Plan Area to continue significant landings for the foreseeable future. Substantial marine aggregates remain in the South Coast and EEC regions for the long term. As spare capacity remains due to the inactive wharves at all Ports in the plan area at this present time (see table 4) for marine and crushed rock landings, these established operations provide flexibility to deliver additional supplies should they be required to meet demand in peak years.

Secondary aggregates provide an alternative to primary aggregates. Policy expects a move to increased utilisation of alternative sources with a consequential increased contribution to total demand. The availability and utilisation rate remains unpredictable and substitution is not always possible Therefore, primary resources will be required to a significant extent for the foreseeable future.

A need may become apparent for additional resources in the future.

The Councils should identify Mineral Safeguarding Areas around resource where it is required to meet sub-regional requirements and local need. This will include permitted reserves required to meet the apportionment. Potential resource at Broomhill North and the area of the Folkestone Beds will be the subject of Mineral Consultation Areas which will allow further assessment at the appropriate stage.

Clay

Clay Resources in East Sussex

The principal brick clay resources in the South East region are the Weald Clay and Wadhurst Clay formations [13]. Within East Sussex, Weald Clay is found in a large area in the western part of the County, and Wadhurst Clay is found in a number of large areas in the east and north of the County. There is also an area of Gault Clay north of Lewes.

Clay resources are exploited for brick clay, which is used for manufacturing structural clay products such as bricks, tiles and pipes. It is also used in cement making, for constructional fill, for lining and sealing landfill sites and for flood defences. East Sussex is one of the major brick-producing counties in the South East. A continual supply of consistent raw materials is required to achieve high yields of saleable products, and make the large investments required for brick manufacturing plant worthwhile [14].

There are nine permitted clay sites in East Sussex, but at present clay working and associated manufacturing takes place at four: Aldershaw Farm, Chailey Brickworks, Hastings Brickworks and Ashdown Brickworks. There is an extant planning permission for a new brick works and clay pit on a large site at Horam, but the works have not yet been constructed. There are no clay sites within Brighton & Hove.

The following table includes information about permitted clay sites in the County:

Site	Location	Status	Capacity	Years of Reserves (at current rate of consumption, if applicable)
Ashdown Brickworks	Bexhill-on-sea	Active	50 million stock bricks per annum	More than 25
Chailey Brickworks	South Chailey	Active	13 million bricks per year (although recently lower)	Less than 10

13 BGS Study for SEERA: South-East Plan – Review of Mineral Supply & Demand, 2006

14 BGS Study for SEERA: South-East Plan – Review of Mineral Supply & Demand, 2006

Clay

Hastings Brickworks	Hastings	Active		More than 25
Aldershaw Farm	Sedlescombe	Active		Less than 10
Horam	Land east of A267, Horam	Inactive (not yet worked)	If built, 31 million bricks per annum.	More than 25
Little Standard Hill Farm (quarry only)	Ninfield	Inactive	1.8 million cubic metres	More than 25
Hamsey Brickworks		Brickworks closed. Permission dormant.	The site was worked until 1991but is now inactive.	
Cuckmere Brickworks	Berwick	Brickworks closed. Permission dormant.	These sites have not been worked for many years, and a detailed application for conditions would need to be approved for either permission to be implemented.	
Ludlay Brickworks	Berwick	Brickworks closed. Permission dormant.		

Permitted Clay sites in the County

Clay Supply and Demand

Nationally, brick production has declined by over 50% since 1974 (to about 3,000 million bricks per annum), largely in response to changes in construction methods/cut-back in house building. The position in the South East reflects this trend. The South East is a major importer of bricks.

Current data suggests that two brickworks in the county have less than 10 years reserves remaining, while three (including Horam) have more than 25 years.

The production of clay (the amount of clay quarried) in East Sussex remained relatively stable over the five years to 2002, ranging between approximately 120,000 and 180,000 tonnes extracted. Data from 2003 is confidential, however figures for 2004 and 2005 show a drop in production. This seems to be recovering as indicated in the 2006 data [(15)]. Clay consumption in East Sussex (the amount of clay sold) has only been monitored since 2005, and a drop in consumption of 11,000 tonnes was

PA1007 Primary Productions, ONS 1999-2006

experienced from 2005 to 2006. Figures suggest that production was less than consumption, however this could be due to different data sources or the amount of stockpile existing at clay sites. The state of the clay industry in East Sussex can best be described as stable but not currently in a state of growth. **(16)**

Existing Policy

The Minerals Local Plan (adopted 1999) gives priority to sustaining existing clay workings and manufacturing activities within East Sussex by further developing and expanding sites, providing replacement workings and safeguarding reserves. New sites would be considered where a need is justified and the location is satisfactory. Favourable consideration would be given to proposals for clay working and manufacturing on new sites or former un-restored clay workings subject to a number of criteria. Identification of future reserves for existing operations which have only limited permitted reserves is supported. New development within the AONB is subject to the government's tests for proposals in AONBs. A specific policy for Ashdown Brickworks expresses support for a replacement pit off-site and a new access road from the then proposed bypass.

The South East Plan (adopted 2009) requires provision to be made in Local Development Documents for clay as a regionally significant mineral of national importance. Where practicable, substitute and recycled waste materials should be used to conserve natural resources, high quality reserves should be safeguarded for appropriate end uses, and new handling facilities developed where this would increase the quantity of minerals and manufactured products being transported by rail or water. A permitted reserve of clay for brick and tile product manufacture, sufficient to last for at least 25 years at current production rates, should be maintained to supply individual works throughout the Plan period, and new manufacturing capacity developed if this would replace older plants or reduce net imports to the region. For small-scale manufacture, a long-term land-bank of a lesser period than 25 years may be appropriate.

Site extension options for Chailey Brickworks

Chailey Brickworks is the only large-scale brickworks in the county with a reserve of less than 25 years, and to accord with regional policy, measures should be identified to extend its life. Reserves at Aldershaw Farm are also low, and it is expected that the operator will seek to extend the clay pit. However, Aldershaw Farm is a smaller-scale works and a 25 year reserve may not, therefore, be required appropriate.

Chailey Brickworks is an older plant which uses the clamp method of firing bricks, but which has been modernised in recent years. It has a capacity to manufacture about 14 million bricks per year, although recently this figure has been slightly lower.

Clay

The brickworks is served by an adjoining clay pit. The reserve of the pit is now less than five years, and further clay resources need to be identified in order for the brick-works to continue operation [17].

The Review of Minerals Planning Permission (ROMP), which must be complete by December 2009, will investigate the permitted depth of the clay pit and the permitted development boundary of the site, and therefore the full extent of available permitted reserves. It may also be possible to use different types of clays, that have not been traditionally used in manufacture, for additional supply. However, this is likely to only marginally increase the overall life of the Chailey reserve. Therefore, longer term, the supply still needs consideration[18]. The existing planning consent at Chailey permits the extraction of minerals beneath land to the north of the brickworks which is comprised of woodland and an open field. Land beneath the brick-works is also permitted for extraction although this is not considered feasible due to the location of the brick-works itself [19].

Further reserves may be sought from land adjacent to the existing pit, some of which is not currently in the ownership of the operating company (Ibstock). Ibstock would wish to see safeguarding of the reserves to the north of the existing operational quarry site, recognising that land to the south is already developed a short distance from the boundary and therefore offers little practical prospect of extension [20]. However, the need for reserves may not be satisfied from an extension alone, and the operator may also seek to import clays from other permitted sources, for manufacturing at Chailey [21].

The brickworks and its immediate surroundings are not located in any nationally designated landscape-protection area. However, areas to the south and west of the site are physically constrained by existing development, including housing. There is an area of Ancient Woodland to the south, and much of the land to the east of the site is designated as a Site of Nature Conservation Importance (SNCI). There are also areas of common land north and west of the site, and a number of public rights of way across the site and in its vicinity [22].

Current Levels of Clay Recycling and Stockpiling

It appears that operators of existing brickworks in East Sussex do not consider waste to pose a problem to operations. Brick waste appears to be minimised and re-used or recycled where possible. The brick industry appears to have embraced the use of recycled or waste materials as raw materials.

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17 OTD Meeting Notes, 2009
18 OTD Meeting Notes, 2009
19 OTD Meeting Notes, 2009
20 OTD Meeting Notes, 2009
21 Ibstock response to I&O Consultation, April 2008
22 ESCC Mapviewer, June 2009

Ibstock Bricks, which operates both the Chailey and Ashdown Works, use clay waste, waste bricks, coke breeze (a by-product), and other waste materials in manufacture, and are experimenting currently with glass cullet. Materials embedded with the clay (known as interburden), which are not used in brick manufacture, are not considered a waste by Ibstock, but rather a 'by-product'. These materials are often used in the backfilling of extracted areas of the clay pits to achieve progressive restoration; however this is often not possible until those areas have been worked out.

Brick waste at Ashdown is 3 million bricks a year (10% of production), which is sold as hardcore. As a company, Ibstock uses 17% of recycled material in their bricks, and at some of its sites (although not in East Sussex), a range of 100% recycled clay bricks are produced. At Ashdown, some bricks are made with 10% fuel ash and 90% brick body [(23)].

In terms of the smaller scale brickworks in East Sussex, at Hastings Brickworks, green waste (clay that has been formed into a brick shape but not fired due to imperfections) is mixed back into the clay and recycled. There are few scrap bricks (70-90 tonnes per year), and these are used as hardcore for road cover within the site. The bricks are hand stacked into and out of the kiln. If any bricks are deformed they can be picked up there before they are fired and this process means less waste. Mechanical stacking doesn't pick up defects until after the firing process and this means fired brick waste is larger [(24)]. At Aldershaw Tiles, no waste clay is produced, it is all recycled back into production. There is no overburden. Any fired waste helps reduce the plant's power costs. Green and fired waste goes back into production by being ground up. Any top soil is taken off and stored, usually for future restoration [(25)].

Recent Demand for and Use of Clay as a Flood Defence Material

Particular locations within East Sussex and Brighton & Hove are at risk from flooding, and recent flood events in urban areas including Lewes and Uckfield have demonstrated a need for flood defences. It may be that there is a demand for clay for flood defences. The WMDF needs to consider whether the need for clay for flood defence material is a priority which requires identification of reserves.

To determine whether flood defences are needed, the Environment Agency (EA) develops Flood Defence Strategies. There are four Flood Defence Strategies that are programmed to affect East Sussex:

- River Ouse to Seaford Head Strategy - to cover the tidal Ouse from Lewes to Newhaven
- Lewes to Barcombe Strategy - to cover the northern stretch of the River Ouse
- Cuckmere Strategy - from the A259 road bridge to the Cuckmere estuary
- Cuckmere Strategy 2 - from the A259 road bridge to the A27

23 OTD Meeting notes 2009
24 OTD Meeting Notes 2008
25 OTD Meeting Notes, 2008

Clay

All of these Strategies are in their early stages, and it is not yet known when they will be undertaken, whether they will identify a need for new or maintenance of flood defences, and whether funding will be available for any work that is required. Therefore, information on the exact types, amounts and sources of materials that may be required for flood defences is not available. Brighton & Hove City Council manage flood defences in the city.

The EA has confirmed that raised flood defences are usually constructed in either clay or concrete. The selection of which material is best for any site is dependent on the individual site conditions. Clay tends to be used for embankments in more rural areas, or urban areas where soft landscaping is required. Clay embankments tend to be topped with top-soil and planting which gives a pleasant finish and protects the surface from erosion. There are existing clay flood defences in East Sussex (for example on the banks of the River Ouse), and the EA has advised that it is likely that clay will continue to be used. If suitable material is not available locally, the EA would import material [(26)]. However, it is not known how much clay is likely to be required for flood defences in East Sussex and Brighton & Hove.

There has been some interest and activity in utilising clay from existing sites within the County for flood defence works. The use of Little Standard Hill quarry to supply clay for other uses was explored in the minerals planning review in 2003, but it was decided to retain the original limitation on the site's permission which restricts the use of clay extracted at the site to Ashdown Brickworks unless with the prior written approval of the Minerals Planning Authority. However, in 2003, approval was given to export 15,000 metres³ of clay from Little Standard Hill to Robertsbridge. There has also been interest in clay extraction from this site for use at Rye, but the applicant has been advised that this would be unlikely to be supported given its distant location, and no application has been forthcoming. Any future proposals for using clay from Little Standard Hill for specific local flood defence works would have to be considered on a case by case basis. The site's use as a supply of material for county-wide projects is clearly unacceptable, due to environmental and transport impacts, and the longer term implications of using up reserves that may be needed to maintain supplies at Ashdown Brickworks.

A planning application for the export of clay from Hastings Brickworks for an Environment Agency flood defence scheme at Rye was withdrawn in 2003 following advice that there would need to be a justification demonstrating a need for using clay from this site and the absence of other sources outside the Area of Outstanding Natural Beauty (AONB) [(27)].

26 OTD notes, June 2009
27 ESCC planning application reference RR/381/CM

Gypsum

Current Site situation

Gypsum has been mined and processed at Mountfield since 1876. In the 1960s, a second mine was opened at Brightling. The extracted material was transported to the plant at Mountfield by an aerial ropeway. This was replaced in 1989 by an overland conveyor. In the 1960s and 1970s a new plaster mill and a plasterboard manufacturing plant were built and then extended. This group of activities in collectively known as the Robertsbridge works.

There is direct road access to A2100 and the works are served by a single rail siding connected to the Charing Cross – Hastings line. The rail facility is designed to import gypsum in sealed containers as a supply for the Robertsbridge Works.

In 1990 mining at Mountfield ceased, the works being placed on a 'care and maintenance' regime, and all mining was then concentrated at Brightling. The Mountfield Mine has since been abandoned.

There is an alternative to mined gypsum in the UK known as Desulphogypsum (DSG). This is a by-product from the Flue Gas Desulphurisation (FGD) programme at coal fired power stations in the North and Midlands. In 1994 planning permission was granted for the import of DSG to Robertsbridge from Drax in North Yorkshire.

The whole mining and works complex lies within the High Weald Area of Outstanding Natural Beauty (AONB). The factory site and stockpile areas are set within the valley of the River Line surrounded by an area of ancient woodland, part of which is a Site of Nature Conservation Interest (SNCI).

The main works is contained within undulating, wooded countryside and is not a prominent feature in the landscape. Overall, it has little impact on the environment, the underground workings being accessed by an adit [28] which requires little surface development. Subsidence is not a factor as the mine is worked under the 'room and pillar' method which leaves the overlying rock supported. New conditions for the mining permissions relating to the working, restoration and aftercare of the site were approved in 1998.

In February 2005 permission was granted for a high exhaust stack, the storage of plasterboard waste in a new building and use of part of an existing building for plasterboard recycling. The recycling facility is now operational. Planning permission was also given in 2005 for a number of environmental improvements at the site. These include diversion of the River Line around the existing landfill; abandonment of culverts under landfill; pollution control and drainage works; provision of new lorry park and access road; rationalisation of on-site lorry parking; plus various associated works.

28 entrance to an underground mine which is horizontal or nearly horizontal

Gypsum

The coated roadstone plant was originally established to take raw material from the Mountfield mine. When this supply ceased, the plant used crushed rock imported by road from ports in the area. Operations have now ceased at the Plant and all the structures and equipment have been removed.

Regional and Local Plan gypsum policies

Regional policies require that a permitted reserve of gypsum sufficient to last at least 20 years at current production rates should be maintained throughout the plan period in East Sussex to support the building product and cement industries. The use of DSG imported by rail over the shortest practicable distance is encouraged, as are the use of substitute materials and sustainable methods of transporting freight.

The Minerals Local Plan provides general support for gypsum mining and production activities in the Robertsbridge area. Policy 26 favours development which maintains adequate reserves, rail importation and sustains extraction and processing. The AONB criteria for such development is also applied. Policy (27) seeks a programme of environmental management for the AONB area adjoining the works, mine and overland conveyor. The retention of the rail link for importing and exporting operations is supported by Policy 28. Up until 2003 waste arising from the plasterboard production process was landfilled within the site giving rise to environmental issues. Policy 29 seeks an end to on site landfill and encourages recycling processes to address this concern.In 2005 planning permission was given for an on-site recycling operation. This enables up to 18,000 tonnes per annum (tpa) of plasterboard waste to be recycled and fed back into the manufacturing process. There is potential for up to 40,000 tpa of plasterboard construction waste arisings to be imported to the site for recycling.

Technical Data and Information

Mined Gypsum

Prior to the availability of DSG, mined natural gypsum was the primary source of raw material for the Works and was extracted nearby at Brightling Mine. Two seams are worked some 100 to 300m deep underground by the room and pillar method, the seams being accessed from the surface by means of two drifts.

The Brightling mine has a capacity to excavate some 1 million tonnes of gypsum per annum; however at present the mine is not worked to its full potential. In 2001, only 150 000t was mined at Brightling and whilst it recently fell to 80 000t currently output is about 150 000t per year. In the past the material has been mainly exported from the site by road and used as an essential additive in the manufacture of Portland cement.

Plasterboard and related products

Plasterboard and related products are currently manufactured at Robertsbridge using imported natural gypsum imported from countries abroad, mainly Spain. In the recent past DSG from Drax (N. Yorks) and West Burton (Notts) power stations have been used. Robertsbridge operates on natural gypsum imports due to the distance from these plants and the shortage of DSG. Typically, over 0.3 million tonnes of gypsum are imported to the site by rail.

In 2003 British Gypsum completed expansion of the manufacturing capacity at the Works by some 30% to meet rising demand for gypsum building products in the south of England.

The Robertsbridge works supplies markets in the south and south west of England. It constitutes one of the largest industrial enterprises in East Sussex and employing some 250 people provides an important source of employment in the Rother and Hastings area.

New Issues

DSG, an alternative to mined gypsum, has until recently been imported to the British Gypsum (BG) works for use in the plasterboard plant. However, DSG availability is linked to the government's energy policy and other factors. Compliance with an European Directive means that a significant number of older coal-fired plants with retrofitted FGD pollution abatement equipment will close during the next decade. Less quantities of DSG will be therefore be available. Increased use of alternative energy supplies such as biomass, gas and nuclear will also impact on the amount of DSG being produced. These effects will also be felt throughout Europe and the scope for imported supplies will consequently be reduced. BG has concluded that by 2020 there will be no DSG available and supplies will become critically low during the early part of the next decade.

At the same time demand for the plasterboard products has grown and BG consider that DSG cannot meet current needs for the plasterboard factory. The company is therefore investing in increasing output from their mines to substitute DSG with mined gypsum, as well as imports of pure gypsum from overseas. At the moment natural gypsum is imported from Europe (Spain) and sometimes DSG from Italy/low countries (by rail from Southampton). BG expects that recycled gypsum recovered from construction sites and C&D waste will also play an increasing role and reduce pressure on natural resources. Recycling facilities at the site can provide some 20% of total feedstock for plasterboard manufacture.

There is likely to be a continuing demand for high quality natural gypsum for cement manufacture.

Reserves left at Brightling mine total 15 – 20 million tonnes. Output from the mine is currently150 000 tpa. This could increase significantly in the future, but even if it were to peak at the maximum level of 1 million tpa the available reserves should fulfil the regional landbank requirement.

Gypsum

At present the rail link to the site is used solely for the import of materials. However, British Gypsum is now exporting for the first time at other sites around the country and if this proves successful then this could take place at Robertsbridge.

Safeguarding of the resource should include the operational land and the railhead, with Mineral Consultation Areas covering the underground reserve.

Chalk

Chalk Resources in East Sussex

There is a long history of chalk extraction in East Sussex, originally associated with the cement industry. However, following decline, the last cement plant closed in 1975. Since that time, most chalk workings within the county have provided material for constructional fill and agricultural lime. There are no chalk sites within Brighton & Hove.

There are currently no active chalk quarries in the Plan area. Until recently, Tarring Neville Quarry near Newhaven produced a small quantity of high quality chalk each year to meet the needs of a local ceiling products manufacturer. However, demand has reduced, and operations have now ceased at this site. Other permitted chalk extraction sites in East Sussex have significant constraints against recommencing work. The following table lists those sites from which chalk has been extracted most recently.

Site	Location	Reserves	Type of chalk
Tarring Neville	Newhaven	80 years (at past production rates).	High quality, used for a specific manufacturing purpose
Balcombe Pit	Glynde	No reserves remain.	Chalk for constructional and agricultural use
Filching Quarry	near Jevington.	Some reserves remain but approval of schemes would be required to recommence working.	
Meeching Quarry	Newhaven	No further working unless schemes submitted and approved by the MPA	
Beddingham Landfill Site	Beddingham	None, as all chalk remaining is required for use on site.	Chalk for constructional and agricultural use

Chalk sites in East Sussex

Existing Policy

The Minerals Local Plan (MLP) (1999) recognises that there are very few areas of unconstrained reserves of commercially viable chalk within the Plan area, as most of the remaining deposits of chalk are constrained by one or more environmental

Chalk

designations of national importance, including the Sussex Downs AONB/South Downs National Park. The Plan considers that the continuing need for chalk for use in construction and agriculture can be met from (as then operational) existing workings, and that no new sites should be permitted. Extensions within the AONB would be subject to the Government's tests for development in such areas. The MLP proposes that requirements of the manufacturing works at Newhaven would be met by supplies safeguarded by the existing permission at the Tarring Neville Quarry. Any proposals for the re-establishment of cement manufacturing and associated mineral extraction in the Plan area would not be supported. Appropriate restoration is sought at Filching Quarry and any extension would not be permitted. Further working at Meeching Quarry must accord with conditions attached to the planning permission to ensure no unacceptable impact on the locality.

The Minerals Local Plan states that any proposal for future extraction which would result in unacceptable traffic conditions or environmental impacts would be resisted. The Plan supports the use of waste chalk as constructional fill and would support stockpiles at appropriate locations.

The South East Plan (2009) requires provision to be made in Local Development Documents for chalk as a regionally significant mineral of national importance. Where practicable, substitute and recycled waste materials should be used to conserve natural resources, high quality reserves should be safeguarded for appropriate end uses, and new handling facilities developed where this would increase the quantity of minerals and manufactured products being transported by rail or water. The South East Plan requires a permitted reserve of chalk for cement manufacture, sufficient to last for at least 25 years at current production rates, to be maintained throughout the Plan period in Kent and Medway. The Plan does not identify a specific need for chalk supplies within East Sussex and Brighton & Hove. The Plan recognises that given the anticipated future supply patterns, there is unlikely to be any need to secure substantial new production capacity or reserves of chalk in the South East. The South East Plan identifies the regionally significant issue as supplying chalk for cement works. There are no cement works within East Sussex or Brighton & Hove.

Demand for Chalk

There has not been any significant demand for chalk extraction in the Plan area in recent years. No chalk for constructional and agricultural use has been supplied from Balcombe Pit or Beddingham Landfill, and there have been no planning applications for extensions or new sites, despite the positive approach for extending Balcombe Pit taken in the Minerals Local Plan. No requests have been made in recent years to the Mineral Planning Authority for additional chalk supplies to be made available within the county. This may be because there is a sufficient supply of chalk from outside East Sussex to meet local demand.

The demand for chalk for agricultural lime appears to be met from sources outside the Plan area. The main chalk-lime supplier in the South East is likely to be John Bourne, a Kent-based company which extracts chalk from quarries in Kent and Surrey

[29]. Another chalk lime supplier is Robins, a company based in East Sussex but which sources chalk from a quarry it leases in Newtimber, near Pycombe, West Sussex. It is understood that Robins' chalk activities are on a small scale [30].

West Sussex County Council (WSCC) has a land-bank of chalk equivalent to 126 years supply, from 2 operational chalk sites [31]. Therefore, meeting the need for chalk from imports may be a serious option for East Sussex and Brighton & Hove. WSCC believes that West Sussex is self-sufficient in chalk, and given the land-bank figure, it does not consider that the importation of chalk by East Sussex and Brighton & Hove is likely to present a threat to West Sussex's ability to meet its own chalk needs. This is on the understanding that chalk has previously been imported from West Sussex, and that it is combined with the use of suitable alternatives where appropriate [32]. Similarly, there is also a significant land-bank of chalk for agricultural lime in Kent, and Kent County Council is unlikely to be concerned about East Sussex relying on imports of chalk from Kent for agricultural lime [33].

Chalk from Tarring Neville Quarry is restricted by the planning permission for one particular use, and there is no longer a demand for the chalk for this use. Any planning application to use the quarry for chalk extraction for general use would need to be accompanied by a robust justification. This has not been forthcoming which suggests that the operator does not wish to pursue this option. In this way, the high quality chalk resource appears to be safeguarded. However, the site is no longer supplying chalk, and there are no other permitted chalk pits in the county that supply high quality chalk.

It is possible that chalk supply may be sought from borrow pits adjoining proposed areas for development. However, borrow pits as a supply of chalk is unlikely to be a feasible option in East Sussex, given the location of the vast majority of the chalk resource within nationally protected landscape areas where development would be strictly controlled.

To support the successful restoration of dormant or inactive sites it is likely that a framework would need to be prepared to detail the necessary considerations at site level.

Substitute Materials for Constructional Fill

The demand for chalk for constructional fill may now be less than in the past because (i) there is now greater resistance to building in low-lying areas and on flood plains that may have previously required land-raising, and (ii) there is now a greater emphasis on reducing and re-using waste on construction sites particularly since the

29 NFU OTD Notes, 2009
30 ESCC Planning application reference WD/585/CMCL
31 West Sussex Minerals and Waste Development Framework Background Paper 3 - Minerals, June 2008
32 OTD notes, 2009
33 OTD notes, 2009

Chalk

advent of Landfill Tax (inert waste may be used as a fill material). However, there are a number of developments planned in East Sussex and Brighton & Hove that may require chalk or a substitute material for constructional fill.

Materials that may be used as a substitute for primary chalk as a fill material are waste chalk, clay, sandstone and general inert waste materials. Recycled aggregates may also be used. Some of the core components of Construction & Demolition (C&D) waste may be suitable for use as a fill material [(34)]. However, to produce suitable material from demolition waste it is essential to separate the different materials to avoid contamination. It is usually also necessary to use a crusher to reduce inert waste to an appropriate size, which would generally require a licence. There are a number of waste transfer stations within the East Sussex and Brighton & Hove that manage inert waste materials.

Two examples of large scale construction projects in East Sussex that have or may involve fill requirements are the Highways Agency A27 Southerham to Beddingham improvements (now completed), and the Hastings to Bexhill Link Road (planning permission issued 2009). The A27 improvements have used 10,000 cubic metres of chalk from a quarry in West Sussex to form the embankments either side of the railway bridge. The Highways Agency has advised that the decision to use chalk was based firstly on the cost and quality of the chalk. The availability of the quantity required for the works was also an important factor. For Highways construction projects generally, the decision to use certain materials is circumstantial. Firstly, cut and fill techniques are used as far as possible, as this has virtually no cost associated with it. If this is not entirely possible, materials are sourced based on cost and quality. The Highways Agency endeavours to source materials from suppliers local to the schemes site to support local economies and reduce transportation costs [(35)].

The Hastings to Bexhill Link Road proposal includes provision of a borrow pit adjacent to the Link Road to enable the best use of soils and the achievement of a balanced scheme of overall cut and fill. Because of the uncertainties in this element of the proposal the final arrangement is the subject of a condition. It may be that some inert fill materials need to be imported, but these details are as yet unknown.

It is difficult to come to a solid conclusion about whether chalk is likely to be required for constructional fill, and whether substitute materials could meet the need in East Sussex and Brighton & Hove. However, it does appear that the market for recycled materials is likely to grow, given the introduction in 2008 of mandatory site waste management plans for larger scale construction projects. It appears that design, cost and availability of materials are important factors in determining the choice of materials for construction fill. Increasing costs of disposing of materials off site appear to be resulting in developers seeking to use cut and fill techniques wherever possible and re-using any waste spoil on site. This would seem to make the use of virgin chalk as a fill material less likely, although the Beddingham project illustrates that there are

34 ESCC and B&H Supplementary Planning Document on Construction & Demolition Waste, 2006

35 OTD notes, 2009

likely to be some occasions when chalk is required. In these cases, given the ready availability of chalk in neighbouring counties, it is likely that demand in East Sussex and Brighton & Hove would be met from imports.

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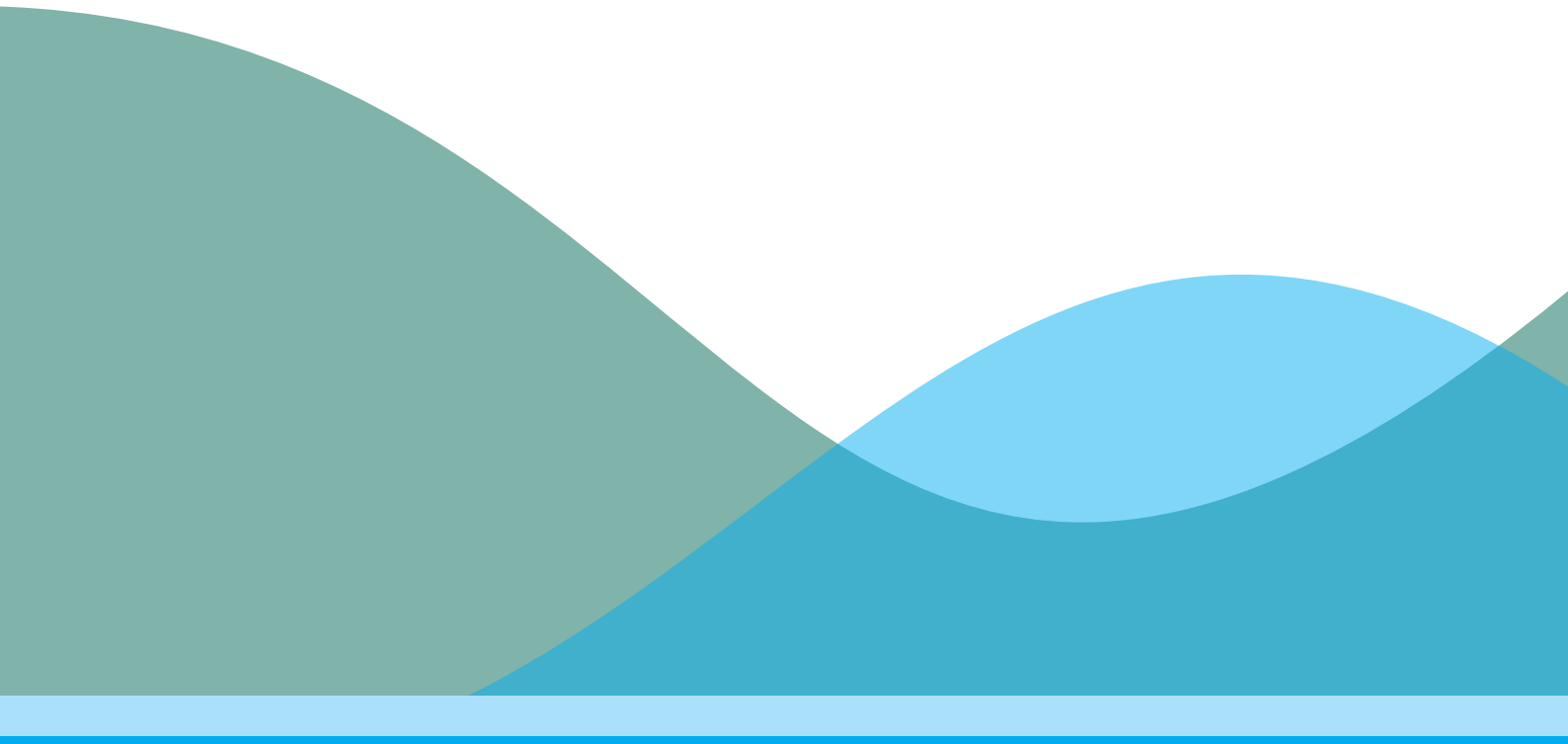

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