WEST SUSSEX MINERALS LOCAL PLAN 2003

JUNE 2003

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Chichester
West Sussex
PO19 1RQ

west sussex county council

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A Message from the Cabinet Member
for Strategic Environmental Services

I am delighted to present West Sussex County Council's first Minerals Local Plan. The Plan has been produced in accordance with Government guidance and indicates the extent, and way, in which, West Sussex will provide for aggregates and other minerals during the Plan period up to 2006, whilst ensuring that adverse environmental impact is minimised. Its preparation has been a lengthy and difficult process, with extensive consultation, and two public inquiries. We have taken into account a wide range of views and comments. The challenge has been to reconcile and balance the conflicting interests. I believe that we have met this challenge.

Our objective has been and will continue to be, the meeting of the County's requirements with the least adverse effect on local communities. With the benefit of past experience to build upon, the Plan will help us to ensure that all mineral working is subject to comprehensive and effective conditions, which are properly enforced.

I am grateful to all who have helped in the production of this Plan, and for their patience and understanding.

Lieutenant Colonel Tex Pemberton OBE
Cabinet Member for Strategic Environmental Services

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1. INTRODUCTION

MINERAL PLANNING IN WEST SUSSEX

1.1 The County Council is the Mineral Planning Authority for West Sussex and is responsible for all mineral planning matters throughout the County. This includes dealing with all planning applications to extract minerals, to process minerals, to restore the land afterwards, to provide wharves where sea dredged and imported material is landed and processed, and to provide rail heads where minerals are handled. (Town & Country Planning Act 1990 as amended by the Planning and Compensation Act 1991, and the Town and Country Planning (Development Plan) Regulations 1991).

1.2 The County Council as Mineral Planning Authority has a duty to prepare a Minerals Local Plan which provides detailed policies and identifies where new permissions are likely to be granted. The Plan deals with the whole County but is a "local plan" because it provides site specific detail through which development is controlled. Planning decisions must be in accordance with approved Structure Plans (in this case the West Sussex Structure Plan 1993) and Local Plans unless other material considerations can be shown to indicate otherwise (Town and Country Planning Act 1990, Section 54A). Therefore, the Minerals Local Plan reduces uncertainty for both residents and the minerals industry.

1.3 The Minerals Local Plan must address a number of issues including:-

(a) Sustainability;
(b) The supply of minerals;
(c) Landbanks (stocks of reserves with planning permissions for mineral extraction);
(d) The identification of areas where extraction is likely to be permitted, taking into account whether the land is underlain by economically workable deposits and whether it is likely to become available to the minerals industry within the Plan period;
(e) The safeguarding (protecting mineral deposits from sterilisation by preventing building or other development) of mineral resources for the period beyond the Plan;
(f) Mineral working in environmentally significant areas;
(g) Reclamation;
(h) The transport of minerals;
(i) Ancillary operations; and
(j) The provision of an appropriate policy framework for dealing with planning applications.

Account has been taken of the local plans prepared by District and Borough Councils which set out policies and site specific proposals dealing with other land use matters.

1.4 This is the first statutory Minerals Local Plan to be prepared for West Sussex. It is necessary because pressure on this County's resources has reached a point where increasingly difficult decisions have to be made about whether further extraction can take place without unacceptable damage to the environment.

1.5 The production of aggregates is a major part of the mineral industry with sand and gravel production being the main issue in the County. (Aggregates are sand, gravel, crushed rock and other bulk materials used in the construction industry, see Glossary Appendix 5). Aggregates feature prominently in the Plan, but not to the exclusion of other minerals. The most recent minerals planning guidance for aggregates was issued by the Government in April 1994 ("Minerals Planning

Guidance: Guidelines for Aggregates Provision in England", a document usually referred to as MPG6). This includes figures to guide land-won extraction at Regional level. The South East Regional Planning Conference, with technical advice from the South East Regional Aggregates Working Party (SERAWP) {now the South East England Regional Aggregates Working Party (SEERAWP)} has interpreted the total regional figure by apportioning it between the mineral planning authorities in the South East (including London). The figures produced by this technical assessment have a direct bearing on the number of new sand and gravel workings which have been identified in the approved Minerals Local Plan. However, the preparation of the Plan has provided a good opportunity to test whether sufficient new sites can be found to provide for production levels without causing unacceptable environmental damage to the area.

1.6 The Structure Plan is being reviewed by the County Council as a separate exercise. This will provide an opportunity to consider mineral policies at the strategic (Structure Plan) leveI.

THE PLAN

1.7 The Minerals Local Plan has been prepared following consideration of the issues relating to mineral extraction in West Sussex and in response to the comments received.

1.8 The County Council has investigated the environmental constraints present in those parts of the County where there are known to be mineral deposits and has identified new sites where mineral extraction is considered to be acceptable in principal and where planning permission may be granted during the Plan period. This does not mean that permission will be granted automatically. Some sites may prove to be unacceptable when investigated in the detail appropriate to a planning application and some applications may put forward inadequate proposals.

1.9 The Plan covers the period up to 2006. Whereas a longer period may be more appropriate for some minerals, in the case of aggregates provision (which is a substantial component of the Plan), 2006 is a key date in national and regional aggregates guidance (MPG6). So that options for future supply from alternative sources are not foreclosed by long term land won provision, the Government has concluded that provision should be made now for the period to 2006 only.

1.10 The Plan deals with all the minerals likely to be worked in the County during the Plan period. It sets out land use policies, which are general statements to guide new minerals development. These are readily distinguished by the heavy typeface used. New sites where extraction may begin during the Plan period are identified as "proposals" on maps which also show constraints applying to land in the vicinity. The maps are accompanied by written statements which describe the issues which need to be dealt with in connection with each proposal. These statements set out what is expected from a potential developer.

2. CONTEXT

NATIONAL POLICY AND THE SUPPLY OF MINERALS

2.1 "Minerals are important natural resources which are essential in the production of many goods and services. There are large reserves of many useful minerals in the UK, but it is, nevertheless, crucially important to ensure that they are used efficiently and to recycle and minimise waste wherever possible.

The UK exports some minerals, including crude petroleum, gas and oil. The value of mineral exports was £4.9 billion in 1992. A wide range of minerals is imported, the most significant being crude petroleum, coal, natural gas, and some metals. Imports were valued at £5.9 billion in 1992. For aggregates, the trade is very small - less than 1% of total UK production and consumption over the period since 1985.

Within the UK, demand for aggregates (sand and gravel, and crushed rock) used in the construction industry is projected to increase sharply over the next 20 years. Some of this can be met through increased recycling, but new extraction sites will be needed. It is likely to be increasingly difficult to identify extraction sites which are environmentally acceptable." (Sustainable Development: The UK Strategy, paras. 43, 44 and 45, Department of the Environment, January 1994).

2.2 A growing awareness of environmental problems has led to greater attention being given to these matters at International, European Union and National level. A comprehensive strategy for the environment, including many specific targets and objectives for policies in different areas, was published by the Government in September 1990[1].

> "1.14 The starting point for this Government is the ethical imperative of stewardship which must underlie all environmental policies. Mankind has always been capable of great good and great evil. That is certainly true of our role as custodians of our planet. The Government's approach begins with the recognition that it is mankind's duty to look after our world prudently and conscientiously. It was the Prime Minister who reminded us that we do not hold a freehold on our world, but only a full repairing lease. We have a moral duty to look after our planet and to hand it on in good order to future generations. That is what experts mean when they talk of "sustainable development"; not sacrificing tomorrow's prospects for a largely illusory gain today. We must put a proper value on the natural world; it would be odd to cherish a Constable but not the landscape he depicted. The foundation stone of all the policies in this White Paper is our responsibility to future generations to preserve and enhance the environment of our country and our planet". (This Common Inheritance, Department of the Environment, September 1990).

2.3 Guidance on the issues surrounding sustainable development, the mineral planning process and other matters, is set out in "Minerals Planning Guidance Note 1" (MPG1: General Considerations and the Development Plan System, Department of the Environment, June 1996). It is clear that support for "sustainable development" occupies a central position in Government policy. Its contribution to Development Plans in particular is set out in "Planning Policy Guidance Note 12" (PPG12: Development Plans and Regional Planning Guidance, Department of the Environment, Transport and the Regions, (revised February 1999) and "Planning Policy Guidance Note 11 " (PPG11: Regional Planning,

[1] More recent environmental legislation has been the Environment Act 1995, and the 1997 European Directive in respect of Habitats (1994) and the Town and Country Planning (Environmental Impact Assessment)(England and Wales) Regs. 1999

Department of the Environment, Transport and the Regions October 2000). As set out in "Sustainable Development: The UK Strategy": -

> "Sustainable development does not mean having less economic development: on the contrary, a healthy economy is better able to generate the resources to meet people's needs, and new investment and environmental improvement often go hand in hand. Nor does it mean that every aspect of the present environment should be preserved at all costs. What is required is that decisions throughout society are taken with proper regard to their environmental impact." (para. 12).

2.4 The Government has advised that in relation to minerals planning a sustainable framework should: -

- "Conserve minerals as far as possible, while ensuring an adequate supply to meet the needs of society for minerals.
- Minimise production of waste and to encourage efficient use of materials, including appropriate use of high quality materials, and recycling of wastes.
- Encourage sensitive working practices during minerals extraction, and to preserve or enhance the overall quality of the environment once extraction has ceased.
- Protect designated areas of critical landscape or nature quality from development, other than in exceptional circumstances where it has been demonstrated that development is in the public interest."

and include the opportunities to:-

- "Consider the potential contribution from alternative sources, in view of the increasing difficulty in finding environmentally acceptable sites."

and that Government, local authorities and the industry have the following parts to play:-

- "Government to ensure that society's needs for minerals are met while encouraging greater efficiency, effectiveness and economy in the supply and use of resources.
- Government, local authorities and industry to pursue opportunities for promotion of reuse and recycling of waste materials where they can substitute for primary minerals.
- Government, local authorities and industry to work towards improving standards of operation of mineral workings.
- Government, local authorities and industry to work towards ensuring high and consistent standards for restoration.
- Government to take forward the aims of sustainable development in research on a wide range of minerals issues." (Sustainable Development: The UK Strategy, Chapter 18)."

2.5 Local Government in the UK was represented at the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992 and was party to a Common Declaration. Local Authorities are committed to making sustainable development a central objective in policy making and this has been undertaken in reviewing the strategy for West Sussex which is embodied in the new County Structure Plan (West Sussex Structure Plan 2001-2016 Deposit Draft). The County Council is actively involved in putting policy into practice. It is reviewing its own responsibilities and is working with other people and organisations in the County to stimulate action at a local level by means of a "Sustainability Programme".

AGGREGATES

2.6 Specific national guidance in relation to the provision of aggregates (sand, gravel, crushed rock and other bulk materials used in the construction industry, see Glossary Appendix 5) is set out in "Minerals Planning Guidance Note 6" (MPG6: Guidelines for Aggregates Provision in England, Department of the Environment, April, 1994). It advises how national and regional supply should be maintained over the period to 2006, at the best balance of social, environmental and economic cost.

> "...The Government believes that for the economic well being of the country it is essential that the construction industry continues to receive an adequate and steady supply of aggregates so that it can meet the needs of the community and foster economic growth."

The economic forecasts of future provision are based on consumers' needs for housing and road construction, and for buildings and road maintenance. However,

> "At the same time, the Government recognises that aggregates extraction can have a significant environmental impact and often takes place in areas of attractive countryside ..." (MPG6, paras. 9 and 10).

The reconciliation of this conflict between the economy and the environment is the challenge that confronts the County Council in its role as the Mineral Planning Authority.

2.7 In preparing MPG6 the Government commissioned two studies into the future demand for aggregates. The first study was revised in 1992 to take account of the most recent economic information. A 10% reduction from the previous estimates was incorporated due to the effects of the recession. Nevertheless, a significant increase in the demand for aggregates was forecast for the period to 2011.

2.8 The aggregates and construction industries are requested to identify ways of minimising waste and achieving greater efficiency. Local Authorities are requested to examine their contribution to greater efficiency of use when issuing their own construction contracts. Government research will seek to provide practical advice. A gradual change from the present supply approach is called for in order to be consistent with sustainable development principles. Over time, less reliance will be placed on traditional land won sources: in the period up to 2001 a decline from 83% to 74% will be expected, decreasing to 68% by 2006. It is expected that significant increases in supply will be achieved from "alternative sources", namely secondary and recycled material, (including demolition and construction wastes, asphalt road planings, power station ashes, blast furnace and steel slags, slate waste, china clay waste and colliery spoil: MPG6, Annexe E) imported crushed rock mainly from coastal superquarries and marine dredged material.

2.9 It is acknowledged that the availability of alternative sources may be restricted over the next few years and there are uncertainties associated with the environmental impact of coastal superquarries which supply crushed rock, and with the dredging of marine gravels. Advice is not given for the period beyond 2006 to enable Government to reassess in due course how successful the industry and mineral planning authorities have been in developing the required infrastructure. This is particularly relevant to the South East Region which is likely to be the greatest consumer of material from "alternative sources".

2.10 In the case of aggregates mineral planning authorities are required to provide for the maintenance of a stock of planning permissions, known as a Landbank which, in the case of sand and gravel should be sufficient for at least 7 years, in order to ensure that a steady supply of minerals is available to the construction industry throughout the Plan period.

However, there may be exceptional circumstances relating to geological or environmental factors, or simply to the insufficient number of planning applications submitted, where this requirement would not apply. Also, it is not expected that a Landbank for beyond the end of the Plan period be provided at the start, although an MPA will need to demonstrate that such resources can be brought forward should this be necessary. In this way both the objective of the Landbank and the concern of the government not to create long term land won provision beyond 2006 can be met.

2.11 A shifting emphasis in the means of aggregate supply will require local initiatives. Mineral planning authorities are required to make every effort in their Local Plans to identify suitable locations for aggregates wharves in order to safeguard them from development which would prevent or hinder the landing of marine dredged and other imported material. Similarly, potential rail heads are to be safeguarded to facilitate the movement of material by rail. Policies for recycling should be included, and sites for long term or semi-permanent recycling plants may be needed.

BRICK CLAY

2.12 "Minerals Planning Guidance Note 1, June 1996, Annex B, paragraph B14", provides that:-

> "Source materials for brick manufacture and for associated products, e.g. tiles and pipes occur so widely that the choice of quarry sites has often been historical accident or convenience. Consequently, there is a wide variation in the techniques employed and the end product. [Mineral Planning Authorities] should have regard to the demand for bricks, tiles and pipes generally and engineering fill and the continuing demand for products with particular physical and aesthetic qualities. Such qualities are mostly the direct result of the physical characteristics of the raw material used, which may be available in only a few locations (e.g. facing and engineering bricks and floor and roof tiles). [Mineral Planning Authorities] should consider these special needs, bearing in mind that they will usually involve quite small scale operations, in the light of the social and environmental implications of clay extraction in the area."

OIL AND GAS

2.13 National policy relating to oil and gas exploration is contained in "Circular 2/85: Planning Control over Oil and Gas Operations", (Department of the Environment) which pre-dates formal government acceptance of sustainable development strategies. It identifies the importance of on-shore reserves especially in view of the decline in North Sea production. The Circular seeks to encourage the full exploration and appraisal of hydrocarbons and to ensure the maximum economic exploitation of oil and gas reserves over time.

2.14 This has to be balanced with good oilfield practice and with the protection of the environment. The Circular indicates that exceptionally, the environmental implications will be so great that the proposed development cannot be permitted on a particular site, but in most cases it should be possible to find a solution so that development can proceed in an environmentally acceptable manner.

REGIONAL POLICY AND THE SUPPLY OF MINERALS

AGGREGATES

2.15 Aggregates are the only mineral for which the government provides detailed guidance and specific supply figures on a national and regional basis. "Regional Planning Guidance for the South East (RPG9)" published in March 2001 emphasises the significance of aggregates in the regional economy. Some 25% of the Region's aggregates demand is met from landings of marine dredged sand and gravel (based on 1997 figures). The need to protect wharves in appropriate locations is reiterated. Similarly, it is emphasised that Minerals Local Plans should include policies to encourage the use of secondary and waste materials and to encourage recycling.

2.16 Further guidance on aggregates supply at the Regional level is set out in MPG6. Over the period to 2006, the South East is forecast to require approximately 1,270 million tonnes (mt) of aggregates materials of which an estimated 450 mt of rock will have to be imported from outside the Region. The remainder is to be provided by the mineral planning authorities that make up the south-east region, including London, which is a major consumer. 260 mt is being sought from marine dredged sources and 140 mt from secondary and recycled material. (See Table 1).

2.17 The balance of 420 mt comprises land won sand and gravel to be extracted within the region. In the South East, SERPLAN (the London and South East Regional Planning Conference) with the advice of SERAWP (the South East Regional Aggregates Working Party) [2]has apportioned the regional guidelines between the mineral planning authorities.

TABLE 1: AGGREGATE PROVISION IN THE SOUTH EAST REGION - 1992-2006

DEMAND	SUPPLY (Million tonnes)			
	Local Land won Sources	Marine Dredged Aggregate	Imported Rock	Secondary/ Recycled Aggregates
1270	420	260	450	140

Source: Minerals Planning Guidance Note 6: Aggregate Provision in England: Department of the Environment, April 1994.

2.18 Each county has been apportioned a certain quantified share of the total production requirement. This apportionment figure is not a production target but a figure that is an agreed interpretation of regional policy that is tested through the preparation of Minerals Local Plans. The figure for West Sussex is 1.4 million tonnes each year over the 15 year period 1992-2006 (RPC 2705. Aggregates Apportionment, The Sub-Regional Apportionment of the Regional Sand and Gravel Requirement in MPG6 - December 1994). Table 2 shows the total of primary aggregates consumed in West Sussex in 1993 and where the material comes from.

[2] Superseded now by SEERAWP (the South East England Aggregates Working Party).

TABLE 2: ORIGIN OF PRIMARY AGGREGATES CONSUMED IN WEST SUSSEX 1993 (Tonnes)

Pits and quarries in the South East	Marine Dredged Aggregate	Rock imported from outside the South East	Total
997,000	913,000	814,000	2,724,000

Data on recycling unavailable.
Source: Provisional 1993 National Aggregates Monitoring Survey.

2.19 The Regional aggregates guidance for the south east is set out in Appendix 1. No specific Regional guidance is provided by the Government in relation to other minerals worked or likely to be worked in West Sussex.

WEST SUSSEX STRUCTURE PLAN - THIRD REVIEW

2.20 The third review of the West Sussex Structure Plan started in September1993. The Consultation Draft covering the period up to 2011 was published in January 1995, followed by the Deposit Draft in June 1996. There was an Examination-in-Public (EiP) in February and March 1997 and the recommendations of the EiP Panel were accepted by the County Council. However, in December 1997 the Secretary of State for the Environment issued a Direction preventing adoption of the Plan unless provision was made for an additional 12,800 dwellings, or the Direction was otherwise withdrawn. A version of the Plan was published in 1998, incorporating the County Council's amendments, but could not be formally adopted because of the Secretary of State's Direction. The County Council's legal challenge to the Direction was unsuccessful, and in July 1999 the Council decided to make further revisions to the Structure Plan to extend it to 2016. Extensive consultation took place between September 1999 and July 2000. The West Sussex Structure Plan 2001-2016 Deposit Draft was on deposit in January and February 2002, and was subject to an Examination in Public (EiP) in November and December 2002. Adoption of the new Structure Plan is planned for early 2004. The following paragraphs (2.21–2.24) reflect the 1998 Structure Plan (not formally adopted).

2.21 The review has concluded that the new strategy should place greater emphasis on sustainable development, particularly in terms of environmental protection, transport policy and the location of development. It is acknowledged that West Sussex has some very precious and irreplaceable environmental resources which have come increasingly under threat. It is suggested that working towards sustainable development involves the acceptance of five principles, those of:-

- protecting and improving the environment;
- concern for future generations;
- taking precautions against irreversible loss of resources;
- equity;
- participation.

2.22 This means that the County's environmental and cultural assets should be conserved, but where this is not successful their loss must be compensated in some way. Some progress has been made in producing an inventory of these assets in order to provide a basis for assessing the County's "environmental capacity"[3]. It is proving difficult to define which assets are irreplaceable; and even if this is achieved, it may lead to other assets being undervalued simply because they have some capacity for change. Nevertheless, the review has led to some fundamental changes in the strategy for mineral working laid down in the

[3] Environmental Capacity in West Sussex, Third Review Background Paper (1996).

1993 Structure Plan and this has been assisted by complementary work in preparing the Minerals Local Plan.

2.23 It is acknowledged that economic growth is important but that it should not be the dominant objective everywhere. Mineral working has potentially harmful effects and consumes non-renewable resources. There is obviously a need for minerals, and mineral working can be made acceptable if its consequences are at least made good by reclamation and wherever possible incorporates additional environmental benefits. The use of recycled construction waste and other materials must be promoted.

2.24 As a result, the minerals policies derive principally from the first three strategic land use objectives. They aim to meet the need to maintain supplies of raw materials whilst ensuring extraction is a sustainable form of development and does not harm the environment. This will be achieved by conserving minerals as far as possible whilst ensuring an adequate supply; promoting recycling; minimising waste; securing material from alternative sources where appropriate; protecting the best of the natural environment; encouraging sensitive working practices; and securing satisfactory reclamation of minerals sites to an appropriate afteruse or enhanced amenity. Demand will be influenced as far as possible through retaining buildings rather than demolishing them and promoting the use of recycled materials. The minerals policies depend heavily on the other policies relating to the impact of development on the environment, especially those concerned with the countryside, the water environment and transport.

GEOLOGY AND HYDROGEOLOGY

2.25 Geology affects the relief, drainage, surface soils and vegetation cover of the land and influences the character and landscape of the County and its water resources. The surface geology of West Sussex is characterised by the eroded exposure of the Wealden succession of the Cretaceous period (some 70 to 135 million years old) and south of the South Downs by Eocene materials overlain by gravels and brickearth deposits. A simple picture of the County's geology is shown in Figure 1 and a simplified table of geological formations in Figure 2. The County has a diverse geology fundamental to the appearance and use of the land, to the underlying water resources and to minerals planning.

2.26 The deeper geology, unexposed on the surface, has been proved by deep boreholes. At a depth of 1500 to 2100 metres the Jurassic rocks are much faulted and folded and have been found to contain hydrocarbons. Limited amounts of oil and gas have been exploited.

2.27 The Wealden basin contains sands, sandstone, clay and chalk. These were deposited and subsequently uplifted into a dome like structure extending across south east England and into the Low Countries and Northern France. The centre was later eroded exposing these materials although the edges are clearly defined by the chalk outcrop of the South and North Downs. The Cretaceous series in West Sussex is shown in Figure 2.

2.28 The South Downs are the most prominent natural feature in the county. Chalk has been worked for many centuries although only a few pits are in operation today. Chalk provides the most important aquifer in the South East region and is the principal source of water supply in West Sussex. The outcrop is largely free of superficial deposits and this combined with high borehole yields and rapid fissure flows means that many groundwater sources and the aquifers generally are highly susceptible to pollution.

Fig. 1 **The geology of West Sussex**

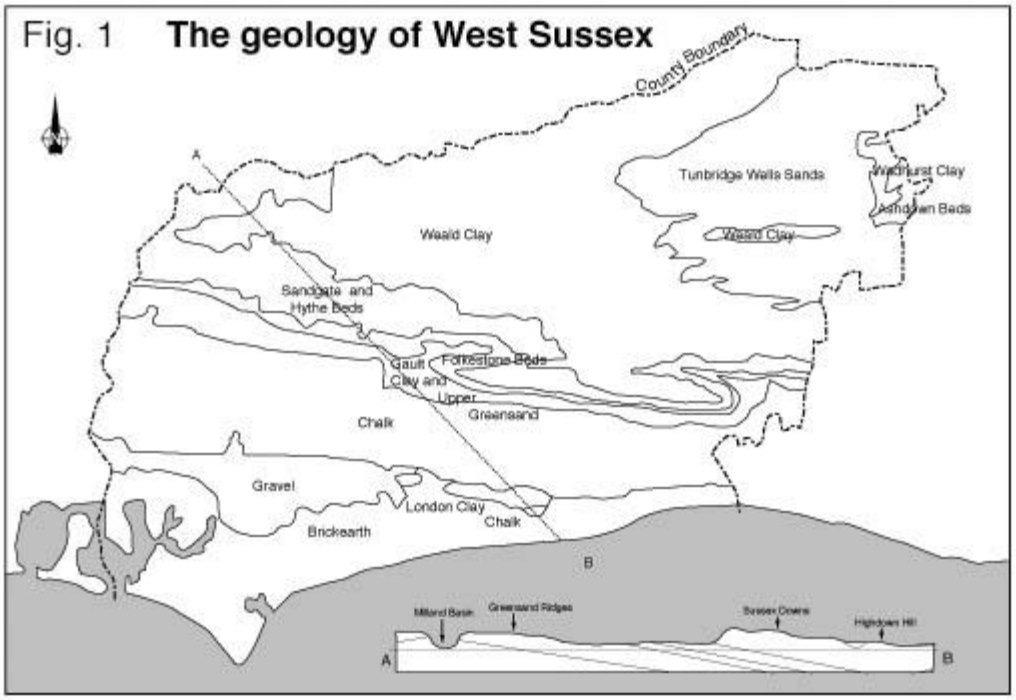


Fig. 2 **Simplified table of geological formations present in West Sussex**

RECENT AND PLEISTOCENE (SUPERFICIAL DEPOSITS)	Eg. ALLUVIUM, COOMBE DEPOSITS, BRICKEARTH ETC.		
EOCENE	LONDON CLAY,		
	WOOLWICH AND READING BEDS		
UPPER CRETACEOUS	CHALK	UPPER CHALK	
		MIDDLE CHALK	
		LOWER CHALK	
LOWER CRETACEOUS	UPPER GREENSAND		
	GAULT		
	LOWER GREENSAND	FOLKESTONE BEDS	
		SANDGATE BEDS	
		HYTHE BEDS	
	WEALDEN SERIES	WEALD CLAY	
		HASTINGS BEDS	TUNBRIDGE WELLS SAND
			WADHURST CLAY
			ASHDOWN SAND
JURASSIC SERIES	NO SURFACE EXPOSED		

2.29 Sand and some building stone is won from the outcrop of the Folkestone, Hythe and Sandgate Beds of Lower Greensand. The Upper Greensand is not currently exploited. In particular, the Folkestone Beds provide a clean sand which varies in particle size and colour and which contains little silt or stone. There are a number of pits, some being worked to considerable depth, for supplies of "sharp" sand (angular grains used mainly in concrete and concrete products, for drainage material and constructional base) and "soft" sand (round grains used mainly as a building sand for mortars and in asphalt), frequently from within the same pit.

These beds form a major aquifer providing water of good quality which is extracted, for example, at Hardham near Pulborough.Weald Clay covers a wide area of the central parts of the County and produces a rolling land form characterised by heavy soils and is used predominantly for pasture and woodland purposes. The material varies from fine silt to shales, silty sandstones and limestones, and in particular includes harder sandstone bands (Horsham Stone) in its lower deposits.

2.30 The brickmaking industry has been long established in the area and a number of pits are worked. Associated brickworks provide Wealden stock bricks of a distinctive character which are much in demand. However, the variability of the clay has caused some problems in brickmaking. The strata is of no importance as an aquifer, having low permeability.

2.31 The lowest exposures of the Wealden series in West Sussex are found in the north east of the County in the High Weald where the Hastings Beds sands, sandstones and clays are exposed. The eroded strata produces the distinctive character of the High Weald Area of Outstanding Natural Beauty east of Horsham and north of Haywards Heath. Wadhurst Clay is exploited at two locations for the manufacture of bricks, and a number of small pits in the Tunbridge Well Sands near West Hoathly have planning permissions to produce good quality masonry stone.

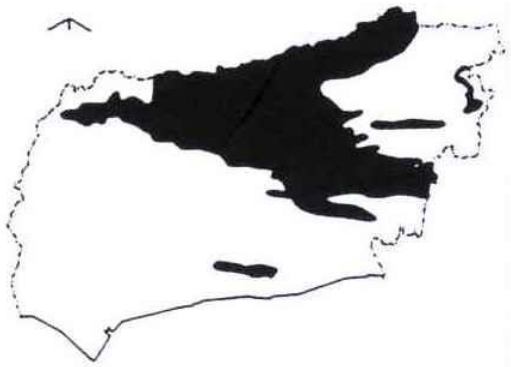
2.32 The later, Eocene, deposits of London Clay and the sandy clays of the Reading Beds overlie the chalk south of the Downs and form the solid geology of the coastal plain. These deposits are almost entirely obscured by recent `drift' deposit of sands, clays and flint gravels which form an important source of aggregate material. The gravels are derived from the weathering of the chalk outcrop during and after the last Ice Age whilst the rich soils which lie above much of the gravel field are derived from wind blown sources. Variations in climate and sea levels have produced distinctly different deposits to the north of a line approximating to the route of the A27 road, compared to those to the south. Coarser, silty gravels lie to the north over the chalk and have been exploited in the dry workings at Hambrook, Lavant, Eartham and Slindon. South of the line the gravels overlie London Clay and are cleaner, better sorted materials but their working results in wet pits which are particularly noticeable around the eastern and southern fringes of Chichester. The underlying hydrology is a significant constraint on working of the gravels in all parts of the gravel field.

2.33 The brickearths are extremely fine fertile soils and most are included within the "best and most versatile agricultural land" category which is identified by surveys undertaken by the Ministry of Agriculture, Fisheries and Food (now the Department for Environment, Food and Rural Affairs (DEFRA) and defined as Land of Grades 1, 2 and 3a (Planning Policy Guidance 7, Annex B para. B2). The river alluviums usually take the form of heavier, clay-like, and less well drained soils of rather lower importance and of no significance for water supply.

MINERAL DEPOSITS IN WEST SUSSEX

2.34 Various minerals are present in West Sussex which are of economic interest. Some present features peculiarly local to this county; for example, sand and gravel deposits are seldom combined in West Sussex, whereas this is more usual elsewhere. Similarly, it is common in West Sussex for both soft and sharp sands to be found within a single pit. Different issues arise from the particular characteristics of the material, the various extraction methods used and the character of the area where working takes place. The following summary highlights these points and deals with each mineral in the order in which it occurs, roughly from north to south, within the County.

CLAY



2.35 Material suitable for brickmaking is contained in subsoils throughout most of the County although there are four principal clay outcrops. During the nineteenth century peak virtually every Parish had at least one tile works or brickyard, but due to a number of factors including rationalisation and amalgamation only eight remain.

2.36 Nationally, clay brick demand has declined since the 1970's with severe falls since 1988, when despatches of clay bricks were 4178 million, to 2710 million in 1995. (Department of the Environment (DoE) figures). Clay bricks represent 92% of brick despatches, the remaining 8% being calcium silicate and concrete. This drop is due to the recession in the construction industry, but more specifically to the fall in the number of total housing starts in the same period from 252.6 thousand (1988) to 169.7 thousand in 1995. Total brick production in the South East was 539 million in 1995 and accounted for 16.6% of the Great Britain total; despatches at 509 million were 17.3%. At the end of 1995, brick stocks in the South East were 173.5 million, the equivalent of 18 weeks demand; the clay brick industry requires a working stock of approximately 8 weeks demand.

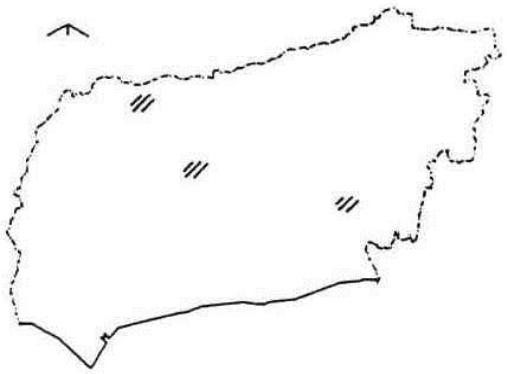
2.37 Because of the wide range of colours and textures, bricks produced in a particular region may be used in other regions or nationally. The rationalisation within the industry with a concentration into large manufacturers with high volume plants able to deliver nationwide has contributed to this. Large manufacturers produce approximately two-thirds of all bricks, but the industry still contains small, family owned, brickworks which make products that are in demand because of their aesthetic qualities. These bricks may attract higher prices than those produced in high volume works, as well as providing local employment as they are more labour-intensive. It is unlikely that a substitute material, capable of producing bricks of comparable quality, will take the place of clay in West Sussex brickmaking in the foreseeable future.

2.38 In West Sussex, the Hastings Beds, which form part of the High Weald, consist of a series of deposits of clays and sands including Wadhurst Clay which is used for brickmaking at two sites, Freshfield Lane Brickworks and West Hoathly. The broad band of Weald Clay, which forms the Low Weald, is of great depth and supports four brickworks at Ashpark, Rudgwick, Warnham and Laybrook and Keymer Tiles at Burgess Hill. A permitted reserve at Southwater is not worked at present. The Gault Clay deposit lies between the Weald and the Downs. It contains a small brickworks at Pitsham near Midhurst and a large clay pit at Small Dole. This used to supply the Shoreham Cement Works but following its closure supplies clay as a cover material for landfill sites. There are no longer any workings in the London Clay outcrop which lies to the south of the Downs, or in the brickearth of the coastal strip.

2.39 In January 1997, permitted reserves of clay in West Sussex were 17,727,000 tonnes. The average annual production of clay over the period 1987-1996 was 294,800 tonnes. During this period a number of sites reduced production as new

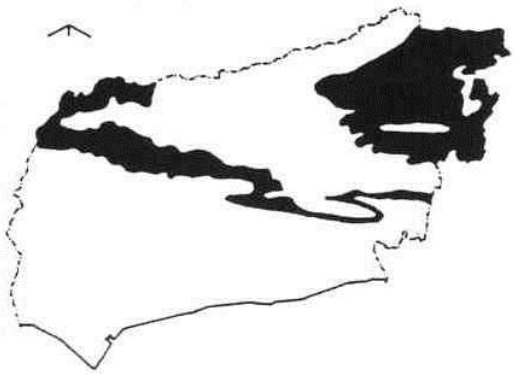
plant was installed interrupting brick making and the building industry experienced a period of recession. However the County has an overall reserve extending to nearly eighty years requirements. Individual works generally have an adequate reserve but at Ashpark and West Hoathly brickworks their reserves may run out before the end of the Minerals Local Plan period in 2006. Clay brick and tile manufacturing is a capital intensive industry and between twenty and thirty years of reserves to support each particular works is generally necessary before large investments are made. All, bar the two works mentioned, have reserves of this size and this has supported the considerable investment made recently in modernising and expanding production facilities and improvements in environmental standards to all the larger brickworks.

FULLERS EARTH



2.40 Fuller's earth is a highly plastic clay with an unusual combination of properties on which its varied industrial applications are based. However, it is more familiar as a constituent of cat litter. It occurs within the Lower Greensand. It is an important mineral which occurs in few places in the United Kingdom and therefore the Government has made particular efforts to identify and protect resources. A deposit has been found in the Petworth area but investigations have shown it to be uneconomic to work at present and no submission has been made during preparation of this Plan. Periodic reviews are undertaken and it is possible, albeit remotely, that at some time in the future the deposit could become important.

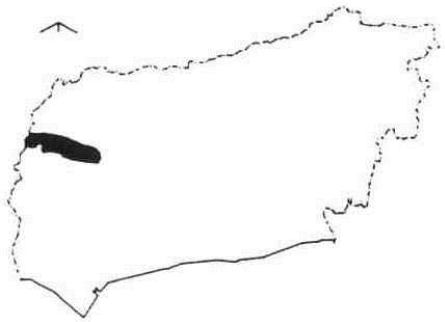
SANDSTONE



2.41 Sandstone in West Sussex is found within the Sandgate and Hythe beds of the Lower Greensand. It used to be worked locally for building- stone and road-stone but generally fails to meet modern construction specifications for aggregates unless it is blended with other material. Large scale extraction occurs at just one location in the County; Bognor Common, Fittleworth. It is considered that the quarry has sufficient reserves to provide for County needs well beyond the Plan period. The Hastings Beds of the Wealden Series also contain sandstones but these are generally of little commercial value because of their variable nature. They consist principally of silty sands but can vary from clay-like silts through to 'massive' sandstone. Horsham Stone is a calcareous sandstone found in the

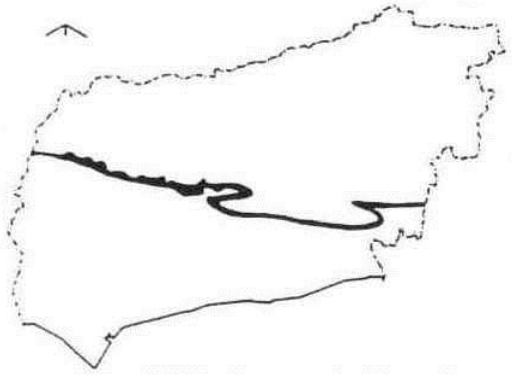
Weald Clay, and is an important traditional material used mainly for paving stones and roofing slabs.

'CLUNCH'



2.42 'Clunch' is the local name given to a grey/white sandy limestone that lies on the north side of the Downs in the Upper Greensand. It is poorly developed in the east of the County but at the western end from Cocking to Harting it forms a prominent ridge, and is especially noiceable at Torberry Hill, west of Harting. In the past the material was extensively worked as a building material and gives a characteristic appearance to many buildings in the area where it is found. At present the material is not worked and no new sites have been considered.

SAND



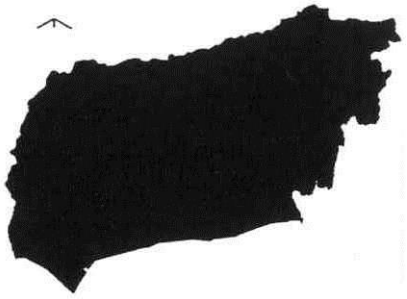
2.43 Sand extraction in West Sussex takes place within the Lower Greensand and in particular the Folkestone Sand Beds. The outcrop of these Beds forms a low ridge below the scarp face (i.e. the steeper north facing slope) of the South Downs covering an area in the region of 5,400 hectares. The deposit is generally thin in the east of the County but its thickness increases in the west. In 1996, ten sand pits were active in the County and produced a total of 720,500 tonnes of material. A further permitted site was inactive. Peaks in sand production were reached in 1964 (1,400,000 tonnes) and in 1988 (1,170,000 tonnes).

2.44 The sand which is extracted is almost pure with little silt or stone. Great variations exist in particle size and colour, which can be a restriction on its application in the building trade, but it is the principal source of building and concreting sand for the whole of Sussex and for parts of south east Hampshire, as well as having specialised uses further afield. The balance between sharp sand and soft sand has shifted in recent years. In 1984, 72% of sand production was soft, but by 1996 this had declined to 68%. This is partly a reflection of the unpredictability of the deposits but is also a consequence of the change in market requirements. Efforts will be made to maintain the supply of a variety of sands during the Plan period.

2.45 The annual average production at sandpits for 1994 to 1996 was 648,100 tonnes. Permitted reserves are estimated (1.1.97) to be 7,516,000 tonnes which would be sufficient for 12 years' supply if recent levels of production were to continue.

While this figure is more than adequate for supply purposes, it is dominated by a single site at Sandgate Park near Storrington. A significant proportion of the reserve lies in the hands of one operator and production decisions could be made which relate less to local matters than to much wider company concerns. There is no indication that company policy will change, but MPG6 advises that circumstances such as these could have a bearing on supply and should be considered in providing for an appropriate Landbank.

HYDROCARBONS (OIL AND GAS)



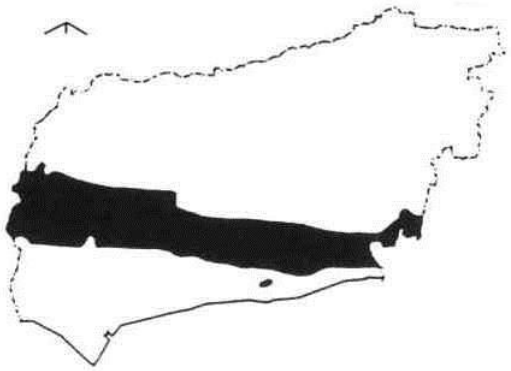
2.46 Geological structures which may bear hydrocarbons underlie much of the United Kingdom. It is government policy to encourage exploration for and production of the County's oil and gas resources, home supplies being more secure than imports. The main sources for hydrocarbons in West Sussex are the faults and folds in the Corallian Beds and the lower Oolites of the Jurassic period which have created structures that have trapped oil and gas. These extend under the whole County.

2.47 The development of onshore oil and gas resources is controlled by the Department of Trade and Industry Licensing and by the County Council's planning powers. A new single licence (Petroleum Exploration and Development Licence, PEDL) covering both exploration and development was introduced in June 1995 and holders of existing licences will be given the opportunity to convert them to PEDLs. In addition, planning permission is required for exploratory boreholes and operational development.

2.48 Since the early 1980s licences have been awarded by the Department of Industry for initial hydrocarbon testing (employing mainly seismic techniques) over much of the County. Exploration by drilling at some sites resulted in the subsequent award of Appraisal Licences under the old system. Borehole drilling occurred at 14 sites. Only three sites proved to be potentially productive and are active or likely to be active during the Plan period. Hydrocarbon production currently takes place at two locations, Singleton and Storrington. Gas produced at Singleton is used to generate electricity for site use and export to the National Grid. This is expected to also take place at Storrington. The remaining site is at Lidsey near Bognor Regis.

2.49 Oil and gas development offshore is also subject to a licensing system, but is mainly outside the planning system. Currently, there are no blocks licensed off West Sussex. All licences previously awarded (5) have now been relinquished, and no commercially extractable deposits have been found. The County is a member of the Standing Conference on Offshore Oil and Gas Exploration (comprising representatives of coastal authorities, both County and District, from Devon to West Sussex) which keeps a watching brief on exploration proposals and any concerns are expressed through the Standing Conference to the Department of Trade and Industry. Development onshore which is ancillary to offshore development is subject to local authority planning control.

CHALK



2.50 The chalk hills of the South Downs, dissected by coombes and steep sided dry valleys, are probably the most well known landscape in the County although they occupy a relatively small area. Chalk is a white, often friable and much fractured limestone consisting of over 95% calcium carbonate. It is remarkably pure for a naturally occurring material. It reaches thicknesses of up to 400 metres in the Downs north of Chichester. The chalk was formed during the Cretaceous geological period which lasted for perhaps 80 million years and ended about 65 million years ago. There are three main subdivisions:-

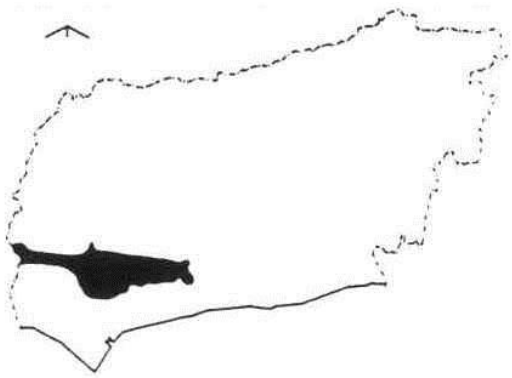
- Lower Chalk, of up to 70 m thick and which is flint free.
- Middle Chalk, approximately 64 metres thick. Flints may be found in the upper beds.
- Upper Chalk, which has a complete thickness of perhaps 200 metres and is composed of the familiar soft white chalk with flints. However, the higher succession is incomplete in Sussex due to erosion.

2.51 Chalk being a microsporous limestone and an aquifer is the principal source of water supply in West Sussex. The quality of the water is usually very good. Care, therefore, needs to be exercised during extraction of the material.

2.52 In West Sussex chalk is extracted primarily for the production of agricultural lime. After drainage, it is the most important aspect of soil husbandry adding essential nutrients and making fertilisers more effective. Chalk is also used as an aggregate for bulk fill in construction projects and some chalk in the County meets the specification for capping layers in road building. The Rustington and Westhampnett bypasses have incorporated chalk partly because it could be readily obtained from local sources. Extraction for cement production ceased in 1991 with the closure of the Shoreham Cement Works, although the pit contains substantial reserves. In ancient times flints taken from chalk pits (and gravel deposits) were used to make tools and their use has continued, mainly for building, to the present day. Flint is an important material in the historic fabric of many West Sussex settlements.

2.53 There are seven, long established, chalk pits in the County with permissions for extraction all of which lie within the Sussex Downs Area of Outstanding Natural Beauty. Two pits are inactive at present. Current reserves are significant although difficult to quantify because some old planning permissions are unclear about the depth of permitted working. However, it is anticipated that current reserves are sufficient for the Plan period.

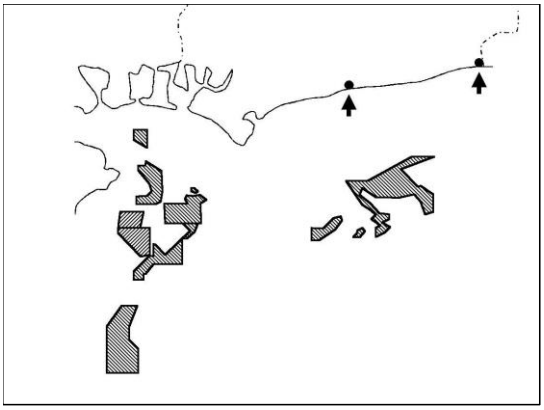
GRAVEL



2.54 Some 7,700 hectares of gravel deposits that extend along the coastal plain to the west of Worthing have accumulated during the 20,000 years since the last Ice Age which affected this area. They reflect changes in climate and sea level and the gradual erosion of the once much higher chalk hills. During the later part of the Ice Age this area was in a semi frozen state and during the contemporaneous very rapid erosion of the Downs, a sludge-like deposit of mixed chalk, clay and flint slumped off the hills over the coastal plain. As it moved, streams sorted the coarse and fine materials so that today coarse unworn flint gravels are found immediately on the break in the slope below the Downs (for example at Lavant, Eartham and Slindon), while finer more evenly graded material (Coombe deposits) occurs in the area south of Chichester. Action by the sea and wind both before and after the deposit of the gravels has produced great variations in deposits. It is difficult to determine their precise nature without extensive survey work. In addition, chalk pinnacles thrusting up through the gravel deposits are a feature peculiar to West Sussex and can cause difficulties in working. A high water table is present in the lower terrace deposits around Chichester where the gravels overlie the Reading Beds and London Clay deposits.

2.55 The gravel deposits in the County are of significant economic importance and have been extensively exploited. The annual average production at gravel pits 1994 to 1996 was 255,400 tonnes. Permitted reserves (1.1.02) are estimated to be 830,000 tonnes which would be sufficient for 2.0 years of supply if recent levels of production were to continue.

MARINE DREDGED AGGREGATES



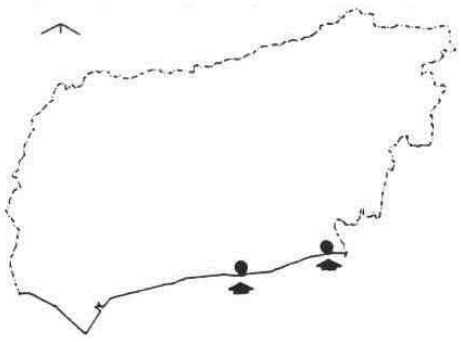
2.56 In addition to the land won sources, a significant contribution to aggregate production in West Sussex comes from the seabed. There are six licensed areas located between the Isle of Wight and Shoreham, these being dredged by five companies. Applications for three further dredging licences are being considered at present. Nationally, in 1989, marine aggregates totalled 20 million tonnes (8%) of total sand and gravel consumption. In 1991 the quantity of marine

dredged material landed in West Sussex outstripped the production of land won aggregates in the County for the first time. In 1996, 687,700 tonnes of marine aggregates were landed at Shoreham and 186,460 tonnes at Littlehampton.

2.57 The County Council's planning powers do not extend below mean low water but it does have power, under the Coast Protection Act 1949, to control dredging of sand and gravel up to within 3 miles of the coast. Most of the seabed below mean low water is owned by the Crown Estate which licenses aggregate dredging on a commercial basis. It will, however, only do this if the Government first issues a favourable 'Government View' (GV) on the proposed dredging operations. The GV procedure is administered by the Office of the Deputy Prime Minister. Every application for a GV is subjected to wide consultation and to Environmental Impact Assessment.

2.58 The County Council is charged by the Government with safeguarding existing minerals wharves in West Sussex. There are currently four active wharves; three at Shoreham and one at Littlehampton. The authorities at both ports have made clear their wish to expand trade generally. Minerals are the significant proportion of traffic through Shoreham and Littlehampton ports and the mineral operators have also signalled their intentions by investing in new plant and ships to serve the wharves. The planning authorities support the improved operation of the seaports and would encourage the provision of better access at Shoreham to minimise the environmental impact of road traffic. There are problems with maintaining the channel at Littlehampton. Wharfage for aggregate handling at both ports is not currently used to full capacity and could tranship greater volumes of material if the demand for aggregates increases. Any new processing facilities to meet this increase would require planning permission. At both ports, consideration of development requiring planning permission will include an assessment of the effects of additional traffic generation and the environmental impact of increased numbers of heavy vehicles, particularly on nearby residential areas.

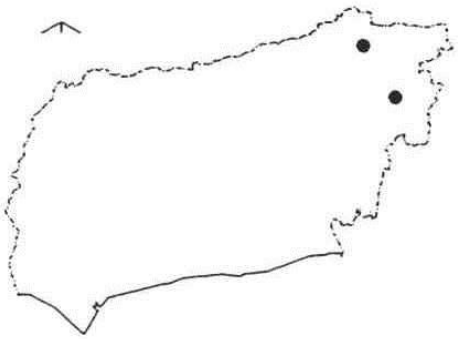
SEA-BORNE IMPORTS



2.59 The supply of crushed rock by sea to West Sussex is well established and increasing. In 1992 45,000 tonnes were imported but by 1996 this had increased to 111,300 tonnes. The substantial increase in crushed rock imports associated with superquarries (those capable of producing at least 5 mt per year and with reserves of at least 150mt) outlined in MPG6 could begin to have some impact on wharfage in the South East during the latter half of the Plan period. It is not clear how the material would be distributed throughout the region, but it is likely to be by transhipping by sea from large landing areas outside the County, onto a combination of rail and road transport systems.

2.60 Two wharves at Shoreham are employed for the importation of other minerals by sea. One company imports marble, dolomite and calcites for use as fillers, and one other handles phosphorus slag and lytag, which are secondary/recycled aggregates used mainly in the manufacture of construction material.

RAIL IMPORTS



2.61 There are two rail depots where aggregates are handled within West Sussex; at Crawley, from which three companies operate, and at Ardingly. In total they dealt with 566,390 tonnes of minerals in 1996, a 43% decrease from the 1989 peak. The total figure comprises crushed rock from a Scottish super quarry, crushed limestone and other hard rock from Somerset and marine dredged sand and gravel from East Sussex. Although these aggregates are brought into the County, the majority are then exported again to London and other South East counties.

2.62 To handle the proposed increase in sea-borne crushed rock imports outlined in MPG6, and in accordance with Policy ERA5 of the West Sussex Structure Plan 2001-2016 Deposit Draft, the County Council will seek to encourage an increase in the use and number of rail depots in the County. This is seen as a potentially important means of reducing the number of heavy goods vehicles using routes into the County, although local deliveries from the depots are still made by road. It is perhaps ironic that the use of the rail depots within the County is constrained, principally by the surrounding road networks. If more superquarries, well beyond the County boundary, become operational towards the end of the Plan period, there may be a need for an increase in aggregate movements by rail. Some specialist materials for industrial purposes are brought in by road. More usually, sand and gravel is imported over relatively short distances of up to twenty miles.

SECONDARY/RECYCLED AGGREGATES

2.63 It is Government policy that the production of secondary and recycled aggregates in the South East should provide approximately 10 million tonnes each year (MPG6) which is a small increase over the assumptions included in the 1989 National Aggregate Minerals Survey (+0.7%). There is no accurate figure for the current use of secondary materials because much takes place on an ad hoc basis, for example on building sites. Sites suitable for the location of waste recycling for secondary aggregates might be found and permitted countywide. There are currently nine locations where the recycling of waste building material is permitted. Of these sites seven are the subject of temporary planning permissions. Production was surveyed for the first time in 1994. The County Highway Authority is encouraging its own contractors to recycle the road planings produced during road surfacing, and which used to be wasted. In 1992 some 2,046t of bitumen were recycled together with 432t of pulverised planings and cement.

3. CONSERVING MINERAL RESOURCES

INTRODUCTION

3.1 The County Council, in accordance with Government policy and with its own initiatives, in particular the Structure Plan, supports the principle of sustainable development as a central objective to this Plan. Great weight will be attached to ensuring that the development of land for mineral extraction meets present needs whilst not reducing opportunities available for future generations. This will include ensuring that it will not cause irretrievable loss of significant natural or cultural resources or important environmental assets, nor prejudice the ability of future generations to meet their needs or enjoy a quality of life at least equivalent to that available to people today.

3.2 **POLICY 1: THE MINERAL PLANNING AUTHORITY IS COMMITTED TO THE PRINCIPLE OF SUSTAINABLE DEVELOPMENT. MINERAL WORKINGS WILL BE PERMITTED ONLY WHERE: -**

(a) WORKING PRACTICES WHICH CAUSE LEAST ENVIRONMENTAL HARM WILL BE FOLLOWED; AND

(b) OPPORTUNITIES TO CONSERVE AND ENHANCE THE ENVIRONMENT ARE INCORPORATED IN PROPOSALS TO RECLAIM THE LAND TO A STANDARD APPROPRIATE TO THE AGREED AFTER USE.

3.3 Minerals are finite in their natural state and can only be worked where they are found. Opportunities to extract new material in West Sussex are strictly limited. In accordance with the principle of sustainable development it is necessary that resources which are, or are likely to be, of economic importance are husbanded so as to last as long as possible. They should be used only when necessary and ideally quality material should not be wasted by being used when an inferior product would meet specifications.

SAFEGUARDING RESOURCES

3.4 Natural mineral resources should not be sterilised by development which could take place elsewhere. Where development is to be permitted, every effort should be made to remove underlying minerals from the site either before building begins or by phasing development with extraction. However, where the extraction would itself cause unacceptable environmental disturbance, it may have to be accepted that mineral resources may be sterilised. The West Sussex Structure Plan 2001-2016 Deposit Draft, provides a general policy to this effect (Policy ERA5). Where the economic importance of particular deposits is uncertain, the potential developer will be expected to submit details of site testing to the satisfaction of the County Council.

3.5 District Councils consult the County Council formally in relation to all planning applications of strategic importance, as set out in the Development Control Scheme. The County Council notifies all District Councils formally of the presence of important mineral resources by means of a map defining `safeguarded areas'. District Planning Authorities are obliged to consult the County Council upon applications for any form of development received within these areas which are likely to affect or be affected by mineral working. On behalf of the County Council, the District Council may require mineral related information to be supplied by the applicant. The inclusion of land on this map does not mean necessarily that planning permission will be granted for mineral extraction and there may be sound planning reasons why proposals would be rejected. Rather it

initiates consultation to ensure that mineral interests are taken into account at the right time.

3.6 **POLICY 2: THE MINERAL PLANNING AUTHORITY WILL TAKE ACCOUNT OF THE PRESENCE OF MINERAL RESOURCES IN CONSIDERING ALL THE PLANNING APPLICATIONS IT DETERMINES AND ALL THOSE UPON WHICH IT IS CONSULTED. DEVELOPMENT WILL GENERALLY BE RESISTED IF IT WOULD PREVENT OR HINDER THE EXTRACTION OF MINERALS WHICH ARE, OR ARE LIKELY TO BECOME, OF ECONOMIC IMPORTANCE.**

REDUCE, REUSE AND RECYCLE

3.7 The Government is encouraging a reduction in the use of primary minerals by promoting better efficiency and the bringing into use of more secondary, waste and recycled substitutes. If successful this will help to maintain supply while tending to reduce demand for land won mineral extraction.

3.8 The Government is examining how to reduce construction and other specifications to make better use of lower quality materials. Where appropriate this would include not only secondary and recycled aggregates but also naturally occurring minerals. Secondary aggregates can be produced as by-products of other processes, from material such as boiler ashes and burned clay. In West Sussex chalk is sometimes regarded as a secondary aggregate as it can be used as a substitute for primary aggregates (such as gravel and marine dredged ballast) in low specification applications, especially in some aspects of road building. Recycled aggregates on the other hand are obtained from processing waste material, especially that in which primary aggregates were used in its original construction, e.g. broken concrete. In this way, reserves of better quality minerals would be retained for selective use. This effect will also be influenced by matters which lie outside planning control, such as pricing and availability. The County Council can play a part by encouraging a variety of materials of different specifications to be made available to local markets, for example by permitting some limited imports and blending to take place in association with mineral workings. This will need to be strictly controlled to ensure that blending does not dominate or unnecessarily prolong the use of those sites where the Mineral Planning Authority is seeking early reclamation and where demonstrable harm would be caused to amenity and the environment.

3.9 It should be noted that a number of secondary aggregates are supplied for use within the County. For example, the phosphorus slag and lytag landed at Shoreham is used in the manufacture of construction blocks. The County Council, in issuing its own contracts, will strive to reduce specifications where appropriate. The minerals, construction and manufacturing industries all have a role to play in pursuing the more efficient use of raw material and reducing the quantity of wastes produced.

3.10 **POLICY 3: PLANNING APPLICATIONS FOR THE EXTRACTION OF LOW GRADE MINERALS IN APPROPRIATE LOCATIONS, INCLUDING THE PROCESSING OF THESE OR OTHER SIMILAR MATERIALS AT CURRENT MINERAL EXTRACTION SITES, WILL BE CONSIDERED FAVOURABLY WHERE IT IS DEMONSTRATED TO THE SATISFACTION OF THE MINERAL PLANNING AUTHORITY THAT:**

(a) THE RANGE OF MATERIALS ALREADY AVAILABLE TO LOCAL MARKETS WILL BE EXTENDED WITH LOWER GRADE OPTIONS, IN PARTICULAR, SECONDARY AND LOWER GRADES OF AGGREGATES; AND

(b) PROCESSING AT CURRENT MINERAL EXTRACTION SITES WILL BE UNDERTAKEN IN CONJUNCTION WITH THE EXTRACTED MINERAL; AND

(c) SUCH OPERATIONS WILL NOT HAVE AN UNACCEPTABLE IMPACT ON THE ENVIRONMENT AND WILL NOT CAUSE AN UNACCEPTABLE LEVEL OF DISTURBANCE INCLUDING THE GENERATION OF NOISE, DUST AND TRAFFIC.

3.11 It has been estimated nationally that in 1989 some 10% of aggregates used in the construction industry came from secondary and recycled sources. It is generally accepted that a substantial amount of recycling occurs that is unrecorded, for example, not all operations require planning permission especially where mobile equipment is used at demolition sites. The Department of Transport, Local Government and the Regions worked to establish monitoring systems to measure production against its policy targets. MPG 6 advised that the use of secondary aggregates in the South East should increase from approximately 10 million tonnes each year to over 16 million tonnes. In West Sussex, material is recycled on site in association with many building and other projects and there has been an increase in the capacity for crushing and thereby recycling concrete by means of mobile recycling plants which operate from several sites within the County. The County Highway Authority undertakes in situ recycling in association with road construction projects.

3.12 There is a growing interest in establishing recycling sites in West Sussex as expressed by mineral and waste disposal operators and other contractors. However, the amount of material produced for re-use is dependent upon local and temporary factors, for example major construction projects, and therefore it can be difficult to secure sufficient, steady supplies of raw material, particularly in locations some distance from urban areas. Recycled products have to compete with primary aggregates which are found in easy proximity to urban market areas in West Sussex and transport costs are a significant factor in pricing. While recycled material used for lower grade applications may be cheaper than primary aggregates, the cost of producing higher performance products may result in uncompetitive prices. Several schemes have demonstrated a tendency to expand into other areas of recycling and the difficulties in focusing on a single product. Nevertheless, there would appear to be potential for an increase in the production and use of recycled construction material in the County. An average of some 266,000 tonnes of construction and demolition waste was produced and disposed of at licensed sites in West Sussex each year during the period 1990/91 to 1994/95, and a further average of 164,000 tonnes was imported each year for disposal. Not all of this was suitable for recycling but the Mineral Planning Authority intends to capitalise on this resource by encouraging recycling where appropriate. Given the factors discussed above and until better information becomes available, it is considered inappropriate to set a particular target for West Sussex in this Plan. However the Mineral Planning Authority recognises the need to strive for the attainment of the regional target of a 60% increase in the volume of secondary aggregate from this source by 2006 and that considerable weight has to be given to the broad environmental advantages of doing so when considering the acceptability of proposed operations in a particular location.

3.13 While knowledge of recycling is incomplete an examination of trends has indicated that policies at the present time need to be sufficiently flexible to encourage investment and trial schemes to assist the industry in establishing a firmer footing in the longer term. The County Council considers that two types of facility are required.

3.14 The first is a relatively temporary facility linked firmly to an existing mineral extraction or landfill operation where recycling is a subordinate activity but where

there is potential to serve a local market. This would enable full advantage to be taken of an established commercial enterprise. However, it is recognised that the cumulative effect of introducing recycling to existing minerals and landfill sites in relation to noise, dust and traffic and the possible prolonging of disturbance in the locality will make suitable sites difficult to find. Local Liaison Groups will be a useful means of helping monitor recycling activities and may already be established where minerals sites are selected for recycling. Applications will be considered in relation to policies included in this Plan to protect the environment, especially residential amenity; they will not be permitted where reclamation of the site is imperative; and they will be granted on a temporary basis to enable the need for the facility and the impact on the environment to be reviewed periodically. Temporary recycling facilities on the appropriate sites may be permitted.

3.15 In the longer term a few permanent recycling facilities are likely to meet most of the County's needs, although they may be supplemented by a small number of temporary enterprises. Permanent facilities will need to be located where they will serve established, permanent markets and good access will be essential. The impact on the environment and residential amenity will be important considerations. It may be appropriate for permanent recycling facilities to be combined with the import, storage, blending and sale of other primary and secondary aggregates or possibly with other waste handling and recycling operations.

3.16 Having regard to the above, one site can be identified as having potential for permanent recycling facilities and this is at Portfield near Chichester. The Portfield site provides aggregate processing and is a significant aggregate distribution centre. Temporary permission for a small recycling operation has recently been granted for a trial period (still operational in 2002) and it is considered that there may be potential to increase production provided the activity is contained within the acknowledged site boundaries. Recycling could complement the existing function of the site without prejudicing the reclamation of adjoining mineral workings. The identification of permanent recycling centres, particularly if associated with other waste operations, is more appropriate to the forthcoming Waste Local Plan and other possibilities might emerge in the near future. The County Council is committed to recycling as a component of sustainable minerals planning and the inclusion of general policies to encourage recycling to provide secondary aggregates is considered essential to this Plan. The site at Portfield is included in Appendix 4 to this Plan as a safeguarded depot in order to affirm its potential and ensure that this is taken into account fully should proposals to develop it for other purposes be put forward.

3.17 The advantages of using secondary aggregates clearly relate to reducing the demand on primary sources. However, the regional policy apportionment for future primary aggregates has been established in full recognition of the regional policy objectives and targets for securing a substantial increase in secondary material. Consequently, the implementation of these objectives would not necessarily result in a reduction in the primary aggregate requirement, known as the apportionment.

3.18 **POLICY 4: FAVOURABLE CONSIDERATION WILL BE GIVEN TO RECYCLING OPERATIONS IN APPROPRIATE LOCATIONS TO ENABLE REGIONAL TARGETS FOR THE USE OF SECONDARY AGGREGATES TO BE MET, IF IT CAN BE SHOWN TO THE SATISFACTION OF THE MINERAL PLANNING AUTHORITY THAT:**

(a) SUCH OPERATIONS WILL NOT HAVE AN UNACCEPTABLE IMPACT ON THE ENVIRONMENT; AND WILL NOT CAUSE AN

UNACCEPTABLE LEVEL OF DISTURBANCE INCLUDING THE GENERATION OF NOISE, DUST AND TRAFFIC; AND

(b) WHERE PLANNING PERMISSION HAS BEEN GRANTED FOR ONE RECYCLING OPERATION IN THE LOCALITY, THE CUMULATIVE EFFECT OF AN ADDITIONAL FACILITY WILL NOT LEAD TO AN UNACCEPTABLE LEVEL OF DISTURBANCE FROM SITES OPERATING SIMULTANEOUSLY.

APPROPRIATE LOCATIONS MAY INCLUDE CURRENT OR FORMER MINERAL WORKINGS WHERE THE CRITERIA SET OUT IN POLICY 5 ARE SATISFIED.

3.19 **POLICY 5: WHERE SECONDARY AGGREGATE RECYCLING OPERATIONS ARE PROPOSED AT CURRENT OR FORMER MINERAL EXTRACTION SITES THE MINERAL PLANNING AUTHORITY IN CONSULTATION WITH THE LOCAL LIAISON GROUP WILL HAVE REGARD TO:**

(a) WHETHER THE CURRENT RECLAMATION SCHEME FOR THE SITE AS A WHOLE (INCLUDING ITS TIME SCALE) IS SATISFACTORY AND ITS IMPLEMENTATION IMPERATIVE; AND

(b) WHETHER THE SCALE AND EFFECT OF THE RECYCLING OPERATIONS CAN BE UNDERTAKEN IN ASSOCIATION WITH MINERAL WORKING OR OTHER RECYCLING ACTIVITIES ON THE SITE WHILE COMPLYING WITH POLICY 4.

3.20 **POLICY 6: PERMISSIONS GRANTED FOR SECONDARY AGGREGATE RECYCLING OPERATIONS MAY BE LIMITED TO A TEMPORARY PERIOD, PARTICULARLY IF THE OPERATIONS ARE AT MINERAL WORKING SITES WHICH ARE THEMSELVES OF A TEMPORARY NATURE.**

3.21 **POLICY 7: CONDITIONS WILL BE IMPOSED ON PERMISSIONS FOR RECYCLING OPERATIONS TO SECURE WORKING PRACTICES WHICH CAUSE LEAST ENVIRONMENTAL HARM AND WHERE APPROPRIATE WILL INCLUDE RESTRICTIONS ON:**

(a) NOISE GENERATION;
(b) HOURS OF WORKING;
(c) DUST GENERATION; AND
(d) ACCESS

3.22 **POLICY 8: WHERE RECYCLING ACTIVITY IS OF A TEMPORARY NATURE CONDITIONS WILL REQUIRE:**

(a) PLANT TO BE REMOVED WHEN OPERATIONS CEASE;
(b) THE SITE TO BE RESTORED TO A STANDARD APPROPRIATE TO THE AGREED AFTER USE; AND
(c) BOTH (a) AND (b) TO BE COMPLETED WITHIN AN AGREED PERIOD OF TIME.

ARRANGEMENTS RELATING TO LORRY ROUTEING WILL BE SOUGHT WHERE NECESSARY TO MINIMISE THE EFFECT OF TRAFFIC ON LOCAL COMMUNITIES.

BORROW PITS

3.23 In the case of borrow pits it is known precisely where and for what purpose the material is to be used. This provides an opportunity to encourage the use of

either material of the lowest specification appropriate to the construction project concerned, or of material that would not otherwise have been worked because of environmental or commercial factors. The extraction of material from small sites close to the construction project may be preferable to handling material from existing but distant sites. However, care needs to be exercised to ensure that the right safeguards are applied during the operation to protect residential and other amenity, and to ensure satisfactory reclamation. Reclamation in these circumstances can often be very effective because of the short periods involved but unless carefully controlled, the timescale can give rise to serious difficulties if the contractor completes the main project and moves on before the borrow pit is restored. Therefore, it is important to settle detailed matters at the outset and to establish who is to be responsible for the physical and financial aspects of reclamation. In exceptional circumstances where there is reliable evidence of the likelihood of either financial or technical failure or where novel techniques are to be used with respect to the restoration and aftercare of borrow pits, bonds may be sought.

3.24 **POLICY 9: THE COUNTY COUNCIL WILL SUPPORT PROPOSALS FOR BORROW PITS IN APPROPRIATE NEARBY LOCATIONS TO PROVIDE FOR MAJOR CONSTRUCTION PROJECTS, PARTICULARLY WHERE MATERIAL WILL BE WORKED WHICH WOULD NOT OTHERWISE HAVE BEEN EXPLOITABLE FOR COMMERCIAL OR ENVIRONMENTAL REASONS, PROVIDED THAT:-**

(a) MATERIAL FROM THE BORROW PIT IS USED ONLY IN CONNECTION WITH THE CONSTRUCTION PROJECT SPECIFIED;

(b) THE CUMULATIVE EFFECT UPON THE ENVIRONMENT OF EXTRACTION FROM A BORROW PIT AND THE RELATED CONSTRUCTION PROJECT IS ACCEPTABLE;

(c) PROVISION IS MADE FOR THE PIT TO BE RECLAIMED TO AN APPROPRIATE STANDARD AND WITHIN AN ACCEPTABLE TIME, WHERE POSSIBLE USING MATERIAL ARISING FROM THE ASSOCIATED CONSTRUCTION PROJECT; WHERE RECLAMATION TO AGRICULTURAL LAND IS PROPOSED, AN AFTERCARE SCHEME WILL BE REQUIRED AS AN INTEGRAL PART OF ANY PLANNING APPLICATION FOR A BORROW PIT; AND

(d) THE BEST WORKING PRACTICES WILL BE EMPLOYED TO LIMIT THE GENERATION OF NOISE, DUST AND TRAFFIC, AND TO PROVIDE SATISFACTORY ACCESS.

4. PROTECTING THE ENVIRONMENT

THE COUNTRYSIDE

4.1 Government policy, the West Sussex Structure Plan 2001-2016 Deposit Draft, and the various District Council Local Plans in West Sussex emphasise the value of the countryside, acknowledge the pressures being experienced and attempt to balance conservation objectives and development needs. The underlying geology provides the foundation for the landscape character of the County. Conflicts can arise when minerals become of economic interest.

4.2 In 1999, there were forty-two active or potentially active mineral workings with planning permission within the county of which twenty four lie within the Sussex Downs or High Weald Areas of Outstanding Natural Beauty (AONB). Two sites lie adjacent to Sites of Special Scientific Interest (SSSI); but a further nine are themselves SSSIs, eight of which have revealed features of geological interest. The remaining one has been recolonised and provides habitats for plants and animals now scarce elsewhere. A number of other workings provide useful habitats where, for example, by sympathetic management of quarrying, disturbance to nesting bird communities is minimised. There are many examples of old workings which are of considerable value to conservation interests. English Nature is promoting the identification of a voluntary network of Regionally Important Geological/Geomorphological Sites (RIGs) in order to secure the protection and management of interesting geological features for educational purposes. On occasion these have been uncovered by quarrying; and pit owners and operators have been helpful in making special arrangements to conserve them. An on-going survey of West Sussex is being undertaken by qualified volunteers.

4.3 Whilst current archaeological policies and techniques would prefer other approaches, in cases of unexpected finds, there can also be archaeological benefits to sympathetic quarrying. The following example is of interest but is not normal as the site evolved from the 1960's onwards, before the incorporation of archaeological matters into planning policy and practice. In 1994, the shinbone of a hominid dating back 500,000 years was discovered in a gravel pit near Chichester. More recently, two hominid teeth, apparently from the same jaw, have been removed from levels below the earlier find. These finds are as early as any reliably dated human remains found outside Africa and confirms that the research project which has been undertaken here since the early 1980s by Dr. Mark Roberts of the Institute of Archaeology, is of international importance. In addition to undertaking a meticulous record of the archaeological deposits, the project has studied the geography and land form of Sussex as it would have appeared half a million years ago. Looking ahead, the project aims to model the geography of Europe at that time, to establish the route taken by these early peoples when they left Africa and began the process of colonisation.

4.4 The Mineral Planning Authority considers that in West Sussex preference should be given to extraction outside areas protected by statutory designation. However, there are areas of more local conservation importance, and other areas of countryside which while having no special protection are enjoyed and valued for their own sake. Nevertheless, these areas would not be afforded the same degree of protection as those with statutory designations. Mineral extraction usually involves a loss of agricultural land, forestry and amenity in the rural area, albeit temporarily, and therefore applications for mineral working will need to satisfy certain criteria before receiving approval. It is government policy to protect the "best and most versatile" agricultural land from irreversible development and mineral working will not normally be permitted on higher grade land when land of

a lower grade is available. The "worst first" principle is set out in Planning Policy Guidance 7, (revised February 1997), (para 2.18).

4.5 Mineral working can also affect residential amenities and the built environment due to noise, dust and visual impact, and haulage traffic spreads the effect beyond the immediate vicinity of workings. On balance, the benefits will need to outweigh the environmental disadvantages particularly in relation to meeting sustainable development objectives.

4.6 Most sand deposits, sandstone, chalk and some clay lie within Areas of Outstanding Natural Beauty. The richest gravels often underlie the "best and most versatile" quality agricultural land (see Glossary), for which they provide excellent drainage. It is in the national interest to protect this agricultural resource and where there is an unavoidable effect on land of this quality, its reclamation to an appropriate standard for the future must be sought. The land is brought to the required standards when its physical characteristics are restored, so far as it is practicable to do so, to what they were when it was last used for agriculture (Schedule 5, paragraph 3.1 of the Town and County Planning Act 1990 (as amended). The advice of the Department for Environment, Food and Rural Affairs (DEFRA), will be sought in such cases. However, if West Sussex is to continue to obtain, from local sources, the supply of minerals it needs, then appropriate compensating measures must be found which respect these environmental factors.

4.7 The West Sussex Structure Plan 2001-2016 Deposit Draft reflects Government policy by allowing mineral extraction to take place in areas where other development would not normally be permitted (ERA5). There are two main reasons:

(a) minerals can only be worked where they are found; and

(b) mineral extraction is a "temporary" activity and properly reclaimed sites should leave no unwelcome traces or undesirable impact.

4.8 The mineral planning authority has sought a means of reconciling these conflicts which will enable West Sussex to contribute to the supply of minerals in line with government policy but which takes full account of the outstanding quality of the countryside which overlies most deposits, and of the interests of local residents. This is not an easy task but it has been concluded that where planning applications are submitted, they will be examined rigorously to take account of the likely impact of mineral extraction upon the countryside. Mineral resources will not be excluded from consideration as a matter of principle, simply because they are located within sensitive areas. However, it is necessary to understand whether such areas have any capacity for change and if so, at what point unacceptable environmental damage is likely to occur. The main consideration is whether or not environmental resources can be maintained, replaced or recreated in an acceptable way and within an acceptable time. For example, in some instances, it may be possible to phase mineral extraction so that particular habitats can be maintained within the quarry area as a whole by progressively working and restoring different portions of the site.

4.9 Those areas in West Sussex which contain the most important natural and cultural resources have been given statutory protection. These include land designated under the Ramsar Convention, Special Protection Areas for Birds, Areas of Outstanding Natural Beauty, National Nature Reserves, Sites of Special Scientific Interest and Sites of Scheduled Ancient Monuments and Listed Buildings. Scheduled Ancient Monument consent will be required in addition to planning permission for any development located within the designated area of such a monument. In some instances nationally important archaeological remains may

not be scheduled. The settings of all such monuments whether scheduled or not may also be important. In particular, the site where Boxgrove Man was discovered had no statutory protection: it is therefore important to provide a measure of safeguarding through this Plan.

4.10 Areas that have been statutorily designated will be afforded a high degree of protection, in line with government policy. In addition, priority will be given to maintaining the objectives of the given designation e.g. conservation of the natural beauty of the landscape in Areas of Outstanding Natural Beauty. Consequently, applications for minerals development in these areas will be subject to the most rigorous examination and demonstrated to be in the public interest before being allowed to proceed.

4.11 Scheduled Ancient Monuments other archaeological sites of national importance, listed buildings and sites given statutory protection for nature conservation will similarly be afforded a high degree of protection, with priority given to maintaining the objectives of the designation. Proposals for mineral development in these areas will be subject to the conditions outlined above.

4.12 **POLICY 10: PROPOSALS FOR MINERAL WORKING WHICH MAY IRREVERSIBLY DAMAGE STATUTORILY DESIGNATED SITES OF HISTORIC, ARCHITECTURAL, NATURAL OR SCIENTIFIC INTEREST WILL ONLY BE GRANTED IF THE DAMAGE CAN BE PREVENTED OR THE NEED FOR THE MINERAL OUTWEIGHS THE ENVIRONMENTAL OBJECTIONS RELATING TO THOSE DESIGNATIONS.**

POLICY 11: WHERE NATIONALLY IMPORTANT ARCHAEOLOGICAL REMAINS, WHETHER SCHEDULED OR NOT, ARE AFFECTED BY PROPOSED MINERAL WORKING THERE WILL BE A PRESUMPTION IN FAVOUR OF THEIR PHYSICAL PRESERVATION IN SITU. WHERE SUCH REMAINS AND THEIR SETTINGS MIGHT BE ADVERSELY AFFECTED BY SITE RESTORATION WORK, OR BY OTHER DEVELOPMENT, THEN PROTECTION OF THE ARCHAEOLOGY AND THE INTEGRITY OF THE SITE WILL BE AFFORDED PRIORITY.

4.13 Other areas within the countryside may be able to accommodate mineral extraction without permanently losing their overall character and quality, and there may be opportunities for landscape enhancement, reclamation of derelict land (perhaps left as a legacy of earlier mineral workings) or the creation of new habitats.

4.14 Within these areas mineral working might be contemplated under two sets of circumstances. First, the existing character may be such that the landscape should be returned as closely as possible to its original form. Provided this is a practicable proposition, extraction proposals may be permitted. Alternatively, workings may provide an opportunity to introduce a new feature, such as woodland, a lake or heathland which would enhance conservation or amenity resources (PPG9 Nature Conservation). This approach would be appropriate where there is a need to maintain the overall character and quality of the area but where additional environmental benefits can be achieved. The landscape assessments undertaken by the West Sussex County Planning Department and the Sussex Downs Conservation Board help provide a context for considering the impact of mineral working and formulating positive reclamation proposals.

4.15 It is considered that some scope for carefully planned workings exists within the Area of Outstanding Natural Beauty, although applications will be subject to the most rigorous examination which will include an assessment of the criteria set out in Policy 12.

4.16 **POLICY 12: SOME MINERAL WORKING MAY BE ACCOMMODATED WITHIN AREAS OF OUTSTANDING NATURAL BEAUTY, BUT MINERAL WORKINGS CONSIDERED LIKELY TO DAMAGE IRREVERSIBLY THE INTRINSIC QUALITIES OF THESE AREAS WILL BE REFUSED. THE HIGHEST STANDARDS WILL BE REQUIRED IN ALL MEASURES TO MITIGATE THE IMPACT OF WORKING AND TO PROMOTE RAPID RECLAMATION, UNLESS IT CAN BE DEMONSTRATED THAT RAPID RECLAMATION IS NOT PRACTICABLE. MINERAL APPLICATIONS WILL BE SUBJECT TO THE MOST RIGOROUS EXAMINATION WHICH WILL INCLUDE AN ASSESSMENT OF:**

(a) THE NEED FOR THE DEVELOPMENT, IN TERMS OF NATIONAL CONSIDERATIONS OF MINERAL SUPPLY; AND THE IMPACT OF PERMITTING THE DEVELOPMENT, OR REFUSING IT, ON THE LOCAL ECONOMY;

(b) WHETHER ALTERNATIVE SUPPLIES CAN BE MADE AVAILABLE AT REASONABLE COST; AND THE SCOPE FOR MEETING THE NEED IN SOME OTHER WAY;

(c) ANY DETRIMENTAL EFFECT OF THE PROPOSALS ON THE ENVIRONMENT AND LANDSCAPE AND THE EXTENT TO WHICH THAT SHOULD BE MODERATED; AND

(d) IN THE CASE OF EXTENSIONS TO EXISTING WORKINGS, THE EXTENT TO WHICH THE PROPOSAL WOULD ACHIEVE AN ENHANCEMENT TO THE LOCAL LANDSCAPE.

4.17 It is emphasised that stringent tests should be applied to workings proposed within sensitive areas and that the mineral planning authority will need to be assured that the overall long term benefits of extraction and reclamation proposals outweigh potential disadvantages. Applicants will be encouraged to submit detailed information showing how the criteria set out in policy 12 are to be met. Environmental Statements will be required. (see paras 6.11 to 6.16). These will need to provide sufficient information to satisfy the County Council and the public that planning permissions should be issued. Legal agreements under Section 106 of the Town and Country Planning Act may be sought to deal with matters, including aspects of reclamation, which planning conditions alone cannot cover. Liaison groups will be established wherever desirable to keep local communities informed and to stimulate satisfactory progress towards reclamation.

4.18 There are many other areas within the County which are environmentally significant but which do not have statutory protection because they are of local rather than national importance. These include ancient woodland, sites of nature conservation importance, registered parks and gardens of special historic interest and areas of archaeological importance. Protection will be given to these areas because they form an important part of the wider conservation resource. In accordance with Planning Policy Guidance Note 9 - Nature Conservation (October 1994) the presence of protected species (as listed in Annex G (Annex IV) of PPG9) is a material consideration when a local planning authority is considering a development proposal which (if carried out) would be likely to result in harm to the species or its habitat.

4.19 **POLICY 13: PROPOSALS FOR MINERAL EXTRACTION IN AREAS WHICH DO NOT HAVE STATUTORY PROTECTION BUT WHICH ARE OF LOCAL ENVIRONMENTAL SIGNIFICANCE WILL BE GIVEN CAREFUL CONSIDERATION AND WILL NOT BE PERMITTED UNLESS THE BENEFITS OF THE DEVELOPMENT WOULD OUTWEIGH THE DETRIMENTAL EFFECTS OF THE PROPOSAL ON THE VALUE OF THESE AREAS HAVING TAKEN INTO ACCOUNT MEASURES TO MITIGATE ANY ADVERSE IMPACT.**

4.20 The best and most versatile agricultural land is a national resource to be retained for the future. It is defined as Grades 1, 2 and 3a in the Ministry of Agriculture, Fisheries and Food's (now the Department for Environment, Food and Rural Affairs (DEFRA), Classification (ALC) System (PPG7). In preparing development plans and deciding applications for planning permission, considerable weight will be given to protecting such land against development because of its special importance. In addition, within these Grades, where there is a choice between sites of different classifications, development will be directed towards land of the lowest possible classification. A significant proportion of the gravel resource area in the coastal plain falls within the "best and most versatile land" category and according to revised Ministry of Agriculture, Fisheries and Food criteria, (now the Department for Environment, Food and Rural Affairs (DEFRA), so do some of the sand reserves. While considerable weight is given to protecting such land from development, land from which minerals have been extracted can often be reclaimed either to its former use or to an acceptable new use. Where the need to work best and most versatile land has been demonstrated, priority will be given to reclamation to an agricultural after use and to the required standard [in accordance with Schedule 5, paragraph 3.1 of the Town and Country Planning Act 1990 (as amended)]. It is recognised that this may not be possible where groundwater management directs otherwise or where landfill would be necessary, but unacceptable.

4.21 Whilst post war agricultural policies have resulted in increased output and food surpluses, measures are being taken currently to reduce the overall cost of financing agricultural production and to integrate environmental objectives more positively with agricultural policies. For the first time this century land is being taken out of production as `set-aside' with government grants. The Government advises that in some cases amenity or forestry after-uses may be appropriate as an alternative to agriculture on the better land, provided the methods used in reclamation enable it to retain its longer term quality and potential as an agricultural resource. Irrespective of the size of the site, or the land quality, under Schedule 5 of the Town and country Planning Act 1990 (as amended), the Ministry of Agriculture, Fisheries and Food, (now the Department for Environment, Food and Rural Affairs (DEFRA)) will be consulted where land is to be returned to an agricultural after-use following the grant of planning permission involving mineral extraction. Reclamation will be required to meet the standards set out in the Town and Country Planning Act 1990, Schedule 5, paragraphs 3(1) or 3(2). The County Council considers that this presents an opportunity to conserve agricultural land, while securing the use of the land for other purposes, such as the provision of scarce habitats.

4.22 **POLICY 14: MINERAL WORKING MAY BE PERMITTED ON THE BEST AND MOST VERSATILE AGRICULTURAL LAND. WHERE THIS OCCURS, PRIORITY WILL BE GIVEN TO ENSURING THAT THE PHYSICAL CHARACTERISTICS OF THE LAND ARE RESTORED, SO FAR AS IT IS PRACTICAL TO DO SO, TO WHAT THEY WERE WHEN THE LAND WAS LAST USED FOR AGRICULTURE. THE APPROPRIATE FIVE YEAR AFTER-CARE SCHEMES WILL BE REQUIRED TO FOLLOW RECLAMATION. VARIATIONS FROM AN AGREED SCHEME WILL REQUIRE THE AGREEMENT OF THE MINERAL PLANNING AUTHORITY AFTER CONSULTATION WITH THE MINISTRY OF AGRICULTURE, FISHERIES AND FOOD.**

THE WATER ENVIRONMENT

4.23 The water environment includes not only the many rivers, streams and lakes in the area, but also the quantity and quality of underground water resources. The advice of the Environment Agency will be sought in connection with all planning applications. Development which takes place without due regard to these

interests can lead to flooding or to a lowering of the water table, can cause pollution of surface and ground waters and can affect the public sewerage system thereby being detrimental to the conservation of the natural water environment. Policies are required in the Minerals Local Plan to ensure the protection of the water environment in general, and surface and ground water resources in particular.

4.24 Safeguards at workings will be required to prevent water pollution from spillage of fuel and lubricating oils. Suitable collection and disposal arrangements will be required. To avoid mineral wastes (for example, suspended silt or similar material) being carried into water courses, working areas must be completely segregated from the local water courses and provision for the discharge of water from any washing plant will need to be agreed with the Environment Agency.

4.25 The extraction of minerals, if it involves dewatering of workings, can lower groundwater levels around the site, possibly affecting flows in nearby watercourses, levels of lakes, existing water abstractions and the natural habitat. Similarly, the creation of large areas of open water can result in the lowering of groundwater levels through evaporation. Siltation within lakes and the infilling of mineral workings can also impede groundwater flow, thus raising groundwater levels upgradient. In areas adjacent to the coastline lowered groundwater levels can lead to sea water intrusion into the aquifers with consequent salination of the water resource.

4.26 The recycling of water used in the extraction and processing of minerals will be encouraged in accordance with best practice.

4.27 **POLICY 15: PROPOSALS FOR MINERAL WORKING WHICH WOULD RESULT IN A CHANGE IN SURROUNDING GROUNDWATER LEVELS WILL ONLY BE PERMITTED IF THE EFFECT ON THE ADJOINING LAND OR ON THE QUALITY OR POTENTIAL YIELD OF GROUNDWATER RESOURCES, RIVER FLOWS, GROUNDWATER LEVELS OR NATURAL HABITATS WOULD NOT BE SIGNIFICANTLY DETRIMENTAL, OR WHERE MITIGATION MEASURES COULD BE IMPLEMENTED TO OVERCOME ANY HARMFUL EFFECTS WHICH WOULD OTHERWISE ARISE.**

4.28 **POLICY 16: APPROPRIATE MEASURES WILL BE REQUIRED FOR SAFEGUARDING THE WATER ENVIRONMENT DURING WORKING AND THE PRUDENT USE AND RECYCLING OF WATER WITHIN MINERAL WORKINGS WILL BE ENCOURAGED.**

4.29 The reclamation of mineral workings involving finished ground levels higher than the original site within a floodplain can reduce the capacity of the floodplain to store floodwater and can impede the flow of floodwater. The stockpiling of excavated material within the floodplain can have a similar effect. Where a floodplain is considered to be a constraint on mineral extraction, but insufficient hydrological information is available, the Agency would advise the Planning Authority that the Applicant undertakes an investigation to identify the extent of the floodplain. Compensatory flood waterway/storage proposed to mitigate any infilling would only be considered when this was not detrimental to the natural environment associated with the watercourse.

4.30 Adequate undisturbed margins should be maintained where mineral workings are located immediately adjacent to any watercourse so as not to jeopardise the integrity of the channel, obstruct access along the watercourse for maintenance and possibly result in lowered downstream flows due to seepage from the channel. In order to accord with Environment Agency Bylaws, an unexcavated margin may be required alongside the banks of main rivers and Internal Drainage

Board watercourses. The width of such margins will be determined at the planning application stage.

4.31 One area of particular concern relating to this Plan is the gravel resource to the south and east of Chichester following flooding in the vicinity in January 1994. The gravel is an integral and important part of the natural drainage system. In August 1994, the NRA (now the Environment Agency), because of its concern about the possible increased flooding risk, advised that an embargo should be placed on further working in the Chichester environs. This affected a number of sites being considered in relation to the Consultation Draft Minerals Local Plan, all of which were rejected in consequence. Subsequently, the NRA undertook studies in the area to gain a better understanding of groundwater movement in the gravels around Chichester, and has now (as the Environment Agency) confirmed that it no longer wishes to maintain an overall objection to development. However, it has recommended that a necessary pre-requisite to any development where working below the water table is proposed would be that a comprehensive groundwater management scheme would be required for each site. The management scheme would have to cater for groundwater movement both during and after mineral extraction. Without this, there would be an increased risk of groundwater flooding of property and infrastructure.

4.32 Following the flooding of Chichester in January 1994 and the threat of flooding in the winter of 2000/2001, a flood alleviation scheme is under construction and due to be completed in 2002. This provides a relief channel from Westhampnett, via the Pagham Rife to Pagham Harbour. This cuts across sites considered for gravel extraction during preparation of this Deposit Draft Plan. The Environment Agency has advised that this would not in principle preclude zoning of land for mineral extraction.

4.33 Attention has been focused on the Chichester area. However, there may be sites elsewhere where the Environment Agency may advise that a comprehensive ground water management scheme is required due to particular local circumstances. Because of local concerns, the Environment Agency has undertaken a study of the River Ems catchment area. At this stage, there is no indication that similar precautions will be needed in the River Ems area as workings are proposed only above the water table, but the Mineral Planning Authority will need to be satisfied that ground water management is given proper consideration where planning applications for mineral extraction are submitted.

4.34 **POLICY 17: MINERAL WORKING WILL NOT BE PERMITTED:**

(a) WITHIN FLOODPLAINS WHERE RECLAMATION RESULTING IN THE RAISING OF EXISTING LEVELS AND/OR WHERE THE STOCKPILING OF MATERIALS WOULD BE LIKELY TO OBSTRUCT FLOW WITHIN THE FLOODPLAIN; OR

(b) IN LOCATIONS WHERE A RISK COULD BE POSED TO THE STRUCTURAL INTEGRITY OF ANY SEA, TIDAL OR FLUVIAL DEFENCE OR TO THE CHANNEL OF ANY WATERCOURSE OR ITS BANKS; OR

(c) WHERE IT IS CONSIDERED THE DIVERSION OF LAND DRAINAGE AND SURFACE WATER FLOWS COULD RESULT IN A DETRIMENTAL EFFECT DUE TO ADDITIONAL FLOWS BEING DIRECTED TO A PUBLIC SEWERAGE SYSTEM OR ANY OTHER DRAINAGE SYSTEM;

UNLESS ANY HARM CAN BE SATISFACTORILY MITIGATED.

4.35 **POLICY 18: WHERE WORKING IS PROPOSED BELOW THE WATER TABLE A COMPREHENSIVE GROUNDWATER MANAGEMENT SCHEME WILL BE REQUIRED TO CATER FOR GROUNDWATER MANAGEMENT BOTH DURING AND AFTER MINERAL EXTRACTION.**

RESIDENTIAL AMENITY & THE BUILT ENVIRONMENT

4.36 As mentioned in paragraph 4.5, mineral extraction can affect the amenities enjoyed by local residents, the quality of the built environment and other activities in the vicinity of workings. These need to be taken into account.

4.37 **POLICY 19: IN CONSIDERING PLANNING APPLICATIONS FOR MINERAL EXTRACTION ATTENTION WILL BE GIVEN TO THE EFFECT UPON RESIDENTIAL AND OTHER AMENITY, AND MEASURES TO MITIGATE THE IMPACT.**

RECLAMATION

4.38 The aim will be to secure an excellent standard of reclamation which will return land to an appropriate Grade for agricultural use and/or which may, in appropriate locations, introduce new landscape, amenity or nature conservation features of overall benefit. It is so important that `...where there is serious doubt whether satisfactory reclamation can be achieved at a particular site, then there must also be a doubt whether permission for mineral working should be given.' (MPG7, para 3, 1996).

4.39 **POLICY 20: PLANNING PERMISSION FOR MINERAL EXTRACTION WILL ONLY BE GRANTED WHERE PROPOSALS FOR RECLAMATION WOULD BE PRACTICABLE AND APPROPRIATE FOR THE LOCATION, AND THAT RECLAMATION WOULD BE COMPLETED AT THE EARLIEST OPPORTUNITY.**

4.40 The reclamation of mineral sites can present opportunities to provide new water related features including recreation facilities, landscape enhancement and wildlife habitats. Such opportunities exist at Sandgate Park at Sullington Warren near Storrington. Sand working in the area is likely to continue for many years, well beyond the life of this Draft Plan, but co-ordination between adjoining land owners could enhance and extend an area which already provides an attractive recreation and amenity feature locally. The County Council has an important role to play and would wish to work closely with the District Council in preparing a development brief in due course to achieve the objectives for this area.

4.41 **POLICY 21: RECLAMATION PROPOSALS FOR MINERAL SITES WHICH OFFER OPPORTUNITIES FOR HABITAT CREATION, NEW OR IMPROVED FISHERIES, RECREATION PROVISION, LANDSCAPE ENHANCEMENT OR IMPROVED WATER RESOURCE PROVISION WILL BE ENCOURAGED IN APPROPRIATE LOCATIONS.**

4.42 The final stage of working is reclamation, which on some sites will have been underway for many years as sub-areas are worked and reclaimed in succession. Reclamation presents an opportunity to restore the land back to its original form or to provide new features. These may include for example, geological exposures, or new or enhanced habitats even where nature conservation is not the primary end - use of a site (PPG9, para. 42, 1994). It plays an important part in ensuring that mineral extraction complies with sustainable principles.

4.43 There are a number of problems associated with reclamation. Recent research has shown that according to planning authorities nationally, about 27% of minerals sites ceasing operations between 1982-1990 were not reclaimed to satisfactory standards or were not reclaimed at all. Of these, some 42% were

caused by operators' technical failures. Financial, ownership or other operator problems accounted for a further 23%. With the benefit of hindsight, it can be seen that less stringent planning controls than now exist have been responsible for the remaining 35% of sites. (Review of the Effectiveness of Restoration Conditions for Mineral Workings and the Need for Bonds. Department of the Environment, 1993).

4.44 In West Sussex, the nature of sites is different from the national picture, and certain local characteristics have contributed to reclamation difficulties. West Sussex gravel deposits contain considerable quantities of silt which cause processing and disposal problems. Sand deposits are solid and deep which leads most workings to be single, deep pits. These may be difficult to reclaim progressively and it will be more practical to ensure that the overall shape and depth of each working is designed at the beginning to accommodate particular reclamation proposals when operations cease. This may lead to sterilisation of material or a need for a larger land take to ensure that there is sufficient land to implement reclamation satisfactorily. Clay working tends to be a long term operation and seasonal with long periods of inactivity during the year. Chalk extraction can have long periods of inactivity over a number of years. During its working life the quarry face can be highly visible and remains so even when the site is dormant. Changing circumstances over the long time periods involved can render reclamation schemes out-of-date and below the environmental expectations of the day. A number of the workings in West Sussex were established many years ago and were subject to few or no conditions relating to reclamation. (see paras. 4.63 - 4.65)

4.45 Recent legislative changes have improved enforcement procedures where planning conditions are breached, and the government has funded a considerable amount of research with the aim of improving reclamation techniques. The West Sussex Structure Plan 2001-2016 Deposit Draft gives emphasis to reclamation (Policy ERA5), but the Minerals Local Plan provides the opportunity to bring reclamation to the fore to the extent that the potential for reclamation will exert considerable influence on the selection of new sites for workings. Satisfactory reclamation schemes will be required before new planning permissions are granted.

NEW MINERAL WORKINGS

4.46 Reclamation is the reinstatement of the land to a condition appropriate to the proposed after-use (see Glossary). The planning elements of this are dealt with entirely by the County Council as Minerals Planning Authority. The introduction of activities in association with reclamation (other than agriculture, forestry or nature conservation) or the erection of buildings, after the conclusion of working and reclamation, requires planning permission from district planning authorities. Close co-operation will need to be maintained to ensure that reclamation proposals are compatible with District Local Plans and can be fully implemented.

4.47 The County Council requires the working schemes of new sites identified in the Plan to be designed as `environmental packages'. Although disruption during working can be minimised and controlled, some disturbance is inevitable. In areas where more than one site is capable of being worked at any one time, in order to reduce the potential impact it may be necessary to secure phasing, not only within individual workings, but by linking sites to ensure that they are worked consecutively and not simultaneously (see paras. 6.25 and 6.26). It should be noted that there may be cases where it would not be practical to seek phasing. This is likely to apply to sites feeding the brick clay industry, as there may only be short periods in a year when a site is worked and it may be necessary at times to mix varieties of clay from different quarries. Reclamation schemes will be sought which at the very least return the land to a form and use

which is equal to the original environmental quality, but wherever possible reclamation should incorporate additional environmental benefits. This requires a positive and creative attitude to maximise the opportunities presented.

4.48 Reclamation may help to diversify the rural economy, for example by introducing the opportunity for recreation facilities. A return to agriculture may be most appropriate where good quality land has been lost to workings. In some instances broad-leaved woodland or heathland could be introduced, depending on the geology, to compensate for losses elsewhere in the County. Wet pits may lend themselves to sports, recreation or nature conservation; and the size, shape and depth of workings, together with bank gradients will need to be designed to provide for which ever after-use is considered appropriate.

4.49 Working schemes will be required as an integral part of planning applications and will be expected to include fully detailed reclamation plans, and Environmental Statements where required in accordance with the Regulations will need to assess their impact. The design of working schemes will be required to take account of proposed after-uses in order to facilitate progressive reclamation within the site to achieve the proposed final land form. Reclamation should be planned at the earliest stage and advice about the type of information which mineral operators might provide in support of a planning application, is set out in Annex A Box 2 of MPG7. These guidelines include detailed information about site conditions, topsoil, subsoil, drainage and other factors which are of assistance to the Department for Environment, Food and Rural Affairs (DEFRA) in giving advice about reclamation to the Mineral Planning Authority.

4.50 Five years 'after-care' of reclaimed sites by operators is required to ensure that the appropriate standards have been reached, in association with agriculture, forestry and amenity uses. However, aftercare may be extended by mutual consent where this will enable reclamation objections to be met. The County Council will make full use of the advice offered by the Department for Environment, Food and Rural Affairs (DEFRA), the Forestry Commission, the Countryside Agency, English Nature and other relevant bodies during this important period of supervision.

4.51 The government has recently published a research study into the reclamation of sites for amenity purposes which suggests that periods of maintenance longer than five years may be required. For example, periodic flooding may be desirable to maintain wildlife habitats or pumping may be needed to maintain water levels. The responsibility for land management practices of this kind will usually be borne by the landowner and in these circumstances a voluntary financial contribution during mineral working to a fund set up for this purpose could be of assistance. Other measures, such as the provision of visitor facilities and car parks are one-off measures to be provided as appropriate when reclamation is completed. Commitment to such measures may be dealt with by means of legal agreements between operators and the County Council.

4.52 It should be noted that despite all these measures, whether imposed by detailed planning conditions or agreements, reclamation can be less than satisfactory if technical difficulties arise. Some examples of the problems encountered in West Sussex have been described in paragraph 4.44. It is necessary to set up suitable monitoring and control mechanisms to identify difficulties, and to continue to use experience to deal with them effectively at an early stage.

4.53 Control may be exercised successfully by requiring the reclamation of certain sub-areas, within a working site, before excavation progresses to new sub-areas. This will enable some checks to be introduced at appropriate times over the working of the whole site.

4.54 Liaison groups (including representatives from the site operator concerned, the local community, the County Council and other bodies as necessary) can provide a useful forum not only for dealing with local complaints, but also for sounding out possible solutions should technical problems arise. They are a means of keeping local communities informed and discussing alternative courses of action. The mineral planning authority will consult liaison groups when problems arise which require consultations with technical bodies and local councils. Regular monitoring of sites by the County Council and improved enforcement legislation is the means of securing compliance with planning conditions. However, if agreed schemes prove impracticable on account of technical problems, operators may be reluctant to adapt workings to meet environmental objectives, particularly when changes will cost more money. The industry has published voluntary Codes of Practice: self regulation has a part to play. On a number of occasions, a swift and co-operative response by operators to complaints about such matters as keeping site entrance roads swept or maintaining the quiet operation of machinery has resolved problems at an early stage.

4.55 MPG7 makes it clear that no payment of money or other consideration can be required when granting a planning permission, except where there is specific statutory authority. Reclamation should be ensured by properly worded and relevant planning conditions, which are complied with and enforced where necessary. On the technical front, ongoing developments in the minerals industry, such as progressive restoration, contribute towards improving standards of restoration. Given the importance of reclamation however, applicants should demonstrate that they are financially and technically capable to undertake the proposed restoration and aftercare. Guidance on possible options for demonstrating this capability can be found in MPG7 Annex D. In exceptional circumstances, the provision of financial guarantees may be sought. Such circumstances would be most appropriately assessed on a case by case basis. Examples of such exceptions are found in MPG7 (paras 94 and 95).

4.56 **POLICY 22: PLANNING APPLICATIONS FOR MINERAL WORKING WILL ONLY BE APPROVED WHERE THEY INCORPORATE EITHER DETAILED PROPOSALS FOR RECLAMATION, OR THE PRINCIPLES OF RECLAMATION REQUIRING THE SUBMISSION AND AGREEMENT OF MORE DETAILED PROGRAMMES AT A LATER DATE (OR DATES) TO BE AGREED WITH THE MINERAL PLANNING AUTHORITY. PROGRESSIVE RESTORATION WILL BE REQUIRED IN ACCORDANCE WITH PHASED WORKING SCHEMES, UNLESS IT CAN BE DEMONSTRATED THAT THIS IS NOT PRACTICABLE.**

4.57 **POLICY 23: THE MINERAL PLANNING AUTHORITY WILL ASSIST IN SETTING UP LIAISON ARRANGEMENTS BETWEEN THE LOCAL COMMUNITY AND SITE OPERATOR AND WILL ENDEAVOUR TO ESTABLISH LOCAL LIAISON GROUPS FOR ALL MINERAL WORKINGS.**

4.58 **POLICY 24: LEGAL AGREEMENTS MAY BE SOUGHT WHERE APPROPRIATE TO REGULATE POST RECLAMATION MAINTENANCE AND LAND MANAGEMENT PRACTICES IN ORDER TO ACHIEVE AND MAINTAIN THE INTENDED AFTER USE.**

EXISTING MINERAL WORKINGS

4.59 The quality and practicability of older reclamation schemes and the degree of control provided by older planning conditions in respect of existing workings in the County is very variable. In addition, in many cases such factors as the rate of working, ownership, and commercial objectives have rendered proposals made many years ago redundant or undesirable in current circumstances.

4.60 The most recent Annual Monitoring Report on Minerals in West Sussex (Jan-Dec. 1993, Table 5.3) shows that of the 1316 hectares of land which were the subject of mineral working planning permissions in 1993, some 30.6% (402.5 hectares) had been reclaimed to a satisfactory after-use following working.

4.61 A further 388 hectares of former workings were being reclaimed or were awaiting attention. All these individual areas have conditional planning permissions which require some degree of reclamation of the sites to agriculture, to forestry, to an amenity use or to a state suitable for an intended future after-use. However, many of these conditions are imprecise or require a form of reclamation which is impractical or incapable of implementation in the current situation. Examples of particular technical problems experienced in the County include sites where water saturated silt from processing (cleaning and grading of gravels) has not dried out within the time period expected, sites where periodic shortages of suitable inert fill material has delayed reclamation and sites where the water table has proven to be more variable than expected leaving proposed lakes dry for a large part of the year.

4.62 A review of conditions on individual permissions granted under the Town and Country Planning (General Interim Development) Orders 1943-45 on permissions issued prior to 1st July, 1947, has been required by the Planning and Compensation Act 1991 and ten of those reviews have been completed in West Sussex. A further eight permissions exist in respect of currently dormant sites and work may not recommence at these sites unless and until reviewed conditions have been agreed.

4.63 Subsequent permissions for mineral working granted between 30 June 1948 and 22 February 1982 are being reviewed and updated as prescribed by the Environment Act 1995. Post 1982 permissions will be reviewed immediately after the fifteenth anniversary of the granting of the permission. Thereafter all mineral working permissions, including reviewed Interim Development Order permissions, will be reviewed immediately after their fifteenth anniversary. The operator and/or owner of any of these sites is required to submit a working scheme to the Mineral Planning Authority listing the future working conditions under which they intend to operate the site. These conditions are considered by the County Council. There is some scope to negotiate amendments.

4.64 The reviews are a recent means of dealing with problems which have arisen due to out-dated permissions. In the normal course of monitoring, action has been taken where there has been a lack of progress with reclamation. This has been dealt with mainly through discussions with operators to encourage them to reconsider their position rather than by formal enforcement proceedings, including the serving of Breach of Condition Notices. In most cases, these formal steps would be inappropriate in view of some of the technical problems encountered or because of old conditions which are poorly worded by current standards.

4.65 There are a number of other ways procedurally in which reclamation problems can be dealt with, although all have disadvantages. The Town and Country (Minerals) Act, 1981, provides powers to review permissions, but a review has to be comprehensive, covering all recently active minerals sites within each planning authority area; and modifications can involve the payment of compensation. No review has commenced in West Sussex.

4.66 The terms of a planning permission may be varied at the behest of the owner or the planning authority. An owner can request an alteration which may or may not involve a further planning application depending upon its significance. Such modifications are not uncommon, particularly if an extension is being sought to a working area. Modifications applied by the planning authority are subject to special procedures (Minerals Planning Guidance 4, August 1997) and can lead to

the payment of compensation should the owner suffer financial loss as a result of the modifications. In a recent study (see para. 4.43) it was concluded that the enforcement powers available to mineral planning authorities are now largely adequate to achieve the objectives of reclamation.

4.67 **POLICY 25: THE RECLAMATION OF MINERAL WORKINGS WILL BE VIGOROUSLY PURSUED THROUGH PLANNING POWERS TO SECURE THE PROGRESSIVE AND EVENTUAL COMPLETE RECLAMATION OF THE LAND TO AN AGREED AFTER-USE.**

5. MEETING NEED

CHALK, CLAY AND SANDSTONE

5.1 There are substantial reserves of chalk, clay and sandstone which would appear to be sufficient to last well beyond the Plan period (see Chapter 2). However, policies to control working need to be flexible to make some allowance for particular specialist needs which could arise. Material being quarried for these purposes may in the future be found to have additional uses leading to an increase in demand.

5.2 Chalk quarried from different levels within a single pit may have different characteristics. The harder chalks present at some pits are assuming a more significant role as a secondary aggregate used for bulk fill in road construction. In recent years three chalk quarries in the County have supplied such contracts in addition to serving agricultural needs. Chalk can make an important contribution to aggregates need and new reserves may be required.

5.3 Sandstones are used principally as a fill material but some are worked by craftsmen to provide specialist products essential to the maintenance and restoration of traditional buildings (many of which are Listed as being of architectural or historic importance and/or which lie in Conservation Areas), and helpful in retaining vernacular features in new buildings.

5.4 A number of existing stone quarries with substantial reserves will be able to meet needs. However, it is possible that one or two small new workings may be proposed during the Plan period for which a specialist need might be substantiated. New workings will only be permitted where environmental criteria set out in this plan are satisfied.

5.5 It is possible that some extensions to existing chalk and sandstone workings will be required during the Plan period but the majority of workable chalk and stone deposits lie within Areas of Outstanding Natural Beauty where a rigorous examination of any new proposals will be undertaken in accordance with Policy 12. Development elsewhere will only be permitted where the environmental protection policies set out in this Plan are satisfied.

5.6 An examination of brick and tile making in the County has revealed a pattern of rationalisation which has supported modernisation and expansion schemes. It would appear unlikely that new, greenfield enterprises will be proposed during the Plan period especially if the recession in the construction industry continues. However, in view of the significance of West Sussex brick manufacture in the region and the quality of products made, some scope should be provided for extensions.

5.7 Some clay workings and brickworks lie within the High Weald Area of Outstanding Natural Beauty where any new proposals will be subject to rigorous examination in accordance with Policy 12.

OIL AND GAS

5.8 During the years 1986 to 1996, much of the County was subject to seismic surveys carried out in the search for hydrocarbons. There are deposits beneath the County but the geological structure is such that oil is difficult to extract. Much of the volume is currently uneconomic to work and therefore precise resource quantities have not been established. The oil wells currently producing oil and gas in West Sussex are at Singleton near Chichester and at Storrington.

5.9 National policy relating to oil and gas exploration identifies the importance of on-shore reserves especially in view of the decline being experienced in North Sea production. It seeks to encourage the full exploration and appraisal of hydrocarbons and to ensure the maximum economic exploitation of oil and gas reserves over time. At all stages, the impact on, and the protection of the environment, must be taken into account. This policy was introduced in 1985 and it pre-dates the current emphasis on sustainable development. Exploration can normally be undertaken quickly and relatively unobtrusively but to ensure that any necessary reclamation is undertaken successfully, an aftercare scheme will be required as an integral part of any planning application. Since granting planning permission for exploration would not give any commitment for further appraisal, development or actual working of the reserve, it will usually be possible to follow national policy guidelines.

5.10 The grant of a Licence for exploration and development by the Department of Trade and Industry does not mean that a planning application to extract hydrocarbons will be granted. It is likely under the new system that companies will choose exploration sites with a view to developing them, rather than undertake exploration over a wide area. Production requires a specific limited site. Where the deposit allows flexibility in drilling technique, it has been possible to site production facilities in unobtrusive locations. In the West Sussex Structure Plan 2001-2016 Deposit Draft, Policy ERA5 supports oil and gas development subject to certain criteria. In the Local Plan it is neither possible nor appropriate to seek to establish the volume of oil production and specific locations where it might or might not occur. A flexible approach is required to ensure that national guidelines can be met but that environmental effects are minimised.

5.11 **POLICY 26: APPLICATIONS FOR THE EXPLORATION, APPRAISAL AND/OR COMMERCIAL DEVELOPMENT OF OIL OR GAS RESOURCES WILL BE PERMITTED WHERE IT IS DEMONSTRATED TO THE SATISFACTION OF THE MINERAL PLANNING AUTHORITY THAT THE PROPOSAL PRESENTS THE BEST OPTION IN COMPARISON WITH OTHER ALTERNATIVE SITES WITHIN THE AREA OF SEARCH AND THAT THE PROPOSAL IS ACCEPTABLE IN RELATION TO THE SURROUNDING AREA. PARTICULAR ATTENTION WILL BE GIVEN TO**

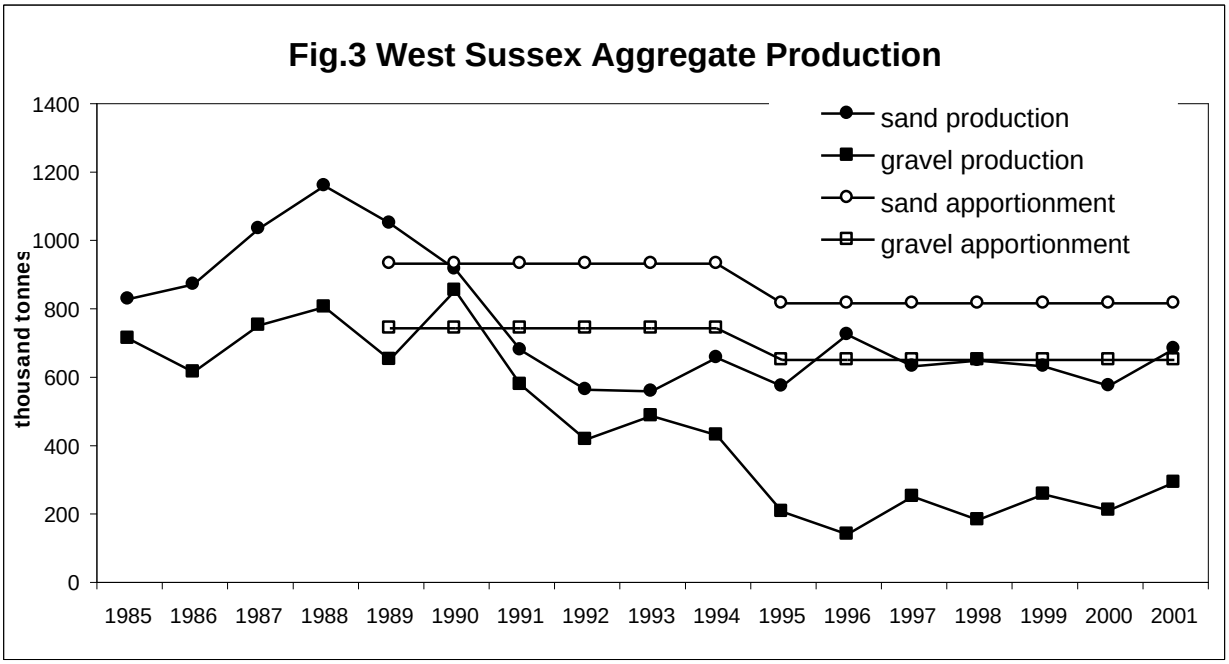
(1) the impact on other countryside resources;
(2) the site access and the routing of heavy vehicles;
(3) the means of protecting nearby residents and amenities from the effects of the operations;
(4) the safeguarding of public rights of way; and
(5) the safeguarding of water supplies and the water environment.

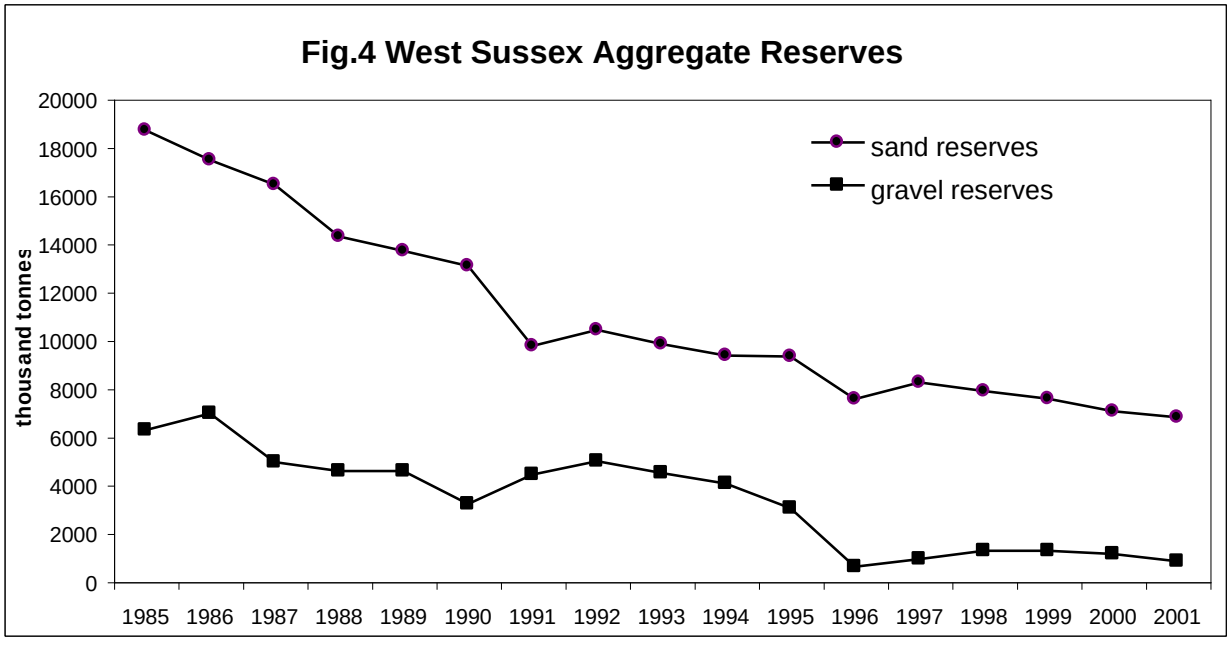
5.12 **POLICY 27: PERMISSION FOR HYDROCARBON EXPLORATION WILL NORMALLY BE GRANTED SUBJECT TO COMPLIANCE WITH THE ISSUES ADDRESSED IN POLICY 26 HAVING REGARD TO THE LIMITED DURATION AND AREA OF THE ACTIVITY.**

5.13 **POLICY 28: PLANNING PERMISSION FOR THE APPRAISAL AND THE DEVELOPMENT FOR COMMERCIAL PRODUCTION OF AN OIL OR GAS FIELD WILL NOT FOLLOW AUTOMATICALLY FROM SUCCESSFUL EXPLORATION. THE APPLICANT WILL BE REQUIRED TO APPRAISE THE EXTENT AND IMPACT OF THE PROPOSALS, AND TO SUBMIT AN OVERALL DEVELOPMENT PROGRAMME FOR COMMERCIAL DEVELOPMENT. REGARD WILL BE GIVEN TO OTHER LICENSEES' PROGRAMMES AND CO-OPERATION WILL BE SOUGHT FROM LICENSEES IN ORDER TO AVOID DUPLICATION OF DEVELOPMENT AS FAR AS POSSIBLE. THE MOVEMENT OF PRODUCTS BY UNDERGROUND PIPELINE OR BY RAIL WILL BE SUPPORTED.**

LAND WON SAND AND GRAVEL

5.14 Regional policy for the South East is set out in Minerals Planning Guidance Note 6 (MPG6). Mineral Planning Authorities in the region are currently required to make provision in their development plans for 420 million tonnes of land-won sand and gravel over the period 1992 to 2006.





5.15 The South East Regional Planning Conference, with technical advice from the South East Regional Aggregates Working Party (SERAWP), now the South East England Regional Aggregates Working Party (SEERAWP) apportioned this total figure for the South East Region between its member authorities. The apportionment figure set for West Sussex is currently 1,400,000 tonnes per annum.

5.16 In West Sussex, sand and gravel resources largely occur separately and it is appropriate, therefore, to subdivide the apportionment figure accordingly. The past production relationship between sand and gravel pits has been applied to give a breakdown of the SERPLAN apportionment figure for sand extraction of 812,000 tonnes per annum and 588,000 tonnes per annum for gravel (total 1,400,000 tonnes per annum). The Inspectors at both Inquiries recommended that the figure for gravel should incorporate a 10% allowance for reassessment of reserves at identified sites because of buffer zones or other constraints; which increases the level of gravel provision to 646,800tonnes of gravel per annum.

5.17 The level of extraction during the period in which the Plan has been prepared has been about 0.5 million tonnes per annum less than the 1.4 million tonnes apportionment rate. Mineral which would have been used up during the period of 1997 to 2002 if extraction had proceeded at the apportionment rate, is therefore still available to meet future needs.

5.18 Mineral Planning Authorities are expected to apply policies which provide for the maintenance of a stock of planning permissions sufficient for at least 7 years supply of aggregates throughout the plan period (including at the end), unless exceptional circumstances prevail.

5.19 The Government is currently reviewing the level of provision of land-won sand and gravel which the South East Region should provide. A draft Interim Statement - 'Draft National and Regional Guidelines for Aggregates Provision in England, 2001-2016' was published by the Government on 5th August 2002 for consultation. It gives a forecast for the total aggregate demand in England for 2001-2016 as 212.5 million tonnes per annum. This is a reduction of 24% on the forecast in MPG6 1994. The draft guideline figure for the new South East England Regional Assembly area plus Greater London is 176 million tonnes provision over 2001-2016. If the same relative proportions are contributed by the authorities which made up the former South East Region then this equates to a provision reduction of 37%. The Government consulted upon the Draft Interim Statement until the 4th November 2002. A final announcement upon the level of provision to be made in the South East Region until 2016 is expected by April 2003.

5.20 The Government advises that the new Regional Apportionment should be finalised by April 2003. Once the new Regional Apportionment is known the South East England Regional Aggregates Working Party (SEERAWP) will then be asked to consider how it should be apportioned county by county. The RAWP will then report to the South East England Regional Assembly (SEERA). SEERA's decision will probably then need to be fed back to the Office of the Deputy Prime Minister before a new policy statement could be issued. The Government has advised that the apportionment to County's should be completed within 6 months of the finalisation of the Regional Apportionment.

5.21 Whilst the new Regional and County Apportionment's are not yet finalised, the County Council considers it appropriate to have regard to the latest information on the level of mineral required, in deciding how to take forward this Plan. It is accepted however that the draft guidance can only be used to derive indicative figures for minerals provision. Once the new County Apportionment is finalised the County Council will need to commence a review of the Plan.

5.22 The Inspector at the Inquiry into the Deposit Draft Plan recommended that the County Council increase the level of provision made by the Plan to meet the 1.4 million tonnes per annum apportionment. The Inspector proposed the addition of 3 new sites - extensions to an existing site at Slades Field in Funtington (extension to sites 36/37 and site 50), a new site at Coopers Moor (site 23) and a new site at Oving (site numbers 2, 28 and 70) - which the County Council had previously rejected on environmental grounds. The County Council accepted the

Inspector's conclusions and included these 3 new sites in the Modified Plan in order to meet the need for minerals.

5.23 It is now clear that a substantial reduction in the level of mineral provision required of West Sussex is about to be made. If the 37% reduction proposed in the Regional Apportionment were translated into the County Apportionment then it would be reduced to 880,000 tonnes per annum. The County Council considers that it is appropriate to meet the current apportionment until 2006 by which time it will have been revised. However it does not consider it is appropriate to provide the 7 year Landbank at the current rate because that will not be the rate applicable at that time. The Plan will therefore provide a Landbank for the period after the expiry of the plan period (2006 to 2013) at the rate derived from the Draft Regional guidance i.e. 880,000 tonnes per annum. The County Council does not need to include the 3 new sites recommended by both Inspectors in the Plan in order to meet this level of provision. As the County Council has always considered these sites to be more environmentally damaging than those included in the Deposit Draft the County Council has removed them from the Plan.

5.24 New sites are identified (Policies 30, 31 and 32) where it is considered that sand and gravel extraction could begin in order to meet this level of provision. A site at Lavant, near Chichester, is identified where gravel working took place for many years until the railway line which provided access was closed leaving some 2.4 million tonnes of gravel unworked. Planning permission will be granted to re-open these workings if proposals comply with the policies set out in this Plan but only if an appropriate alternative means of access is provided. All these sites can be located by means of the Proposals Map which covers the whole County and shows where Inset Maps have been prepared to identify the sites in more detail. The Tables in Appendix 3 set out the Plan's provision including the extent of the resulting Landbank.

5.25 The County Council considers that it is preferable to be as specific as possible in order to provide certainty for local residents and the industry. The sites have been selected using the knowledge amassed by the mineral planning authority about the resource areas and the constraints which apply to them. The minerals industry and landowners have co-operated by providing information about deposits and this has been verified by independent consultant geologists employed by the County Council in an effort to ensure that the identified sites are underlain by economically workable deposits. These sites are likely to become available during the Plan period (Minerals Planning Guidance 6, April 1994, paras. 60 and 61).

5.26 Extensive consultations have been undertaken. In particular, the Environment Agency has provided advice about further mineral working in the Chichester area as a result of studies relating to flooding, and in the River Ems area in relation to a Catchment Area Plan; the Ministry of Agriculture, Fisheries and Food (now the Department for Environment, Food and Rural Affairs (DEFRA)) has completed a joint exercise with the mineral planning authority to establish whether sites affecting lower grades of agricultural land might be available. Account has been taken of the views expressed by Local and District Councils, interest groups and the public.

5.27 However, the approach remains "broad-brush" and the identification of a site as a proposal in this Plan does not guarantee that planning permission will be granted for mineral extraction. The investigations undertaken to prepare this Plan have been sufficient to identify a number of matters in relation to each of the identified sites which will need to be addressed in considerable detail when applicants prepare and submit planning applications. These are set out in statements which accompany each of the Inset Maps. Planning permission will be refused if the

mineral planning authority is not satisfied that mineral working and reclamation can be undertaken in an acceptable manner.

5.28 **POLICY 29: THE MINERAL PLANNING AUTHORITY WILL AIM TO GRANT PLANNING PERMISSIONS FOR THE SUPPLY OF SAND AND GRAVEL SO THAT WHEN ADDED TO PERMITTED RESERVES, A TOTAL OF 1.4 MILLION TONNES PER ANNUM (812,000 TONNES OF SAND AND 588,000 TONNES OF GRAVEL) CAN BE PROVIDED IN THE PERIOD FROM 1.1.1997 TO 31.12.2006. THEREAFTER THE MINERAL PLANNING AUTHORITY WILL AIM TO GRANT FURTHER PERMISSIONS WHICH WHEN COMBINED WITH RESERVES, WILL PROVIDE A LANDBANK FOR THE PERIOD FROM 2006 TO 2013 AT A RATE OF 880,000 TONNES PER ANNUM (510,400 TONNES OF SAND AND 369,600 TONNES OF GRAVEL).**

5.29 **POLICY 30: THE NEW SITES IDENTIFIED FOR GRAVEL EXTRACTION PURSUANT TO POLICY 29 ARE:-**

DRAYTON (SITE NO. 1/72) (INSET MAP A)
KINGSHAM (SITE NOS. 7 AND 51) (INSET MAP B)
SLADES FIELD (SITE NOS. 36 AND 37) (INSET MAP D)
WESTHAMPNETT (SITE NO. 5) (INSET MAP E)
WOODMANCOTE (SITE NOS. 35 AND 53) (INSET MAP F)

5.30 **POLICY 31: THE FORMER GRAVEL WORKINGS AT LAVANT MAY BE RE-OPENED PURSUANT TO POLICY 29:-**

LAVANT RE-OPENING (SITE NO. 43) (INSET MAP C)

5.31 **POLICY 32: THE NEW SITES IDENTIFIED FOR SAND EXTRACTION PURSUANT TO POLICY 29 ARE:-**

DUNFORD ROUGH (SITE NO. 20) (INSET MAP G)
WEST HEATH (SITE NO. 26) (INSET MAP H)

5.32 One of the functions of this Plan is to provide certainty for the industry and for local residents in respect of mineral extraction. Therefore, if planning applications are submitted for sites not identified in this Plan, subject to the exceptions provided for in Policies 33 and 34 planning permission is likely to be refused. This will continue to be the case until the plan is reviewed (or, if such review is delayed for whatever reason, until there is no longer a seven year Landbank). Sufficient resources are required to be identified in the Plan to ensure that a Landbank can be maintained at the requisite level (in accordance with Policies 29 and 33) throughout the Plan period. Whereas it is not necessary for a mineral planning authority to identify resources at the time of Plan preparation for a Landbank beyond the Plan period, it is necessary to be able to demonstrate that such resources can be brought forward should this be necessary, Consequently, there should be flexibility built into the Plan to enable other resources to be considered as and when they might emerge, particularly towards the end of the Plan period to 'top up' the Landbank, if required.

5.33 In the case of extensions to existing workings, these can sometimes enable the extraction of mineral resources that otherwise would become sterilised. Additionally, the rationalisation of an operation could lead to the adjustment of a boundary which could bring an overall environmental benefit. Other categories of new site may emerge with the application of Policies 3, 4 and 9 of this Plan concerning the encouragement of support of sites for the production of a variety of types and quality materials, secondary aggregates through recycling and aggregates from the use of borrow pits. It is important to recognise, therefore,

that such new sites may emerge and planning permission be granted if they accord with these and the other policies of this Plan.

5.34 **POLICY 33: PLANNING PERMISSION WILL ONLY BE GRANTED FOR THE EXTRACTION OF SAND AND GRAVEL FROM SITES OTHER THAN SITES PROVIDED FOR, OR PROPOSED, IN THE PLAN IF THERE IS NO LONGER A SEVEN YEAR LANDBANK AVAILABLE, OR STERILISATION OF MINERAL RESOURCES WOULD BE AVOIDED AS A RESULT, SUBJECT TO ENVIRONMENTAL AND OTHER MATERIAL CONSIDERATIONS.**

POLICY 34: PLANNING PERMISSION MAY BE GRANTED FOR MINOR EXTENSIONS AT EXISTING WORKINGS SUBJECT TO ENVIRONMENTAL AND OTHER MATERIAL CONSIDERATIONS, WHERE STERILISATION OF MINERAL RESOURCES WOULD BE AVOIDED AS A RESULT OR WHERE, ON BALANCE, AN ENVIRONMENTAL BENEFIT WOULD OCCUR.

OTHER MINERALS

5.35 The Plan must provide for proposals to work other minerals in the County in the event that planning applications are submitted.

5.36 **POLICY 35: APPLICATIONS FOR THE WORKING OF MINERALS OTHER THAN THOSE PROVIDED FOR SPECIFICALLY IN THIS PLAN WILL BE PERMITTED WHERE THEY WOULD ACCORD WITH THE DEVELOPMENT PLAN AND WHERE THERE WOULD BE NO DEMONSTRABLE HARM TO INTERESTS OF ACKNOWLEDGED IMPORTANCE:**

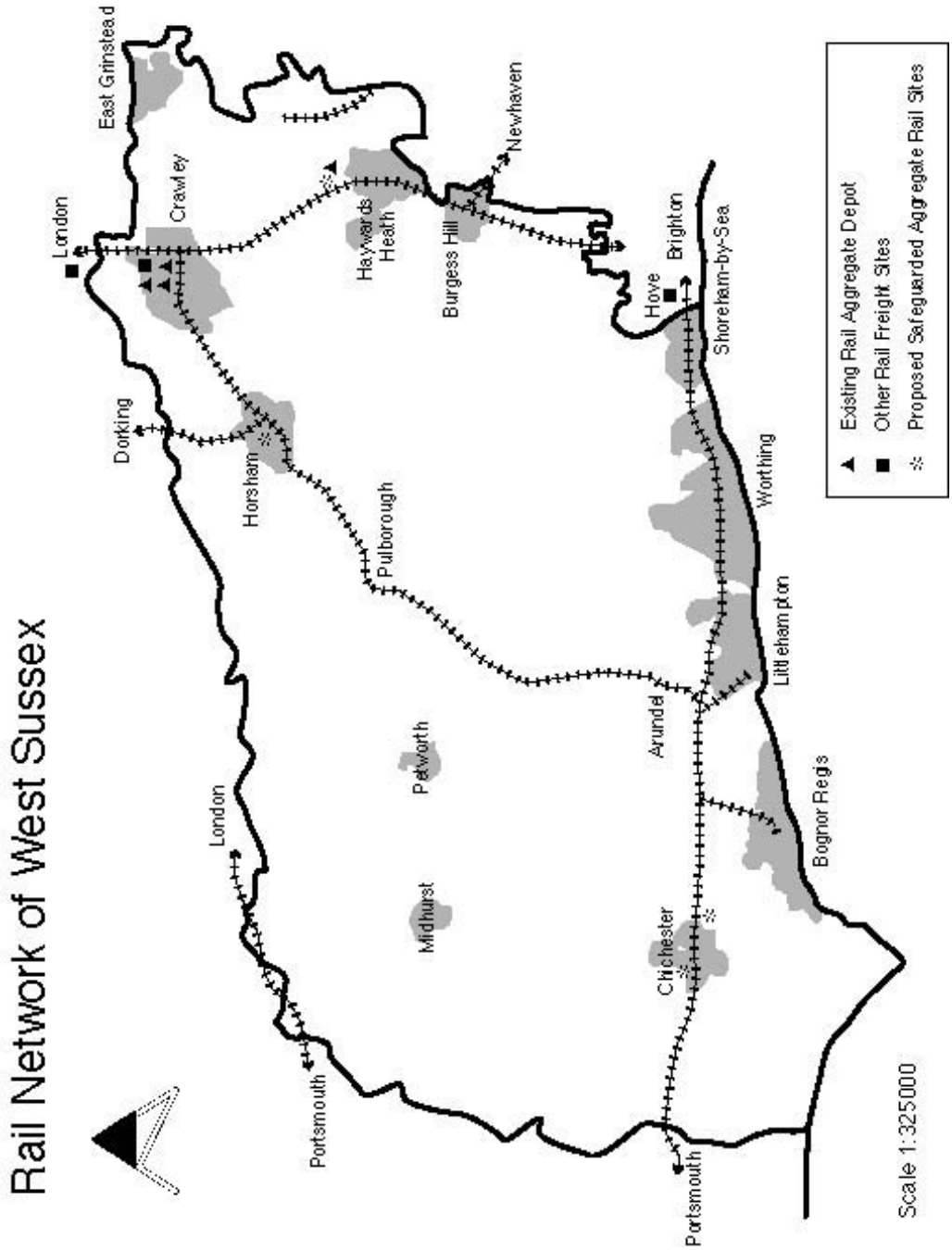
TRANSPORT BY RAIL

5.37 The movement of large volumes of freight by rail rather than road is of environmental benefit. The new company, operating freight services is English, Welsh and Scottish Railway. Some mineral operators already operate their own freight trains, including Tarmac and Foster Yeoman/Hanson Aggregates.

5.38 There are two rail depots one at Crawley and one at Ardingly each being operated by different companies. They receive either limestone (mainly from Somerset), and hard rock, or marine dredged sand and gravel from East Sussex. Both contain processing plants, for batching concrete and/or coated roadstone. In 1993, some 695,000 tonnes was imported by rail and consumed within the County. There are no records of the volume of minerals other than aggregates being transported by rail for use in the County, but these are likely to be very small. The rail network and existing rail heads are shown in Figure 5.

5.39 The origin of supplies of aggregates consumed in West Sussex is complex. The County is heavily dependent upon imports brought by rail and by sea. In 1989, for the first time, imported material exceeded local land-won production. This has continued and is likely to become even more pronounced in the future. The Minerals Planning Guidance for aggregates in the period up to 2006 promotes a small increase regionally in marine dredged material and a much larger increase in superquarry supplies. The recasting of government policy for the period after 2006 is likely to place an even heavier dependence upon imports for the region, which will be reflected in West Sussex. The movement of larger volumes of material by rail and water, rather than road, is given support in recent government guidance on transport (see Planning Policy Guidance Note 13).

Figure 5



5.40 Existing rail depots have spare production capacity. No site specific proposals have been submitted during work on the Minerals Local Plan to provide new rail depots, to expand existing ones or to move material from any workings by water. Any initiatives will be investigated by the County Council but it appears unlikely that such proposals would be sufficiently profitable during the plan period because they are dependent on the market as it is presently structured. Most of the land-won material is likely to be processed on site or nearby, and distributed locally by road. The wharves at Shoreham and Littlehampton no longer have rail access. Its provision at either port would require road crossings by rail or conveyor

systems. Discussions with Railtrack have indicated that the current level of imports would not justify the investment required. The rail access to the Lavant workings near Chichester has also been removed. Nevertheless, policies should be included in the Plan to ensure that all realistic opportunities to move material by rail are implemented.

5.41 **POLICY 36: FACILITIES TO ENABLE THE MOVEMENT OF MINERALS BY RAIL AND WATER WILL BE APPROVED SUBJECT TO DEVELOPMENT PLAN POLICIES AND OTHER MATERIAL CONSIDERATIONS.**

RAILHEADS

5.42 The increase in superquarry imports being encouraged by the government may begin to take effect towards the end of the Plan period and is likely to accelerate thereafter. West Sussex will be in a position to benefit. Therefore, sufficient capacity at wharves and particularly at rail-heads will need to be found if haulage of large volumes of aggregates by road is to be avoided. Superquarry crushed rock is imported into West Sussex already by rail from the Isle of Grain wharves to Crawley and Ardingly and they were notified to the District Councils under the formal 'safeguarding' procedure in April 1981. The areas affected are shown in Appendix 4. There may be potential for new wharfage at Southampton docks during the Plan period and beyond. Uncertainty may preclude development plan provision for new rail heads in West Sussex at present, but it would be prudent to ensure that potential sites are identified in this Plan for the purpose of 'safeguarding' them from other more immediate development proposals. The safeguarded sites comprise one in Chichester (see Inset Map I) on the north side of the line adjacent to Cathedral Way and one in Horsham (see Inset Map J) which includes the freight yard and some nearby sidings on the Crawley line and one at Littlehampton (see Inset Map K). These sites do not provide for the unloading or handling of minerals at present and therefore it is appropriate to deal with their safeguarding as Plan proposals.

5.43 **POLICY 37: EXISTING MINERALS RAIL-HEADS WILL BE SAFEGUARDED FROM OTHER FORMS OF DEVELOPMENT WHERE APPROPRIATE TO ENSURE THAT ADEQUATE FACILITIES FOR THE TRANSPORTATION OF MINERALS BY RAIL ARE AVAILABLE.**

5.44 **POLICY 38: SITES OFFERING POTENTIAL FOR THE PROVISION OF RAIL-HEADS TO FACILITATE THE MOVEMENT OF MINERAL MATERIAL BY RAIL WILL BE IDENTIFIED IN THE MINERALS SAFEGUARDING MAP ISSUED BY THE COUNTY COUNCIL TO OTHER PLANNING AUTHORITIES IN WEST SUSSEX TO ENSURE THAT FREIGHTING CONSIDERATIONS ARE TAKEN INTO ACCOUNT IN DETERMINING APPLICATIONS FOR CONFLICTING DEVELOPMENT. THE NEW SITES IDENTIFIED FOR SAFEGUARDING ARE:-**

CHICHESTER SIDINGS (INSET MAP I)

HORSHAM SIDINGS (INSET MAP J)

LITTLEHAMPTON SIDINGS (INSET MAP K)

5.45 Existing railheads at Crawley (see Map 1) lie within the built up area and the railhead at Ardingly (see Map 1) has poor road access. While facilities to transport mineral by rail are generally favoured, careful consideration will be given to local constraints to ensure that any further development is environmentally satisfactory. The development of new railheads will be subject to the same criteria.

5.46 **POLICY 39: FAVOURABLE CONSIDERATION WILL BE GIVEN TO THE IMPROVEMENT OF EXISTING RAILHEADS PROVIDED THAT SUCH OPERATIONS WOULD NOT HAVE AN UNACCEPTABLE IMPACT ON THE ENVIRONMENT AND WOULD NOT CAUSE A SIGNIFICANT INCREASE IN DISTURBANCE DUE TO FACTORS INCLUDING INCREASES IN NOISE, DUST AND TRAFFIC.**

WHARFAGE

5.47 The substantial increase in hard rock imports associated with superquarries and outlined in MPG6 may have a significant impact on the amount of wharfage needed in the South East during the latter half of the Plan period. It is not clear yet as to how the aggregate might be distributed throughout the region, but it is likely to be by a combination of small ships and rail. Shoreham Harbour is able to currently accommodate ships up to a maximum length of 120 metres whereas Littlehampton is limited to a maximum length of 72 metres. The contribution which may be made by superquarries is itself contentious.

5.48 The Regional Planning Guidance for the South East and MPG6 both emphasise the importance of wharves of all sizes, and for the need for them to be in readiness for increased imports. Existing wharves at Shoreham and Littlehampton were notified to District Councils under the formal 'safeguarding' procedure in April 1981. The areas affected are shown in Appendix 4. A proposal is included in this Plan for a new wharf at Littlehampton which while constrained by the bar at the Harbour mouth, would make an important contribution to aggregate imports.

5.49 **POLICY 40: WHARVES WITH CURRENT OR POTENTIAL MINERAL USE WILL BE SAFEGUARDED FROM INAPPROPRIATE DEVELOPMENT. THE IMPROVEMENT, MODERNISATION AND INCREASE IN CAPACITY OF AGGREGATE WHARVES WILL BE ENCOURAGED PROVIDED THAT SUCH OPERATIONS WOULD NOT HAVE AN UNACCEPTABLE IMPACT ON THE ENVIRONMENT AND WOULD NOT CAUSE A SIGNIFICANT INCREASE IN DISTURBANCE DUE TO FACTORS INCLUDING INCREASES IN NOISE, DUST AND TRAFFIC.**

5.50 **POLICY 41: A SITE FOR A NEW WHARF IS IDENTIFIED AT LITTLEHAMPTON (SITE NO. 11) (INSET MAP L)**

MINERAL PROCESSING PLANTS

5.51 In West Sussex, extracted minerals are primarily processed by washing, crushing and screening at both mineral extraction quarries, and at rail depots and wharves where material is delivered. Under the Town and Country Planning (General Permitted Development) Order such processing rights only exist for the duration of permitted mineral extraction at the site, which is, of its nature, a temporary activity. Some unprocessed excavated material is transported from quarries that do not have processing equipment to nearby sites that do, thereby reducing the need for such plant. Secondary processing such as concrete batching and coated roadstone production, when it also takes place at these sites, is subject to the control of the Mineral Planning Authority and to the development control policies set out in Chapter 6. Secondary processing, independent of extraction, and not sited on or adjacent to, mineral extraction sites, is subject to the District Council Development Control regime.

5.52 **POLICY 42: THE DEVELOPMENT OF NEW SECONDARY MINERAL PROCESSING PLANTS WITHIN EXISTING MINERAL EXTRACTION SITES WILL BE RESISTED AND LOCATIONS WITHIN ESTABLISHED INDUSTRIAL AREAS WILL GENERALLY BE PREFERRED. THE EXTENSION OR INTENSIFICATION OF EXISTING SECONDARY PROCESSING PLANTS**

WHICH ARE LOCATED WITHIN AN EXISTING MINERAL WORKING, WILL BE GIVEN FAVOURABLE CONSIDERATION ONLY WHERE THE PROPOSED OPERATIONS WOULD NOT HAVE AN UNACCEPTABLE IMPACT ON THE ENVIRONMENT AND WOULD NOT CAUSE A SIGNIFICANT INCREASE IN DISTURBANCE DUE TO FACTORS INCLUDING INCREASES IN NOISE, DUST AND TRAFFIC.

6. CONTROL OF WORKINGS

This chapter deals with the detailed controls which will be applied to new workings and to any review of existing workings. These controls are essential for minimising the impact of operations associated with the excavation of material.

6.1 New planning guidance recognises the effects that, for example visual intrusion of a site, changes in landscape, noise, vibration, dust and traffic can have, and the Government advises that in submitting planning applications `the industry should demonstrate that it is taking all practicable steps to satisfy the environmental concerns on site operation'. (Minerals Planning Guidance 6, April 1994)

6.2 It is important in this context to prevent the creation of pollution or nuisance at source, rather than subsequently trying to counteract their effects. Therefore it is necessary to establish clear and precise policies which leaves the industry in no doubt as to what is required when a planning application is submitted.

APPLICATION PREPARATION - EXPLORATION

6.3 The initial stage in assessing a new area for mineral working is usually testing by the landowner or proposed operator in order to prove the presence, extent and quality of mineral deposits. If mineral exploration does not come under permitted development as set out in Part 22 of the General Permitted Development Order (GPDO) 1995 then it will require planning permission. Exploratory boreholes drilled for petroleum exploration all require planning permission in accordance with Part 22 of the GPDO 1995.

6.4 Prior notification is required where test-drilling or dredging is intended within the Areas of Outstanding Natural Beauty (AONBs - High Weald, Sussex Downs and Chichester Harbour) or within Sites of Special Scientific Interest (SSSIs) or areas of archaeological interest. Exploration is usually swift and causes minimal (short-term) impact.

6.5 **POLICY 43: WHERE APPROPRIATE APPLICATIONS FOR MINERALS EXPLORATION WILL BE DETERMINED AGAINST THE CRITERIA ADOPTED FOR EXTRACTION PROPOSALS. PERMISSIONS GRANTED FOR EXPLORATION WILL NOT COMMIT THE COUNTY COUNCIL TO PERMIT EXTRACTION.**

APPLICATION PREPARATION - PRE-APPLICATION CONSULTATIONS

6.6 The County Council will assist applicants by taking part in pre-application consultations. This process helps to identify the main issues which will need attention with regard to particular prospective planning applications and to ensure that the operator's intentions are understood.

6.7 Where an Environmental Statement is required by the County Council, a more formal pre-application stage may be appropriate involving relevant statutory bodies.

APPLICATION PREPARATION - APPLICATIONS

6.8 Fully detailed planning applications are required by law for all commercial mineral extraction proposals. A number of specialist investigations may be required by the County Council to accompany detailed plans and other documentation, and these are to be prepared or commissioned by the applicant. Applicants do not

usually have to prove the need for a proposed development or discuss the merits of alternative sites, except where an Environmental Statement is required, although need may be a consideration where material planning objections are not outweighed by other planning benefits.

6.9 **POLICY 44: IN SUBMITTING A PLANNING APPLICATION FOR MINERAL EXTRACTION THE APPLICANT WILL BE REQUIRED TO PROVIDE APPROPRIATE PLANS AND FULL DETAILS OF:-**

(a) OWNERSHIP AND OTHER INTERESTS IN THE LAND;
(b) THE NATURE OF THE PROPOSED DEVELOPMENT;
(c) THE NATURE OF THE MINERAL DEPOSIT;
(d) SITE SURVEYS AS APPROPRIATE;
(e) THE PROPOSED METHOD OF EXTRACTION;
(f) DETAILS RELATING TO SOIL STRIPPING, HANDLING AND STORAGE;
(g) THE PROCESSING OF MATERIALS;
(h) ANCILLARY OPERATIONS AND DEVELOPMENT;
(i) TRANSPORT OF MATERIAL, ALL VEHICLE MOVEMENTS AND PROPOSED ROUTEING;
(j) THE ENVIRONMENTAL EFFECTS OF THE PROPOSALS;
(k) THE WATER ENVIRONMENT INCLUDING A HYDROLOGICAL SURVEY, DETAILS OF THE SURFACE WATER AND DETAILS OF ANY PROPOSED DRAINAGE AND DE-WATERING PROCESSES

ENVIRONMENTAL STATEMENTS

6.10 An Environmental Impact Assessment (EIA) is an important technique for investigating the full implications of new development before that development is undertaken. Where proposals for mineral development are likely to have significant effects on the environment, applications will need to be subject to an EIA under the Town and County Planning (Environmental Impact Assessment) (England and Wales Regulations 1999.

6.11 Whether or not a particular mineral development proposal will warrant an EIA will depend upon such factors as the sensitivity of location, size, working methods, the nature and extent of processing and ancillary operations, the arrangements for transporting products away from the site and proposals for reclamation. The duration of the proposed workings is also a factor to be taken into account.

6.12 Some locations will be particularly sensitive due to the likely effect upon, for example, residential amenity, the water environment, nature conservation, archaeological features, Conservation Areas and Listed Buildings and landscape. A proposal within an Area of Outstanding Natural Beauty will usually require an EIA as will a proposal affecting a conservation site of international or national importance and, in many instances, one of more local significance.

6.13 When it is determined that an EIA is required, an Environmental Statement (ES) must be produced to accompany the application. This should take the form of a technical evaluation of the environmental effects of the development, and a non-technical summary to make the ES accessible to the general public. It is recommended that discussions should be opened with technical bodies at an early stage to help establish the scope of the Environmental Statement. These must include English Nature, the Countryside Commission and the Environment Agency. Further details of Environmental Impact Assessments and Statements are included in DETR Circular 02/99.

6.14 It is recommended that applicants submitting major applications make contact with local communities to explain their proposals by means of exhibitions and/or talks.

THE CONTROL OF MINERAL WORKINGS

6.15 In most instances the detailed control of mineral workings will be exercised by the imposition of conditions on planning permissions. However, other means of control may be used where appropriate. For example, agreement may be secured to ensure that local road improvements required to accommodate quarry vehicles are carried out in advance of workings at the operators' expense and a financial contribution may be sought from an operator where extraordinary use of roads by heavy vehicles is likely to lead to excessive maintenance liability for the Highway Authority. Other environmental measures, such as off-site landscaping required to screen workings may be volunteered as unilateral undertakings or as `Planning Obligations' by agreement under the Town and Country Planning Acts.

6.16 Undertakings may be sought from operators to manage the routeing of vehicles locally, for example to avoid residential areas and poor roads. Such undertakings require the co-operation of drivers, not all of whom are within the operators' control, but they have proved effective in relation to a number of existing workings. Traffic Regulation Orders prohibiting heavy vehicles may occasionally be considered. Effective policing of these Orders is extremely difficult and because they do not deny a right of access, they are of little use for roads close to the quarry entrance. Traffic calming measures which discourage quarry vehicles from using particular routes may be more successful and could be developed for special use in this context. At the detailed planning application stage, greater consideration will be given to this, in liaison with the County Highway Authority.

6.17 Most operators are now carrying out environmental audits of their sites for environmental, financial and insurance reasons. At present, none have been made available to the County Council, although it is hoped that this will change in due course. Audits of this sort should provide a further useful means of achieving improved practices. Some mineral companies have published Codes of Practice which provide a further gauge against which performance can be measured and which carry considerable influence. The County Council will monitor practice, and will give encouragement to those companies who make good progress.

6.18 It is important that the public are kept fully informed of the progress on sites which are granted planning permission. The County Council will encourage and assist in the creation of Liaison Groups between operators and local communities to promote better understanding and to stimulate satisfactory progress towards reclamation.

6.19 **POLICY 45: THE COUNTY COUNCIL WILL IMPOSE CONDITIONS ON PLANNING PERMISSIONS FOR WORKING AND RECLAMATION, THAT WILL SEEK TO SECURE THE BEST PRACTICE IN OPERATIONAL STANDARDS.**

6.20 **POLICY 46: PLANNING OBLIGATIONS, OTHER AGREEMENTS AND UNDERTAKINGS WILL BE SOUGHT WHERE SUCH CONTROL CANNOT BE SECURED BY PLANNING CONDITIONS IN ORDER TO ENSURE THAT THE DEVELOPMENT AND OPERATION OF WORKINGS ARE CONTROLLED COMPREHENSIVELY.**

6.21 Many older permissions do not have planning conditions sufficient to control potential disturbance. In the context of sustainable development it is essential to bring permissions up to date. The Planning and Compensation Act 1991, Interim Development Order, updated permissions granted before 1948 and permissions

granted between 1948 and 22nd February 1982 are being updated in accordance with the Environment Act 1995 (see para. 4.63).

STANDARDS OF PLANNING AND LAYOUT

HIGHWAYS, ACCESS AND PARKING

6.22 The sites identified in the Plan have been evaluated in relation to their distance from the nearest Strategic or Local Lorry Route, and whether there is a possibility of using rail services. It is not only a matter of distance: account has also been taken, for example, of residential amenity, schools and Conservation Areas on the route. Permission will be refused if acceptable access arrangements cannot be implemented. Realistic estimates of the number of vehicle movements likely to be generated will be required and will be taken into account in relation to the standard of the road network, the scope for appropriate improvements (especially in Areas of Outstanding Natural Beauty) and the effect on the environment including local and other communities. Reference has been made in paragraphs 6.15 and 6.16 to the routing of vehicles. Production levels may need to be limited to ensure that the quarry traffic generated does not place undue pressure on local road networks and upon their physical condition. Adequate turning facilities, parking, surfaced haul roads and wheel cleaning equipment may be required within sites to ensure that vehicles are accommodated satisfactorily and do not deposit unwanted material on public highways. Access into sites may require slip roads, and appropriate sight lines will be required prior to operations commencing.

6.23 **POLICY 47: WHERE PLANNING APPLICATIONS FOR MINERAL DEVELOPMENT ARE CONSIDERED, ACCOUNT WILL BE TAKEN OF THE NUMBERS, TYPE AND ROUTEING OF VEHICLES LIKELY TO BE GENERATED. PERMISSION WILL REFUSED IF THE HIGHWAY NETWORK IS INADEQUATE AND ANY SIGNIFICANT HARM WHICH WOULD BE CAUSED BY THE INADEQUACY CANNOT BE OVERCOME. IN ADDITION, PERMISSION WILL BE REFUSED IF, IN ATTEMPTING TO OVERCOME ANY HIGHWAYS INADEQUACY, THE IMPROVEMENTS THEMSELVES WOULD CAUSE SIGNIFICANT HARM TO THE ENVIRONMENT.**

6.24 **POLICY 48: ACCESS TO MINERALS SITES FROM THE HIGHWAY WILL BE REQUIRED TO MEET SATISFACTORY STANDARDS AND WITHIN SITES SATISFACTORY PROVISION FOR VEHICLE TURNING, MANOEUVRING, LOADING AND WHERE APPROPRIATE WHEEL CLEANING FACILITIES WILL BE REQUIRED.**

CUMULATIVE EFFECT

6.25 Account will be taken of the operation of other mineral sites in the vicinity of an application for a new site. Existing workings and proposed new sites may be seen together from the same viewpoints, but even elsewhere the cumulative impact of working, noise, dust and traffic may affect the same general area. It is appropriate to consider the cumulative impact upon local residents, upon the local landscape and other countryside resources and upon the road network. In some instances the combined impact may be sufficient to merit refusal of planning permission, but in other cases phasing agreements may provide for the disturbance to be reduced to an acceptable level. Irrespective of whether in different ownership and/or operated by different companies, it may be necessary to seek co-operative measures to ensure effective phasing.

6.26 **POLICY 49: IN DETERMINING AN APPLICATION FOR A NEW MINERAL WORKING, ACCOUNT WILL BE TAKEN OF THE CUMULATIVE EFFECT OF MINERAL WORKINGS ON THE LOCALITY. PERMISSION FOR NEW**

WORKINGS WILL BE REFUSED IF IT IS CONSIDERED THAT AN UNREASONABLE LEVEL OF DISTURBANCE WILL RESULT FROM SITES OPERATING SIMULTANEOUSLY. PHASING AGREEMENTS MAY BE SOUGHT TO CO-ORDINATE WORKING, THEREBY REDUCING THE CUMULATIVE IMPACT.

DESIGN BRIEFS

6.27 Design briefs will be prepared for new sites identified for mineral working in the Local Plan. They will set out how the County Council wishes to see the site screened, where access should be provided and other detailed matters, including reclamation as appropriate.

SURVEYS

6.28 A comprehensive survey of a site will be required in advance to ensure that the proposed excavation is properly documented and the impact fully understood. It will provide an important base for the working scheme and for reclamation proposals.

6.29 **POLICY 50: A SURVEY OF EXISTING GROUND LEVELS MUST BE UNDERTAKEN BY THE APPLICANT AND BE SUPPLIED WITH THE PLANNING APPLICATION.**

WORKING SCHEMES

6.30 When a large site is to be worked, disturbance may be reduced by requiring work to be undertaken in accordance with an agreed programme which divides the site into a number of smaller areas to be worked and reclaimed in succession (known as progressive reclamation). It may not be appropriate to tie the working scheme to specific years as the rate of excavation may alter due to unpredictable working difficulties, changes in the nature of the deposit, fluctuating demand and variability in the availability of fill or other reclamation material.

6.31 In certain circumstances, it may be preferable to specify that the overall scheme is supplemented by the submission and agreement from time to time of more detailed plans of phased working and reclamation. It may be appropriate to identify particular areas which will not be worked until other specified areas within the site have been reclaimed. This would provide a basis for regular control which, if necessary, could accommodate modifications without the loss of overall control of the site. The scheme may limit the depth of working to ensure, for example, that reclamation proposals can be implemented more easily, but it should be noted that this may sterilise further mineral resources. Further attention has been given to reclamation in Chapter 4.

6.32 **POLICY 51: APPLICANTS WILL BE REQUIRED TO INCLUDE IN PLANNING APPLICATIONS A SATISFACTORY WORKING SCHEME TO SHOW HOW WORKING WITHIN THE SITE IS INTENDED TO PROGRESS AND TO SHOW HOW RECLAMATION WILL FOLLOW CLOSE BEHIND EXCAVATION. UNWORKED AREAS WILL BE REQUIRED TO CONTINUE IN USE FOR FARMING OR BE MANAGED TO AN AGREED SPECIFICATION. APPROPRIATE ACCESS TO RECLAIMED AREAS WILL BE REQUIRED TO ENABLE AN APPROVED AFTERCARE SCHEME TO COMMENCE AT THE EARLIEST OPPORTUNITY.**

6.33 **POLICY 52: DETAILS WILL BE REQUIRED OF THE SITING AND APPEARANCE OF BUILDINGS, MACHINERY AND PLANT TOGETHER WITH PROPOSALS FOR THEIR REMOVAL WHEN NO LONGER REQUIRED IN CONNECTION WITH THE DEVELOPMENT.**

LANDSCAPING

6.34 It is important to minimise disturbance to the locality and to maximise existing screening of proposed workings. It takes time for temporary soil bunding to settle and planting to become effective; and even when undertaken in advance, the raw appearance of a site can be evident for many years. Tree planting may be appropriate to screen long range views, but benefit can be obtained from encouraging native hedgerow plants to establish thick, albeit relatively low screening, restricting eye level views into sites. However, there is a need to ensure that soil reserves in bunds do not deteriorate by temporary landscaping or by handling. The landscaping measures provided for in the policy below will be required to be implemented at the earliest practicable opportunity.

6.35 **POLICY 53:**

(a) APPLICATIONS FOR MINERAL WORKINGS WILL BE REQUIRED TO INCORPORATE SATISFACTORY MEASURES FOR THE RETENTION, PROTECTION AND MAINTENANCE OF EXISTING TREES, HEDGEROWS AND SHRUBS WHERE APPROPRIATE.

(b) THE PROVISION OF SOIL BUNDS AND PLANTING WILL BE REQUIRED WHERE NECESSARY TO SCREEN WORKINGS AND TO CONTRIBUTE TO FINAL RECLAMATION SCHEMES.

NATURE AND GEOLOGICAL CONSERVATION

6.36 Animals and plants of conservation interest may become established within workings especially during periods of little activity. Sensitive management of the workings and modifications to working schemes may help to encourage and subsequently protect such occurrences. Similarly, geological features of considerable interest may be revealed. While it is appreciated that it may be difficult to retain such features without significant interference with excavation techniques and reclamation schemes, efforts will be made to record and/or preserve particularly important examples. Operators will be required to use their best endeavours to protect features of nature conservation or geological interest discovered during working.

ARCHAEOLOGY

6.37 Archaeological remains are a finite and non-renewable resource, in many cases highly fragile and vulnerable to damage and destruction. Appropriate management is essential to ensure that they survive in good condition. It is not always feasible to save all archaeological remains but the government supports a presumption in favour of their physical preservation (Planning Policy Guidance Note 16, Archaeology and Planning, 1990).

6.38 To take proper and considered account of archaeological factors it is crucial that they are taken into account at the early part of the planning decision process.

6.39 To facilitate this it is necessary to foster co-operation between archaeologists and mineral operators, particularly where the archaeological remains are of a type which cannot be given statutory protection under current legislation. The Confederation of British Industry has published a Code of Practice for Mineral Operators on Archaeological Investigations and the County Council has published a Code of Practice for Archaeology in West Sussex. In all cases where the proposed development appears to be within a known or potential area of archaeological importance, early consultation by the operator is recommended.

6.40 The County Council maintains a record of all known archaeological sites and finds in the County, and operators are encouraged to seek relevant information on prospective mineral working sites prior to submission of planning applications. Some of the earliest and richest archaeological remains on the coastal plain lie within and beneath drift deposits of gravel and brickearth on prospective mineral working sites, and additional information on these may be found in the reports of the Southern Rivers Palaeolithic Project.

6.41 In connection with some planning applications, additional information may be required from mineral operators in order to assess the extent, degree of preservation and significance of archaeological remains, and the impact of mineral working on those remains. In such cases this information can be supplied by the operator only through undertaking an archaeological field evaluation. The quality of the remains may lead to an alteration of the site working area so as to allow preservation in situ, or to preservation of the site by record, through detailed investigation and recording. Operators will be required to use their best endeavours to protect features of archaeological interest discovered during working.

6.42 **POLICY 54: WHERE NECESSARY, MINERAL OPERATORS WILL BE REQUIRED TO DEFINE THE CHARACTER AND SIGNIFICANCE OF ARCHAEOLOGICAL REMAINS ON PROPOSED MINERALS SITES BY MEANS OF ARCHAEOLOGICAL FIELD EVALUATION.**

PUBLIC RIGHTS OF WAY

6.43 Specific provision for the stopping up and diversion of footpaths and bridleways affected by development and for their temporary stopping up for the purpose of mineral working is provided in the Town and Country Planning Act 1990, Section 257. Occasionally, provisions under the Highways Act may be used instead. Nevertheless, the County Council will seek to safeguard these routes, taking account of views into mineral workings which might be obtained from public rights of way and will encourage the provision of additional new routes, especially when workings cease and the original routes are reinstated.

6.44 **POLICY 55: PUBLIC RIGHTS OF WAY WILL BE SAFEGUARDED AND PROMOTED. THE AMENITY OF RIGHTS OF WAY, (PARTICULARLY VIEWS ACROSS WORKINGS) WILL BE TAKEN INTO ACCOUNT IN CONSIDERING PROPOSALS FOR LANDSCAPING AND SCREENING MINERAL SITES. WHERE STOPPING UP IS NECESSARY TO ENABLE EXTRACTION TO TAKE PLACE, STEPS WILL BE TAKEN WHERE PRACTICABLE TO SECURE THE PROVISION OF ALTERNATIVE PATHS AFFORDING CONNECTIONS TO OTHER HIGHWAYS IN SUCH A WAY AS TO MAINTAIN THE INTEGRITY OF THE RIGHTS OF WAY NETWORK AS A WHOLE AND TO PROVIDE ACCESS TO SUCH PARTS OF THE ORIGINAL PATHS AS DO NOT NEED TO BE STOPPED UP. ALTERNATIVE PATHS AND ANY NECESSARY DIVERSIONS OF EXISTING PATHS WILL BE REQUIRED TO BE IN PLACE IN GOOD TIME. WHERE APPROPRIATE, RECLAMATION PROPOSALS WILL BE SOUGHT TO INCREASE THE RIGHTS OF WAY NETWORK AND TO ENSURE THE REINSTATEMENT AT THE EARLIEST OPPORTUNITY OF THE ORIGINAL RIGHT OF WAY.**

WATER

6.45 The water environment and water supplies will be protected.

6.46 **POLICY 56: THE QUALITY OF SURFACE AND GROUND WATER SUPPLIES WILL BE PROTECTED AND STEPS WILL BE TAKEN TO ENSURE THAT**

PROPOSED MINERAL EXTRACTION WILL HAVE NO ADVERSE EFFECT UPON THE WATER TABLE WHICH WOULD BE LIKELY TO CAUSE SIGNIFICANT ENVIRONMENTAL DAMAGE, FLOODING OR ADVERSELY AFFECT WATER RESOURCES.

WORKING PRACTICES

IMPORTS

6.47 Operators may wish to import small quantities of material into workings or associated manufacturing processes to provide a wider range of materials for alternative products. While this may be innocuous when kept to small, controlled amounts there is a risk that activities unrelated (or only loosely related) to the particular mineral working may become established in inappropriate locations (West Sussex Structure Plan 2001-2016 Policy ERA5). Safeguards are required if this importing practice is to be permitted and it may constitute development requiring planning permission. It is recognised that there may be some benefit in maximising the use of lower grade material and producing a range of products for local markets. Similarly, the addition of small quantities of materials may enhance or perpetuate a product that may otherwise become unobtainable. The benefits in reducing transport costs locally may have to be offset against the associated impact in environmental terms of other additional traffic movements. Some benefit may accrue from the ability to make efficient use of low grade materials that would otherwise not be utilised and consequent savings in the use of higher specification materials. The operator will be expected to furnish proof of the scale of operations utilising imported materials to verify and enable assessment of the effects of the movements and activities involved.

6.48 **POLICY 57: THE IMPORTATION OF MATERIAL TO MINERAL SITES MAY BE PERMITTED WHERE IT IS DEMONSTRATED TO THE SATISFACTION OF THE MINERAL PLANNING AUTHORITY THAT THE IMPORTATION OF MATERIAL WILL NOT BECOME INDEPENDENT OF THE MINERAL WORKING WHICH IS THE PRIMARY USE OF THE SITE; AND THAT EITHER**

(a) THE MIX OF MATERIAL THEREBY PRODUCED WOULD PROVIDE A RANGE OF MATERIAL WHICH CANNOT BE OBTAINED OTHERWISE LOCALLY; OR

(b) IMPORTS ENABLE THE USE OF POOR QUALITY MINERAL FOR LOW GRADE APPLICATIONS; OR

(c) IMPORTS ENABLE THE CONTINUED PRODUCTION OF A RANGE OF PRODUCTS TO MEET MARKET DEMANDS WHICH OTHERWISE WOULD BECOME UNAVAILABLE.

SUCH IMPORTS MUST CEASE WHEN WORKINGS CEASE, EVEN DURING TEMPORARY PERIODS OF INACTIVITY.

SOIL

6.49 Conditions will be imposed upon planning permissions to require the separate stripping, storage and re-spreading of topsoil, subsoil and any other soil making materials. Soils should be handled only when they are in a dry and friable condition. Defined soil moisture limits may also be used in assessing the suitability of soils for stripping, moving and other operations. In addition, topsoils and subsoils (and any other significantly different horizons) should be stripped and stored separately to avoid the loss and/or dilution of soil reserves.

6.50 **POLICY 58: APPROPRIATE STRIPPING, HANDLING AND STORAGE OF SOILS PRIOR TO AND DURING MINERAL WORKING WILL BE REQUIRED IN ORDER TO PROTECT ITS QUALITY PENDING RE-SPREADING. SOILS REQUIRED FOR RESTORATION MUST BE RETAINED ON THE SITE.**

DRAINAGE

6.51 Adequate drainage will be required to ensure that working conditions on the site are satisfactory and that any discharges to local water courses are controlled and clean. Such discharges are also controlled by Environment Agency licensing. Close co-operation will be maintained to ensure that working practices are negotiated appropriate to both the planning and licensing systems. A considerable amount of water may be required for washing the mineral, particularly in processing aggregates. Water boreholes are often drilled for this purpose and are licensed by the Environment Agency. A complex system of silt ponds may be required to filter out sediment prior to re-use or discharge of surplus water.

6.52 **POLICY 59: CONDITIONS WILL BE IMPOSED UPON PLANNING PERMISSIONS TO ENSURE THAT THE DRAINAGE AND DISCHARGE OF WATER IS EFFICIENTLY AND PROPERLY CONTROLLED WITHIN THE SITE.**

NOISE

6.53 Some mineral working operations can give rise to considerable noise which will be a major problem if workings are close to dwellings or other noise-sensitive premises. Minerals Planning Guidance Note 11 published April 1993 provides detailed advice on the control of noise at mineral workings. Noise can be reduced by fitting silencers to plant, or by providing acoustic barriers and siting plant carefully in relation to other development. Conditions will be imposed stipulating maximum noise levels at the boundaries of the site or outside key nearby buildings. Exceptionally, short term activities such as the construction and removal of earth banks may need to be controlled separately. Close co-operation with District Council Environmental Health Officers is required to establish appropriate standards and monitor activity to ensure that no statutory nuisance occurs under the Environmental Protection Act 1990. The noise emitted by road vehicles should also be taken into account. It may be necessary, before planning permission is granted, for an applicant to demonstrate that all proposed activities can be undertaken within certain noise levels. The submission of data relating to existing noise levels may be required.

6.54 **POLICY 60: CONDITIONS WILL BE IMPOSED REQUIRING THAT ACCEPTABLE MAXIMUM LEVELS OF NOISE ARE NOT EXCEEDED AND APPROPRIATE MONITORING POINTS WILL BE IDENTIFIED ON SITE BOUNDARIES AND/OR AT APPROPRIATE LOCATIONS OUTSIDE THE SITE.**

DUST, SMOKE AND FUMES

6.55 There are no current standards relating to the control of dust levels in residential areas, on roads or the countryside although legislation exists (in the Environmental Protection Act 1990) relating to the emission of offensive substances, grit and smoke from certain processes which may be present on mineral sites. It is advisable to ensure that measures to suppress dust are provided.

6.56 **POLICY 61: CONDITIONS WILL BE IMPOSED UPON PLANNING PERMISSIONS WHERE APPROPRIATE TO SUPPRESS DUST LEVELS BY SUCH MEANS AS SPRAYING WATER ON MATERIAL AT APPROPRIATE**

STAGES IN PROCESSING, AND BY WATERING (OR BOWSING) AREAS REGULARLY USED BY VEHICLES, AND BY THE USE OF DUST EXTRACTORS.

LIGHTING

6.57 Most mineral sites require lighting for safety and security. This can be intense and care should be taken to ensure that the source of light is directed away from nearby properties and public highways, and inward to the works. The tinting, intensity and positioning of lighting can be controlled by conditions. Security lighting during hours of inactivity should be unobtrusive or only activated by intruders.

6.58 **POLICY 62: CONDITIONS WILL BE IMPOSED ON PLANNING PERMISSIONS TO CONTROL THE ARTIFICIAL LIGHTING OF SITES IN THE INTERESTS OF LOCAL AMENITY.**

HOURS OF WORK

6.59 The combination of noise disturbance by plant and vehicles, including vehicles arriving and queuing to enter a site early in the morning, dust emissions and potentially intrusive lighting emphasises the need for agreeing reasonable limitations to working hours. Traditionally these allowed working between 7.00 a.m. and 6.00 p.m. Monday to Friday and on Saturday mornings only. However, where residential amenity is likely to be significantly adversely affected it is considered appropriate to introduce more neighbourly hours in line with current expectations of peace and quiet. It is appreciated that this will affect commercial practice but in some locations this will be necessary if mineral working is to be accommodated by the local community.

6.60 **POLICY 63: WHERE APPROPRIATE CONDITIONS CONTROLLING HOURS OF WORK WILL BE IMPOSED ON PLANNING PERMISSIONS INVOLVING MINERAL WORKING, PROCESSING AND ANCILLARY OPERATIONS, IN ORDER TO SAFEGUARD RESIDENTIAL AMENITIES.**

BUFFER ZONES

6.61 Where mineral extraction is to take place in the vicinity of residential areas other sensitive premises and environmentally sensitive sites it may be helpful to ensure that working and processing does not take place within a defined zone. This would establish a buffer between the activity and adjoining land uses over which disturbances are likely to be reduced. The width of buffer zones will depend upon topography, vegetation and many other factors such that it is not appropriate to apply a single standard to all cases. It is preferable to consider each set of circumstances when planning applications are submitted and to tailor buffer zones accordingly, although the Plan will indicate where they are likely to be required. They may have a useful multi-purpose function (including noise reduction, soil storage, the provision of dust suppression and the concealment of workings and lighting from everyday view). Care should be taken to ensure that topsoil is removed from those buffer zones where subsoil or other materials are to be stored, and that soil reserves do not deteriorate due to inappropriate planting or handling.

6.62 **POLICY 64: BUFFER ZONES TO REDUCE THE IMPACT OF OPERATIONS UPON THE NEIGHBOURHOOD MAY BE REQUIRED, PARTICULARLY IN RELATION TO RESIDENTIAL AREAS AND OTHER NOISE SENSITIVE USES.**

7. IMPLEMENTATION

7.1 The policies contained within this Plan, when adopted, will be implemented principally through the normal development control process. The County Council will be guided by them in determining planning applications for minerals extraction or related development, and in deciding on conditions that may be attached to any permission.

7.2 Once planning permissions are granted, the County Council has a duty to ensure that any conditions associated with that permission are complied with and to investigate alleged breaches of planning control and carry out appropriate action. To prevent breaches occurring, the County Council will promote liaison between operators and the local communities and will also seek to encourage the establishment of liaison groups to monitor the implementation of major new minerals developments. Membership of liaison groups should be organised to reflect local circumstances, but would usually include representation from the Parish Council, the Mineral Planning Authority and quarry management. In some instances it could be appropriate to extend membership to other local organisations such as established Residents' Associations, and to provide for particular interests by inviting specialists in, for example, archaeology or nature conservation to attend (see Policy 21).

MONITORING

7.3 The effectiveness of the policies which are adopted in this Plan will be assessed as part of the comprehensive monitoring of mineral work in the County.

7.4 Environmental audits of minerals sites are undertaken by a number of mineral companies. These are not published at present and may vary in content according to company objectives. `Compliance audits', for example, usually provide a check of whether sites comply with all relevant legislation. Other audits may include environmental quality criteria and cover a much broader range of topics. The opportunity will be taken to seek co-operation with mineral operators, to identify targets for environmental improvements jointly, and to make positive use of the attention being focused on environmental matters. It will be beneficial for such audits to be used as a means of improving standards above the minimum set by legislation (and by this Plan).

REVIEW

7.5 Minerals Planning Guidance Note 6 published April 1994 requires that all Minerals Local Plans are reviewed at least every five years after adoption. The County Council will programme reviews not less frequently than 5 years, but this will be undertaken sooner if monitoring results indicate the need.

PROPOSALS AND INSET MAPS

SITES WHERE MINERAL WORKING MAY BE PERMITTED DURING THE PLAN PERIOD

The PROPOSALS MAP shows where INSET MAPS have been prepared to identify the sites in more detail.

The INSET MAPS include notation to show the boundary of the proposed sites; mineral workings in the vicinity; the location of notable features nearby and public rights of way. Listed Buildings are indicated except in Conservation Areas where they are usually too numerous to show clearly. This information is intended to set the planning context.

There may be variations to the boundaries of the sites shown on the Inset Maps; normally these would be minor. It is at the planning application stage that the exact definition of the area for extraction, the land to be used for landscaping, the form the landscaping should take and noise and dust suppression measures should be considered.

Where existing planning permissions are shown on the Inset Maps, the full extent of the area covered by a planning permission is indicated, but the areas shown include buffer zones and landscaped areas, and working has not necessarily been permitted up to the marked boundary. Full details can be obtained from the planning decision notice and plans.

The STATEMENTS which accompany each of the Inset Maps have been prepared to indicate the planning considerations which will need to be addressed by a developer. Applicants are recommended to have pre-application discussions with the mineral planning authority.

PROPOSALS AND INSET MAPS

PROPOSALS MAP

DRAYTON (Sites No. 1 and 72) INSET MAP A

DRAYTON (Sites No. 1 and 72) **INSET MAP A**

Location	SU 887 042
Area	29.7 hectares
Potential total yield	959,800 tonnes (gravel)
Proposed working	Wet working, mineral transported by road to Portfield for processing. The site could be worked early in the plan period and in phases with reclamation to a reedbed lake.

PLANNING CONSIDERATIONS

Existing Use: The site contains 29.7 hectares of agricultural land of which 16.0 hectares is Grade 2, 0.5 hectares is Grade 3a, and 13.2 hectares is Grade 3b.

Amenities: Two houses are located on the north-eastern side of the site, and Drayton House which is a Grade 2 listed building would be surrounded by the workings. Drayton House is occupied as offices and a night club. A mobile home site (Drayton Park) and Country Gardens, a garden centre, lie to the south of the site. A detailed evaluation of the likely impact and measures proposed to mitigate the effect of noise, dust and visual impact are required to accompany any planning application. These will include margins, land moulding and planting and/or water sprays as appropriate.

The Portsmouth/Brighton railway line runs adjacent to the northern boundary and an appropriate northern margin is required. Railtrack has requested that they be consulted during the preparation of any planning application for this site.

Transportation: Access will be to the A259 only with a left-in/left-out arrangement. Visibility splays of 4.5 metres by 295 metres are required. To reach the A27 all vehicles leaving the site will travel eastwards to the A259/Drayton Lane roundabout where they will be able to turn westwards.

Processing will not take place on site. Material extracted will be stockpiled to drain and then transported to Portfield for processing.

Public Access: Public rights of way will not be directly affected.

Water Environment: The site was subject to an embargo on further mineral working imposed in August 1994 which has now been lifted. A hydrogeological study is required. The site will be worked wet and the Environment Agency advises that the groundwater flow is impeded by an existing landfill site to the north and therefore, there are no significant concerns relative to the obstruction of groundwater movement. Pollution problems may arise due to the proximity of the landfill site and the situation requires monitoring. A groundwater management scheme may be required. Particular precautions may need to be taken to prevent landfill leachate contaminating surface water. There is a spring-fed ditch immediately to the west of the site.

Landscape: The site is flat with generally well established hedges and trees along the eastern, southern and south-western boundaries. Views from the A259 show the site in the foreground to the more distant

views of the Sussex Downs. Working will be phased in order to create as little disturbance in the landscape.

Nature Conservation:

There is unlikely to be much nature conservation interest in the open, farmed land but the boundary hedgerows may be of value. A detailed ecological survey is required to identify features to be protected and managed during working.

Cultural Heritage:

An archaeological field evaluation of the MLP site 1 (Drayton) in February/ March 1997 showed the site to have some archaeological potential.

As part of any planning permission to work the site the County Archaeologist has recommended that any archaeological remains should be preserved `by record' before extraction takes place.

Extraction will need to be carefully phased in order to ensure that the setting of Drayton House is retained during working and in the reclamation plans for the site. The hydrogeological survey required in connection with the 'water environment' should include the examination of the effect that changes in the water table may have on Drayton House.

While it is not at present known whether buried archaeological features are present on MLP Site 72 (Drayton South), the site lies in a landscape which was intensively settled in later prehistoric and Roman times. An archaeological field evaluation is required prior to the determination of any planning application to ascertain the character and extent of any archaeological remains, and to determine their significance.

Reclamation:

Although working will involve the loss of 16.0 hectares of Grade 2 agricultural land, the wet pit presents considerable nature conservation opportunities. The site will be reclaimed for nature conservation purposes and may include some reedbeds, which provide a rich habitat. Some limited inert filling may be permitted but only if the hydrogeological survey shows this to be technically acceptable and only if it is proven to be essential to create a habitat of appropriate quality by, for example, helping to provide shallows.

Reclamation in the vicinity of Drayton House is required to provide a setting appropriate for the listed building and other buildings in the group. An appropriate setting is required in respect of the dwellings on the north-eastern boundary.

A detailed design brief will be required as part of any planning application to work the site to show how disturbance to nearby properties and their occupants and disturbance to the area as a whole will be minimised.

KINGSHAM (Site Nos. 7 and 51) INSET MAP B

KINGSHAM (Site Nos. 7 and 51) **INSET MAP B**

Location	SU 862 034
Area	47.6 hectares
Potential total yield	970,100 tonnes (gravel)
Proposed working	Processing could take place within the site. The site will be worked wet and a progressive working scheme is required

PLANNING CONSIDERATIONS

Existing Use: The site contains 44.1 hectares of agricultural land of which 8.6 hectares is Grade 2 and 35.5 hectares is Grade 3b. 3.5 hectares of the site is not in agricultural use

Amenities: The site lies to the south of Chichester from which it is separated by the A27. Schools lie immediately to the north and the developed area of Stockbridge to the west. The Chichester Canal lies along the western boundary. The former Carmelite Convent adjoins the eastern boundary. Planning permission has been granted for the conversion of these buildings to residential and business accommodation. A detailed evaluation of the likely impact and measures proposed to mitigate the effect of noise, dust and visual impact are required to accompany any planning application. These may include margins, land moulding and/or planting as appropriate, particularly along the western boundary where a buffer strip of semi-natural vegetation should be retained alongside the Chichester Canal to ensure that the integrity of the wildlife corridor is retained. Measures to protect the setting and amenity of the former Carmelite Convent and its occupiers will be required. Existing well established hedgerows and trees along the northern and western boundaries may require supplementing to reduce impact on residential areas and the schools.

Transportation: Access will be to the B2145 to the east only. One option may be the provision of an access north of the Carmelite Convent which would require the removal of existing substantial beech hedgerows and advance replacement planting behind sight lines will be required. In addition, off-site highway works at the junction with the B2145 and at the junction of the B2145 with the A27 Trunk Road will be required. Any access option which is permitted at the planning application stage to work the site will require a right turn stacking lane at the junction with the B2145 to remove the likelihood of turning vehicles interrupting the through flow of other traffic using the B2145. In addition, other off-site highway works will be required to the B2145 and its junction with the A27 roundabout, where an additional lane of entry will need to be constructed to improve the capacity of the roundabout.

Public Access: A public footpath (190) runs north-south through the eastern part of the site. It will be crossed by haul traffic and arrangements are required to ensure the safe passage of walkers and vehicles.

Water Environment: This site was subject to an embargo on further mineral working imposed in August 1994 and which has now been lifted. The site will be worked wet and a hydrogeological study is required to confirm site conditions. Any excavation and infill works could impede the movement of groundwater thus exacerbating or creating flooding unless a comprehensive groundwater

management scheme is incorporated to alleviate any problems associated with impedance to groundwater movement both during and after mineral extraction. In considering such a scheme it will have to be ensured that there is no risk of flooding from watercourses due to any consequent increase in surface water flows.

The Chichester Canal lies along the western boundary and the mineral planning authority will need to be satisfied that it will not be detrimentally affected by the proposed workings. Account will need to be taken of the Chichester Flood Relief Scheme, should the Chichester Canal option be chosen.

Landscape: The site is generally flat with established boundary hedgerows which should be retained. Also, there are established internal hedgerows which should be retained where practicable to fragment the impact of working, especially from the more open views obtained from the south.

Nature Conservation: There are Sites of Nature Conservation Importance nearby. There are no known sites of nature conservation significance within the site although the boundary and internal hedgerows may be of interest. A detailed ecological survey is required. The methods and rate of working will be required to take account of features of interest.

Cultural Heritage: The site is archaeologically of some potential and evidence of Roman and Saxon works have been found. A desktop assessment of the site is required to clarify historic details followed by an archaeological evaluation prior to determination of any planning application in order to ascertain the survival and extent of buried ancient features and deposits. Early examination of contractors' borehole records is required to facilitate this process.

Reclamation: The site will be reclaimed as a series of lakes to create an interesting landscape feature primarily for nature conservation although opportunities for water based recreation require investigation, especially in relation to the Chichester Canal. Part of the site could provide new reedbeds, a rich habitat, and reclamation presents considerable nature conservation opportunities.

A progressive working and reclamation scheme is required at the planning application stage to minimise disturbance to neighbouring residential property and to ensure that recreation and nature conservation interests are properly planned and designed. Shallows may be required to create lakes of varying depth and the design and management of the workings will be required to form part of any planning application to show how this will be achieved.

Public footpath 190 will be retained as part of the reclamation scheme.

LAVANT RE-OPENING (Site No 43) INSET MAP C

LAVANT RE-OPENING (Site No 43) **INSET MAP C**

Location	SU 841 075
Area	50.9 hectares
Potential total yield	2,400,000 tonnes (gravel)
Proposed working	The site would be worked dry with reclamation by low level to agriculture. A considerable time may be needed to resolve access problems. A progressive working scheme is required.

PLANNING CONSIDERATIONS

Existing Use: The land is in agricultural use. (An agricultural land classification survey undertaken in connection with a previous planning application showed the land to be predominantly Grade 3b).

Planning permission was granted on appeal in 1969. Access by road and processing on the site were excluded and excavated material was transported by rail to Portfield for processing. The railway line was closed in 1991. It was bought by the County Council in 1993, the rail track was removed, and a cycle/pedestrian path provided along its length. This path links Lavant to Chichester and has proved very popular.

Extensions to the workings were granted planning permission during the period of working and as a result of the closure some 2.3 million tonnes of gravel remain unworked.

Amenities: Huntersrace Farm and Oldwick Farm, which includes the dust sensitive Kingley Veterinary Centre, lie closest to the identified areas. A detail evaluation of the likely impact and measures proposed to mitigate the effect of noise, dust and visual impact are required to accompany any planning application. These may include margins, land moulding and planting as appropriate.

Transportation: The existing road network in the vicinity of the workings is unlikely to prove appropriate for heavy goods vehicles, mainly due to inadequate width. The operator, Tarmac Roadstone (Southern) Ltd commissioned consultants in 1995 to examine one route between Hunters Race and Portfield. This included the A286, Oaklands Road, Spitalfield Lane and the A285. The County Council Minerals Sub-Committee and the local community expressed grave concern about the likely impact upon Chichester.

Any planning application to re-open these workings is required to include proposals for a satisfactory means of transporting material to Portfield for processing. A number of further options have been suggested for investigation and these include:-

(a) The re-laying of the Lavant/Fishbourne rail link;
(b) Conveyors;
(c) A pipeline;
(d) The construction of new road links; and
(e) The use of a number of existing road routes in the Lavant/Chichester area. The preferred route requires either a new junction at Snakes Lane/Lavant Road (A286) or an underpass to incorporate a new haul road. Vehicles would join the highway network at New Road (Lavant Straight). The route turns south along Claypit Lane and then Madgwick

Lane before joining the A27 which provides access to Portfield for processing;

(f) A light railway link.

A further option is the introduction of processing at Lavant which would reduce the number of heavy goods vehicles travelling on local roads. If an application for processing is submitted it is required to include an evaluation of the likely impact and mitigation measures proposed.

While the mineral planning authority has included proposals in this Plan to re-open the workings at Lavant, planning permission will not be granted unless a satisfactory means of transporting and processing the extracted mineral is assured.

Public Access: No public rights of way cross any of the areas granted planning permission for working although a Bridleway (270) runs adjacent to the eastern most area.

Water Environment: A hydrogeological survey of the site will be required. The site must be worked dry and no excavation must be carried out below the maximum water table level.

Landscape: The old workings were limited to the area south of the Scheduled Ancient Monument (the Chichester Dykes) which concealed them generally from the Sussex Downs Area of Outstanding Natural Beauty. The sites proposed for the re-opening are similarly concealed and working would have a strictly localised impact which could be acceptable.

Nature Conservation: Some boundary trees and hedges may be of interest. Ancient woodland adjoins the sites and management measures are required to protect these areas. A detailed ecological survey is required as a basis for this management scheme.

Cultural Heritage: The Scheduled Ancient Monument requires protection and the setting of these Dykes requires consideration. An oppidum `a high status late iron age settlement with urban characteristics' is likely to be located within this area. A territorial oppidum is a large area of ground, usually between 30 and 90 square kilometres, bounded on all sides by substantial earthworks, and containing farmsteads, field systems and nucleated settlements of various kinds. Few survive in their original form and little is known of their function, although they may have been tribal capitals or focal places for late Iron Age communities. The area has high archaeological potential and an archaeological field evaluation is required prior to the determination of any planning application to ascertain the character and extent and survival of any archaeological remains. If features of national significance are found, the working of that part of the site containing the features may not be permitted.

Reclamation: A progressive working scheme is required to minimise disturbance to the area as a hole. Reclamation at low level is required with appropriate land moulding to give a natural appearance. The sequence of low level fields might be interspersed with some tree

planting to provide small tongues of woodland of native species to create landscape/nature conservation interest. Reclamation will be required to provide for the restoration as appropriate to the original ground levels in the vicinity of the Scheduled Ancient Monument in order to re-establish its setting.

SLADES FIELD (Site Nos. 36 and 37) INSET MAP D

SLADES FIELD (Site Nos. 36 and 37) **INSET MAP D**

Location	SU792 076
Area	25.0 hectares
Potential total yield	851,400 tonnes (gravel)
Proposed working	Dry working. Mineral transported by conveyor or road to Woodmancote (Inset Map F) for processing. Working could begin only when working at Woodmancote is completed and the last phase of reclamation is underway there.

PLANNING CONSIDERATIONS

Existing Use: The site contains 24.8 hectares of agricultural land of which 24.8 hectares is Grade 3b. In addition, 0.2 hectares of the site is land in non-agricultural use.

Amenities: A number of dwellings lie close to the site to the south and west. An office development lies to the north-west. The Defence Research Establishment lies to the north and Funtington village and fruit farm lie to the north-east. A detailed evaluation of the likely impact and measures proposed to mitigate the effect of noise, dust, vibration and visual impact are required to accompany any planning application. These may include margins, land moulding, and/or water sprays and planting as appropriate.

Transportation: Material will be expected to be transported by conveyor to Woodmancote for processing, the conveyor crossing points to be under Cheesmans Lane, Bridleway 254 and Marlpit Lane.

Any road access to be provided to Cheesmans Lane only in a position north of the site where there is no conflict with existing accesses and where the removal of hedgerows to provide sight lines is minimised. Account will be taken of the South Coast, should it be routed along or across lorry routes.

A routing agreement will be sought to ensure heavy goods vehicles use the A259, Broad Road, Cheesmans Lane and Common Road (between Cheesmans Lane junction and the site access onto Common Road) only.

Improvements may be required to ensure that these roads are capable of carrying this traffic.

Public Access: There are no public rights of way in the vicinity.

Water Environment: A hydrogeological survey of the site will be required. The site must be worked dry and no excavation must be carried out below the maximum natural water table level. In addition, an undisturbed layer of gravel above this level is also likely to be required in order to safeguard groundwater sources against pollution.

Continued water purity is of particular concern to watercress beds and fish farms down-gradient of this site, and to avoid any adverse effect on nature conservation interests at Chichester Harbour.

Landscape: The site is generally flat with established hedgerows on the northern and western boundaries which partially screen the site for the most part from the north and west. Additional planting is

required to strengthen the northern hedge and land moulding may also be required. The, eastern and southern boundaries require land moulding and planting to conceal the workings.

Nature Conservation: The boundary hedgerows and the internal north-south hedgerows may be of some interest and a management plan is required to protect them during working.

Cultural Heritage: There are no known features recorded in the vicinity, but an archaeological field evaluation is required prior to the determination of any planning application, to ascertain the character and extent of any archaeological remains.

Reclamation: Working is to be phased in association with the proposed site at Woodmancote to reduce the overall impact on the locality. Reclamation at low level to agriculture is required. Re-contouring at low level is required and filling is unlikely to be granted planning permission. Progressive restoration as working proceeds will be an important requirement, to minimise further adverse visual impact of mineral working in this area. The existing hedgerows are to be retained as far as is practicable during working and will be included as an existing feature in the reclamation scheme. The planting of broadleaved woodland on part of the site is required to introduce a feature of landscape interest and to enhance the nature conservation value of the site.

"The Inspector who conducted the Second Inquiry advised that if this site were to be worked by the same operator who worked any of the sites at Hambrook, Hambrook West, Little Hambrook Farm, Hambrook Grange and Jubilee Wood (if access could be obtained), then those sites whose restoration is deficient, could be improved under the terms of this permission. The Council would expect any application for planning permission at Slades Field, to address this suggestion by the Inspector."

WESTHAMPNETT (Site No. 5) INSET MAP E

WESTHAMPNETT (Site No. 5) **INSET MAP E**

Location	SU 884 068
Area	31.5 hectares
Potential total yield	388,800 tonnes (gravel)
Proposed working	No processing would take place on site. A progressive working scheme is required.

PLANNING CONSIDERATIONS

Existing Use: The site contains 31.5 hectares of agricultural land of which 6.0 hectares is Grade 2, 12.7 hectares is Grade 3a, and 12.3 hectares is Grade 3b. 0.5 hectares of the site is not in agricultural use.

Amenities: The site lies close to Westhampnett, Maudlin and Westerton. The March Church of England Primary School lies close to the western boundary and there are residential properties at the southern end of Sidengreen Lane. Strettington is nearby. A detailed evaluation of the likely impact and measures proposed to mitigate the effect of noise, dust and visual impact are required to accompany any planning application. These will include margins, land moulding, planting and/or water sprays as appropriate, particularly along the southern south-western and south-eastern boundaries to protect the amenities of the Primary School and local residents in Westhampnett and Maudlin, and along the north-eastern boundary to protect residents in Sidengreen Lane and Westerton village.

The site lies under two Goodwood Airfield flight paths and part of the site is safeguarded under the Town and Country Planning (Aerodromes and Technical Sites) Direction 1992 in respect of a navigational aid. While the Civil Aviation Authority has recommended against extraction within the safeguarded area, it has advised that some extraction may be acceptable subject to the Authority's technical guidance. In addition, the advice of the Civil Aviation Authority Aerodrome Inspector will need to be sought and implemented to ensure that airfield operations are not prejudiced unacceptably by any mineral extraction and associated operations.

Transportation: Access will be to the C67/305 Claypit Lane, between Madgwick Lane and Westerton Lane. A Section 59 Agreement of the Highways Act 1980 will be required to protect the highway from any extraordinary damage as a result of the development. A traffic routeing agreement will be required to be entered into to ensure that heavy vehicles from the development only use Madgwick Lane (C69/410); Claypit Lane and (C67/305 and C67/310); New Road (C5/115) westwards to access the existing Valdoe Gravelpit and Kennel Hill Road (C67/405). No other heavy traffic routeing from the development will be permitted to ensure consistency with the existing Valdoe Gravelpit routeing agreement. A two way traffic system, subject to a Traffic Order extinguishing part of the existing one-way order, and a turning head will be required along the existing one way section of Claypit Lane, outside The March Church of England Primary School, to avoid any conflict between parents dropping off and picking up school children in their vehicles and heavy vehicles from the development.

Public Access: The site is crossed by two public footpaths (416 and 417). They are well used and temporary or permanent diversions are not

considered necessary. They will be crossed by haul traffic and the working scheme must include arrangements to provide for the safety of walkers and drivers, and to provide a pleasant environment for walkers.

Water Environment: This site was subject to an embargo on further mineral working imposed in August 1994 and which has now been lifted. The site must be worked dry and no excavation must be carried out below the maximum water table level. However, a hydrogeological study is required to confirm site conditions. A landfill site is located to the south and any implications of extraction on landfill gas movement need to be addressed.

Landscape: Internally, the site is open and undulating. Existing boundary hedgerows, with new land moulding and planting will help conceal the workings. An existing copse close to the western boundary might be retained subject to a survey of the condition of the trees and preparation of working schemes.

Nature Conservation: There are no known sites of nature conservation significance within the site area but a detailed ecological survey is required.

Cultural Heritage: An archaeological field evaluation is required prior to the determination of any planning application to ascertain the survival and significance of lower Palaeolithic deposits and later remains on the site. Early examination of contractors' borehole records will greatly facilitate this process in relation to the geological sequence. This site adjoins Stane Street along its south-eastern boundary. The archaeological evaluation may also be able to ascertain whether Roman as well as later remains exist on the site. If archaeological evaluation were to reveal that in situ deposits of national importance survive on parts of the site their preservation in situ will be a prime consideration.
Measures including screening will be required to protect the sites and settings of Listed Buildings at Maudlin during excavation.

Reclamation: The site will be reclaimed to agriculture. Re-contouring will be necessary at a lower level. Some inert filling may be permitted but only if this is proven to be essential to reclaim the site to an appropriate grade of agricultural land. Measures to protect the sites and settings of Listed Buildings at Maudlin will be required in the longer term in the reclamation and re-contouring of the site. Existing hedgerows and trees will be retained where possible, supplemented where appropriate by further planting of native species.
A progressive reclamation scheme is required to ensure that only part of the site is worked at any one time and that reclamation is undertaken progressively in order to minimise disturbance and hasten the completion of mineral working.

WOODMANCOTE (Site Nos. 35 and 53) INSET MAP F

WOODMANCOTE (Site Nos. 35 and 53) **INSET MAP F**

Location	SU 778 078
Area	40.4 hectares
Potential total yield	449,700 tonnes (gravel)
Proposed working	Dry working. The new area to the south is to be worked progressively with processing taking place in the re-opened northern part of the site. It is intended that the southern part is worked and reclaimed quickly, within about 2 years. The northern part could provide for the processing of material brought from Slades Field (Inset Map D), and would be reclaimed only when Slades Field is worked out. Apart from mineral from the Slades Field site, any processing plant to be provided would not accept mineral from any other source.

PLANNING CONSIDERATIONS

Existing Use: The southern part of the site is in agricultural use of which 16.5 hectares have been surveyed. Some 2.0 hectares are Grade 2 and some 4.9 hectares are Grade 3b).

The northern part of the site is an existing working which has been partially reclaimed. It includes an area at the north-western corner which has been granted planning permission for mineral extraction but which has not been worked.

Amenities: Woodmancote lies to the south and two farmhouses to the north. A detailed evaluation of the likely impact and measures proposed to mitigate the effect of noise, dust and visual impact are required to accompany any planning application. These may include margins, land moulding, and/or water sprays and planting as appropriate. The effect on Woodmancote is to be limited by limiting working to the 35 metre contour.

Transportation: Access is required to Common Road only in the position marked on Inset Map F. The visibility at this existing access will need to be improved to provide sight lines of 4.5 metres by 215 metres in each direction. A routing agreement will be sought to ensure heavy goods vehicles use the A259, Broad Road, Cheesmans Lane and Common Road (between the Cheesmans Lane junction and the site access onto Common Road) only. An agreement with the Highway Authority under Section 59 of the Highways Act 1980 will be required to cover the cost of any damage to Cheesmans Lane and Broad Road caused by the extraordinary traffic movements associated with the proposed mineral extraction. In places Cheesmans Lane is too narrow to allow HGVs to pass. In view of the relatively limited number of HGV movements it is considered unlikely that such conflicts will occur, however it may be prudent to require any applicant to construct a series of formal passing lay-bys in Cheesmans Lane.

Public Access: Bridleway 250 runs north-south through the centre of the site. It may be diverted for a temporary period around the western boundary of the site although it would be routed eastwards immediately to the south of the existing and formerly worked parts of the site to rejoin the existing route where it runs northwards next to Woodside Farm. This is required to ensure continuity with the bridleway route north of Common Road and that riders do not

have to use Common Road for any length. There are no suitable verges to accommodate riders alongside Common Road at this point. The diverted bridleway is to be provided to a constructed standard and adequately fenced. The bridleway is required to be reinstated as soon as possible on the definitive line.

Footpath 252, which cuts across the south-eastern corner of the site is required to be diverted temporarily to the site's eastern boundary. The diverted route is required to run inside the boundary fence until opposite the existing footpath (255) on the eastern side of Marlpit Lane to avoid walkers being on the roadside. The diverted path is to be provided to a constructed standard and adequately fenced.

Water Environment: The Environment Agency is satisfied in principle that extraction and backfilling is acceptable. Extraction is limited to the dry working of areas underlain by Reading Beds (the thickness of the Beds is to be confirmed and agreed with the operator) and strict restrictions are to be placed on backfilling depending upon the confirmed site conditions. The operator may be required to undertake further surveys accordingly. The extent of the areas to be worked depends also upon the measures required to protect the quantity and quality of water produced at the Woodmancote Pumping Station located to the west. Restrictions on infill material will be based on similar criteria. Strict control will be exercised over the disposal of silt from the washing plant and the areas to be used for such disposal. A hydrogeological study will be required.

Landscape: The working area is limited on the southern boundary to the 35 metre contour to ensure that it is concealed behind the existing ridge. Established hedgerows along the northern boundary generally provide a good screen, although some supplementary planting may be required. Land moulding and/or planting is required along the eastern boundary where a small group of trees including oaks are to be retained. Topography and woodland would screen the workings generally from views from the west, but supplementary planting is required. The trees grouped in a copse within the south-eastern part of the site are in poor condition and will be felled to permit working.

Nature Conservation: The boundary and internal hedges, and the two copses may be of some interest. A detailed ecological survey is required. A progressive restoration scheme may be required to retain some internal hedges to support nature conservation.

Cultural Heritage: There are no known features recorded in this vicinity but an archaeological field evaluation is required prior to the determination of any planning application to ascertain the character and extent and survival of any remains.

Reclamation: A progressive working scheme is required which provides for the working of a relatively small area at any one time followed quickly by reclamation. Some filling could take place to restore the land form but the supply of inert material must be planned to avoid delay in reclamation. If the supply of suitable material is in doubt, the reclamation scheme submitted with the planning application is

required to provide a greater proportion of re-contouring and low-level reclamation. The land is to be reclaimed for agriculture at appropriate Grades and some woodland planting will be required. The planting of a new copse is required to replace the existing copse which is a feature in the landscape, although not necessarily in exactly the same location.

A reclamation scheme is required for the site as a whole, including areas already reclaimed/partly reclaimed to ensure continuity in the landscape.

DUNFORD ROUGH (Site No 20) INSET MAP G

DUNFORD ROUGH (Site No 20) **INSET MAP G**

Location	SU 895 197
Area	22.2 hectares
Potential total yield	2,920,800 tonnes (sand)
Proposed working	Dry working. Excavated material to be conveyed at the northern end of the site to the existing workings at Pendean for processing. Working could commence as the last reserves in the Pendean pit are exhausted in order to maintain continuity of sand supply

PLANNING CONSIDERATIONS

Existing Use: The site contains 20.1 hectares of agricultural land of which 15.5 hectares is Grade 1, 3.0 hectares is Grade 2, and 1.6 hectares is Grade 3a. In addition, 2.1 hectares of the site is land not in agricultural use.

Amenities: There are two dwellings to the south of the site. A detailed evaluation of the likely impact and measures proposed to mitigate the effect of noise, dust and visual impact are required to accompany any planning application. These may include margins, land moulding and planting as appropriate.

Transportation: This site is an extension to the Pendean Sandpit. There are a number of residential properties along the access route from the A286 which have been affected by traffic at periods of peak activity. An agreement will be sought to limit the impact of traffic movement on the locality. There will be no access for quarry vehicles along Dunford Hollow to the east of the site access. As part of any planning application to work this site examination of the following options is required to show how vehicular access to the site might be improved. These include:-

(a) maintaining the use of the existing access;
(b) establishing a new access road to the south of the properties which front onto Dunford Hollow, which would involve the closure of the existing access onto the A286 from Oaklands Lane which serves as the existing road access to Pendean;
(c) establishing a one way system through the site which would require quarry traffic to enter the site by means of the existing access and exit onto Oaklands Lane at the old council tip access point; and
(d) any other option which the developer might wish to suggest.

Public Access: The bridleway (3545) which runs adjacent to part of the south western boundary is in a hollow and is unlikely to be affected by working.

Water Environment: A hydrogeological survey of the site will be required. The site must be worked dry and no excavation must be carried out below the maximum water table level. The integrity of Costers Brook requires protection and measures to prevent silt or other materials being discharged into the watercourse must be incorporated.

Landscape: The site lies within the Sussex Downs Area of Outstanding Natural Beauty but it is well concealed and the effect of

working is strictly localised. The Ridge to the west of the site is an important feature in the landscape. Working is required to stop short of the 50 metre contour to protect the integrity of this feature.

Nature Conservation:

There is little of nature conservation interest within the site, although the surrounding area has some flora and fauna of significance. The Site of Special Scientific Interest to the east provides important heathland. A detailed ecological survey of the Ridge is required to ensure that adequate protection to features of significance is provided. A survey to establish whether badgers are present in the area will be required followed by detailed measures for their protection as appropriate.

Cultural Heritage:

Although there are no known archaeological features of interest presently recorded on the site, it is considered to be potentially of archaeological interest in view of the nature of the site geology and topography. An archaeological field evaluation is required prior to the determination of any planning application to ascertain the character and extent of buried archaeological remains. Account will be taken of the setting of the listed buildings to the north of the Dunford Rough site.

Reclamation:

The site will be reclaimed to provide a new valley feature with woodland (native species) and other areas of nature conservation interest. It may be possible to establish some heathland within the site. Working will lead to the loss of Grade 1, 2 and 3a agricultural land because filling to restore levels would cause an unacceptable level of traffic movement. In practice sufficient inert fill material may not be obtainable during the Plan period. Although a progressive reclamation scheme is required, it may be difficult to complete any part of the reclamation until the working of the whole site has come to an end, due to the likely requirement to recontour the site.

WEST HEATH (Site No 26) INSET MAP H

WEST HEATH (Site No 26) **INSET MAP H**

Location	SU 787 227
Area	5.8 hectares
Potential total yield	352,300 tonnes (sand)
Proposed working	An extension. Dry working follow on from the existing workings

PLANNING CONSIDERATIONS

Existing Use: The land is uncultivated and is used for stock (100% Grade 3a).

Amenities: There are a few dwellings to the west and south of the existing sandpit, but the topography and woodland provides good screening. An evaluation of the likely impact and measures proposed to mitigate the effect of noise, dust and visual impact are required to accompany any planning application. These may include margins, land moulding and planting as appropriate. The material worked from the extension is required to be processed within the main existing pit to reduce potential impact.

Transportation: The existing access is appropriate to continue in use.

There is no restriction preventing lorries crossing the River Rother at Durford Bridge, which is a Scheduled Ancient Monument. There is no evidence of any damage. The site is readily accessible from the A272.

Public Access: A public footpath (866) which is located around the edge of the existing pit is to be severed when the new extension is worked. A local diversion to connect it to the Sussex Border Path (861) which runs to the east of the site will be required. The workings will be generally screened from the Border Path by land moulding and planting.

There may be scope to rationalise the existing footpaths around the pit and perhaps seek alternatives within the locality. This is to be investigated as part of any planning application.

Water Environment: A hydrogeological survey of the site will be required. The site must be worked dry and no excavation must be carried out below the maximum water table level.

Landscape: The site lies within the Sussex Downs Area of Outstanding Natural Beauty but is well concealed and disturbance to the landscape could be minimal and strictly localised. The cutting into the hill at the southern end of the site will be required to create a bowl shaped excavation with planting, rather than an angular excavation, and the incorporation of the ridge in this southern area, which should be assimilated into the local landscape more easily.

Nature Conservation: The site is designated a Site of Nature Conservation Importance. It provides some poor quality heathland but there is concern about its loss and some compensatory measures, if necessary on adjoining land, will be of benefit. Working practices employed at the site will have to take account of the presence of protected

species in the area. The existing and proposed workings offer considerable potential for nature conservation. A survey to establish whether badgers are present in the area will be required followed by detailed measures for their protection as appropriate.

Cultural Heritage: The site lies between one Scheduled Ancient Monument on the east and the site of a now de-scheduled ancient monument (part of the West Heath Common barrow cemetery) on the west. Mineral extraction will not be permitted to take place east of the Sussex Border Path in order to protect the setting of the Scheduled Ancient Monument to the east. Archaeological features and finds of prehistoric and early post-medieval date have been recorded on and adjacent to the site. An archaeological field evaluation is required prior to the determination of any planning application to assess the character and extent of any archaeological remains.

Reclamation: Reclamation is required for nature conservation purposes, including providing opportunities where appropriate for habitat creation for Nightjars and Woodlarks. The site presents an opportunity to help re-establish some neighbouring remnant heathland and a detailed design brief setting out how this will be done will be required at the planning application stage. Infill will be unlikely to be permitted. The site will be recontoured to create a natural blending with the existing valley.

CHICHESTER RAIL SIDINGS INSET MAP I

HORSHAM RAIL SIDINGS INSET MAP J

LITTLEHAMPTON RAIL SIDINGS INSET MAP K

NEW WHARF, LITTLEHAMPTON (Site No 11) INSET MAP L

THE WHARF, LITTLEHAMPTON (Site No 11) **INSET MAP L**

Location	TQ 021 022
Area	0.5 hectares
Potential throughput each year	100,000 tonnes per annum
Proposal	The construction of a wharf to accommodate dredgers and imports.

PLANNING CONSIDERATIONS

Existing Use: The site is used as a parking area. It is a former landfill site but this does not preclude its development as a wharf. Some precautions may need to be taken. A strategy for Littlehampton Harbour is set out in `Littlehampton Harbour - Future Development Strategy' endorsed by all the statutory authorities concerned, published in May, 1997.

Amenities: There are a number of dwellings to the south of the site, including residential caravans, at Rope Walk. The occupants may experience some disturbance when ships unload at unsocial hours. The general character of the area is industrial and there are a number of typical port activities including boat building. The marina lies to the west of the site. The proposed wharf will be readily visible from the Arun View Inn which lies to the east on the opposite bank of the River.

Transportation: Access is required via Ferry Road to the A259. Account will be taken of the South Coast Cycle route which runs along Ferry Road.

Public Access: A footpath (3109) runs through the site and along the bank of the River Arun. A diversion is required in the interests of safety.

Water Environment: The site abuts the River Arun to the north east and an Internal Drainage Board watercourse to the south west. Neither the integrity of the tidal defences nor the drainage efficiency of the IDB watercourse should be impaired by any proposals. The consent of the Environment Agency is required for any works in, over or under the River Arun and the IDB watercourse, or within 15 metres and 8 metres of the two bank tops respectively.

Landscape: The proposed activity is a traditional port use.

Nature Conservation: There are no known features of nature conservation significance within this site.

Cultural Heritage: The proposed wharf is adjacent to the site of the historic Littlehampton swing bridge, now replaced by a retractable footbridge

If, on the submission of a planning application, an Assessment is required under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999, matters to consider should include those listed below. However, if an Assessment is not required, the same matters should be dealt with in a statement of supplementary information to accompany the application.

This statement will address comprehensively the following matters, together with any other relevant issues.

Planning permission will not be granted unless the applicant can demonstrate that all relevant concerns can be overcome or accommodated and that the proposal accords with all other relevant policies of this Plan; demonstrates the need for the facility including an assessment of alternative options and the availability of alternative sites; and does so in respect of both the construction and operational phases of the development:

- the impact on surrounding land uses including the impact of residents in Rope Walk and other nearby properties and the Arun View Inn;

- the impact of traffic, including the impact of HGVs and the effects of the proposal on the South Coast Cycle Route and the proposed National Cycle Network;

- the impact of noise, vibration and dust including the impact of loading and unloading ships during unsocial hours;

- the impact on Littlehampton Port and the River Arun including piling, river welding, navigation, the pedestrian bridge, the tidal defences and drainage and the effect on the Internal Drainage Board Watercourse;

- visual and landscape impacts;

- pollution impacts, including the condition of the site as a former landfill and the implication for construction techniques and for the prevention of pollution resulting from construction, and the disposal of waste and washings;

- the impact on the nature conservation interests;

- the impact on the existing Marina and other recreational interests;

- the satisfactory diversion of the public footpath crossing the site including appropriate segregation of the footpath from vehicular traffic.

APPENDIX 1: REGIONAL AGGREGATES POLICY

EXTRACT FROM MINERALS PLANNING GUIDANCE NOTE 6
DEPARTMENT OF THE ENVIRONMENT (APRIL 1994)

SOUTH EAST

Current patterns of supply and production

A3.1 In 1989, the last year for which Aggregate Minerals Survey information is available, the South East produced almost 40% of its aggregates consumption, 4% of which is from crushed rock sources, 24% from land sourced sand and gravel and an assumed 10% from secondary/recycled material. The remaining 63% of consumption was met from: imported crushed rock (42%); marine dredged sand and gravel (18%); and imports of sand and gravel production and 9% of crushed rock production was exported to other regions.

Future demand

A3.2 Over the 15 year period to 2006 there is likely to be a demand from within the region for approximately 1270mt of the aggregate materials. Other regions are likely to make demands on the region for an additional 30mt of primary aggregates.

Guidelines for land won primary aggregates

A3.3 On the basis of the anticipated demand in the region and demands from other regions the South East will need to produce 450mt of aggregate material from primary won land sources within the region. 420mt of this is anticipated to be sand and gravel and 30mt crushed rock. About 7% of the sand and gravel production is anticipated to be exported, principally to the South West region. MPAs in the region should make provision in their development plans for 420mt of sand and gravel and 30mt of crushed rock over the period 1992-2006.

Assumptions about imports from other regions

A3.4 The Department has assumed that 300mt of the region's aggregates supply will be imported from other regions of England, principally the South West and East Midlands. The majority of these imports will be crushed rock.

Assumptions about other sources of supply

A3.5 So that the context of the guidelines can be understood, the Department has made a number of broad assumptions about supplies from other sources. These are that 550mt of aggregates supply will come from sources other than primary land based production in England. Of this supply it is assumed that about 260mt may be provided from marine dredged sources, 145mt may be provided by imports from outside England and Wales, 5mt by imports from Wales, and 140mt may be provided from secondary and recycled material.

Landbanks

A3.6 Landbanks in the South East will be based on the provision in minerals local plans that reflect the sub-regional apportionment of these guideline figures made by SERPLAN as described in paragraph 81 of this Minerals Planning Guidance Note. Alternatively where plans do not reflect these guidelines the landbank should be based on the apportionment set out in the appropriate guidance from SERPLAN.

EXTRACT FROM THE DRAFT NATIONAL AND REGIONAL GUIDELINES FOR AGGREGATES PROVISION IN ENGLAND 2001-2016 (AUGUST 2002)

`Status of the Guidelines

4. These draft guidelines are based on the best current publicly available information. The figures are indicative. They will be monitored and reviewed to determine whether assumptions need to be changed and the figures need to be adjusted.

Future Demand for Aggregates

5. The draft indicative forecast is that **total demand for all aggregates** in England for the 16 year period between 2001 and 2016 (including non-primary aggregates….) is likely to be around 3.4 billion tonnes (an average of about 212.5 million tonnes per year). ……. It is about 24% lower than the forecast of an average of 280 mtpa for 1992 to 2006 in MPG6 (1994). Monitoring undertaken by the Office of the Deputy Prime Minister and the Regional Aggregates Working Parties (RAWPs) has indicated that actual production since 1994 has been substantially lower than that guideline level'.

APPENDIX 2: WEST SUSSEX STRUCTURE PLAN 2001–2016 DEPOSIT DRAFT (NOVEMBER 2001)

Policy ERA5: Minerals

(a) Provision should be made for the extraction of minerals sufficient to meet identified
needs. Proposals for the extraction, import, storage or processing of minerals, including sand, gravel, sandstone, chalk, and clay, and the exploration and production of oil and natural gas, should not be permitted unless they are required to meet identified needs and any impact on the environment is acceptable. Outside built-up areas, development (including buildings, plant and machinery) which is not essential to the operations should not be permitted. Development that would be detrimental to the management and protection of minerals should not be permitted.

(b) The West Sussex Minerals Local Plan will include policies, including the identification of suitable sites, to ensure that:

(1) suitable sites for the extraction, import, storage or processing of minerals are available to meet identified needs;

(2) minerals are conserved, as far as possible, while ensuring an adequate supply;

(3) where appropriate, opportunities are taken for the transport of aggregates by rail or water;

(4) sensitive and environmentally sound work practices are secured;

(5) satisfactory restoration of minerals sites to an appropriate after-use or enhanced amenity are secured; and

(6) mineral resources are not sterilised.

352. West Sussex contains deposits of a variety of minerals important to the construction industry such as sand, gravel, sandstone, chalk and clay. Additionally there have been discoveries of oil and gas, which have already led to limited commercial exploitation. These minerals make an important contribution to the economy, not least in providing most of the construction materials required to implement development. They can, of course, be worked only where they occur, which means that there is a need to balance the need for the minerals with any adverse impact on the environment.

353. Naturally occurring bulk minerals worked primarily for use in construction, for example in concrete, roadstone and asphalt, or as constructional fill or railway ballast, are termed ‚primary™ aggregates. Other materials such as by-products of quarrying, mining, industrial processes or recycling (including demolition materials), may be suitable, dependent on their qualities, for purposes otherwise supplied from primary aggregate sources and are referred to as ‚secondary aggregates™. Chalk, which is mainly quarried for agricultural purposes in West Sussex, and sandstone may also fulfil a secondary aggregate role. Currently, most secondary aggregates are used for lower-specification work such as hardstanding, foundation sub-base construction or as bulk fill. Government studies are assessing the potential for these materials to meet higher specification uses.

354. The County Council is the Minerals Planning Authority for West Sussex and is responsible for all minerals planning matters throughout the County. The

emerging West Sussex Minerals Local Plan, prepared by the County Council, will set out detailed policies and identify where new permissions are likely to be granted. It covers the period to 2006. A deposit draft was published in 1997 and a Local Plan Inquiry held in 1998. Modifications were placed on deposit in March 2000 and a second Local Plan Inquiry was held in late 2001 to consider sites at Oving, Coopers Moor and Hambrook. Subject to the outcome of the Inquiry and the need for any further modifications, the Local Plan is expected to be adopted in 2002/3.

355. The strategic aim is to meet the need to maintain supplies of minerals whilst ensuring that their extraction can be sustained as long as is necessary and does not harm the environment. This means protecting existing reserves, ensuring that they are not used too quickly, encouraging the reuse of existing buildings rather than their replacement, and promoting the use of recycled materials to reduce the demand for new mineral extraction. It also means reducing the environmental impact of exploiting such resources. These include direct impacts such as the visual impact on the character of an area and pollution, as well as indirect impacts from transporting the minerals. Lastly it means ensuring that land is restored to an appropriate after-use. In the countryside, development should be limited to uses which are necessary for the operation to proceed. For example, any buildings provided should not be used for purposes unrelated to mineral extraction. Buildings and plant should be removed on cessation of the extraction operations.

356. Proposals for further oil or gas workings, to appraise a find, or to develop a field for commercial production, should be considered on their merits against the policies of this Plan and local plans. However, permission should not follow automatically from successful exploration.

APPENDIX 3: AGGREGATE PROVISION DURING THE PLAN PERIOD 1996-2006

1. The Apportionment Figure

1.1 The SERPLAN apportionment figure of 1,400,000 tonnes of aggregate per annum is not disaggregated by type. However, the guidance in MPG6 advises disaggregation by material type where possible.

2. Apportionment Breakdown

2.1 The County Council has disaggregated the apportionment figure and consequently the estimates of provision in the Plan, which comprise proposal sites and remaining permitted reserves. Sand and gravel has been individually assessed because the two minerals occur largely separately in West Sussex. However, separate amounts of sharp sand and soft sand have not been identified because records show that their occurrence within the same pits is irregular and unpredictable.

2.2 In practice the disaggregation of sand and gravel has not been undertaken by mineral type and is an approximation by pits. Some sand does come from gravel pits and very small quantities of gravel from some sand pits.

2.3 The relationship between sand and gravel has been based on the production ratio from pits over the period 1.1.1987 to 31/12/1996 and takes no account of anticipated production. The relationship equates to a ratio of 58:42 (sand:gravel) and these proportions have been applied to the 1.4 million tonnes apportionment, giving figures of 812,000 tonnes and 588,000 tonnes for sand and gravel respectively.

2.4 Total Apportionment to 31.12.2006. The figures of 8,120,000 for sand and 5,880,000 for gravel are the sum totals of the annual apportionment from 1.1.1997 to 31.122006 (a 10 year period). This assumes that the apportionment figure will remain constant, as advised by SERPLAN in para B, RPC 2705, December 1994.

REVISED AGGREGATE PROVISION USING INFORMATION FROM THE CONSULTATION PAPER - DRAFT NATIONAL AND REGIONAL GUIDELINES FOR AGGREGATES PROVISION IN ENGLAND, 2001-2016

From MPG6 1994 the South East Regional Apportionment was 420 mt from 1992-2006 = 15 years at 28mt

From the SERPLAN Document - RPC 2705 DECEMBER 1994 - AGGREGATES APPORTIONMENT The South East Regional Apportionment of Sand and Gravel Requirement in MPG6 - until 1998 the South East Region was comprised of the following county apportionments -

Bedfordshire	2.0
Berkshire	2.3
Buckinghamshire	1.2
East Sussex	0.3
Essex	6.2
Hampshire	2.7
Hertfordshire	2.4
Kent	3.2
London	0.9
Oxfordshire	2.0

Surrey		3.4		
West Sussex		**1.4**	**=**	**5% of 28.0mt**
	Total	28.0		

Since 1999 the South East England Region reflects the SEERA (South East England Regional Assembly) area (NB Isle of Wight is also included in the new area) - Counties removed in the revised South East Region boundary are -

Bedfordshire		2.0
Essex		6.2
Hertfordshire		2.4
London		0.9
	Total	11.5

The existing South East England Region authorities therefore previously provided for 16.5mt (28.0 less 11.5).

From - **CONSULTATION PAPER - DRAFT NATIONAL AND REGIONAL GUIDELINES FOR AGGREGATES PROVISION IN ENGLAND, 2001-2016** (August 2002)

In Table 1 of the Draft Regional Guidelines for land-won provision of sand and gravel for the standard South East England Region **PLUS** Greater London, is given as

176mt from 2001-2016 = 16 years inclusive = 11Mt per annum

The South East Region authorities provided for	=	16.5mt
Plus the previous London Apportionment	=	0.9mt
Total	=	17.4mt
West Sussex Apportionment of 1.4mt	**=**	**8.0% of 17.4 mt**

West Sussex assumed contribution - 8.0% of 11mt = 880,000 tpa

1.4mt reduced to 880,000t = 37% reduction

AGGREGATE PROVISION IN WEST SUSSEX MINERALS LOCAL PLAN 2002-2016

• Existing Apportionment		=	1.4mtpa
• Apportionment requirement - 2002 -2006	= 5 years x 1.4mt	=	7.0mt
• Assumed new Apportionment		=	0.9mtpa
• Apportionment requirement - 2007-2016	= 10 years x 0.9mt	=	9.0mt
• **Apportionment requirement - 2002-2016**	**= 7.0 + 9.0**	**=**	**16mt**

• **Total aggregates available**	- gravel	5,918,000 tonnes
	- sand	10,079,100 tonnes
		15,997,100 tonnes

Disaggregation by mineral type –

Deposit Draft Plan January 1997 used the average sand/gravel production figures of 1987-1996. This gave a ratio of 58:42 - sand:gravel - which equates to
812,000t sand : 588,000t gravel = 1.4mt

Updating this ratio to the average sand/gravel production of 1992-2001
Gives a ratio of 68:32 - sand:gravel - which equates to -
612,000 sand : 288,000 gravel = 0.9mt

WEST SUSSEX GRAVEL

- Remaining permitted reserves of gravel as at 1.1.2002 = **830,000** t (1)
- Anticipated supply from gravel proposal sites:-

Drayton - Site 72	416,800
Kingsham – Sites 7 and 51	970,100
Woodmancote – Sites 35 and 53	449,700
Slades Field – Sites 36 and 37 (NO extension)	851,400
Lavant – Site 43	2,400,000
Total (2) =	**5,088,000** t [4]

- Total gravel tonnage available (1) + (2) = 830,000 + 5,088,000 =**5,918,000** t

- Disaggregated existing gravel apportionment - 2002-2006
  5 years x 588,000 t = 2,940,000 t
- Disaggregated assumed gravel apportionment - 2007-2016
  10 years x 288,000 t = 2,880,000 t
- Total Gravel Apportionment requirement - 2002-2016 -
  2,940,000 + 2,880,000 = **5,820,000** t

Overprovision in the Plan = 5,918,000 - 5,820,000 = 98,000 t

- Total Gravel Apportionment requirement - 2002-2016 -
  Plus 10% safety margin during Plan period
  2,940,000 + 294,000 (10%)+ 2,880,000 = 6,114,000 t

Underprovision in the Plan = 6,114,000 - 5,918,000 = 196,000 t

WEST SUSSEX SAND

- Remaining permitted reserves of sand as at 1.1.2002 = **6,806,000** t (3)
- Anticipated supply from sand proposal sites:-

Dunford Rough – Site 20	2,920,800
West Heath – Site 26	352,300
Total (4) =	**3,273,100** t

- Total sand tonnage available (3) + (4) = 6,806,000 + 3,273,100 = **10,079,100** t

- Disaggregated existing sand apportionment - 2002-2006
  5 years x 812,000 t = 4,060,000 t
- Disaggregated assumed sand apportionment - 2007-2016
  10 years x 612,000 t = 6,120,000 t
- Total Sand Apportionment requirement - 2002-2016 -
  4,060,000 + 6,120,000 = **10,180,000** t

Underprovision in the Plan = 10,180,000 - 10,079,100 = 100,900 t

[4] Westhampnett, Site 5 removed from this total, because it is now an active site and its reserve figure is included in Total Gravel Reserve (1)

PREFERRED OPTION

AGGREGATE PROVISION IN THE WEST SUSSEX MINERALS LOCAL PLAN 2003

- Existing Apportionment requirement for the remainder of the Plan period -
  2002 -2006 = 5 years x 1.4mt = 7.0 mt

- Assumed new Apportionment for 7 year landbank beyond the Plan period -
  2007-2013 = 7 years x 0.9mt = 6.3 mt

- **Apportionment requirement - 2002-2013 = 7.0 + 6.3 = 13.3 mt**

- **Total aggregates available** - gravel 5,918,000 t
  - Sand 10,079,100 t
  Total= **15,997,100** tonnes

- **Overprovision in Plan on basic Apportionment requirement 2002-2013**

= 15,997,100 -13,300,000 = 2,697,100 tonnes

Overprovision in Plan on basic Apportionment requirement + 10% safety margin - 2002-2013	
Overprovision in the Plan for gravel + 10% safety margin (5)	**= 466,400 t**
Overprovision in the Plan for sand (6)	**= 1,735,100 t**
Total Overprovision	**= 2,201,500 t**

Disaggregation by mineral type:

WEST SUSSEX GRAVEL

- Remaining permitted reserves of gravel as at 1.1.2002 = **830,000** t (1)
- Anticipated supply from gravel proposal sites:-

Drayton - Site 72	416,800
Kingsham – Sites 7 and 51	970,100
Woodmancote – Sites 35 and 53	449,700
Slades Field – Sites 36 and 37 (NO extension)	851,400
Lavant – Site 43	2,400,000
Total (2) =	**5,088,000** t [5]

- Total gravel tonnage available (1) + (2) = 830,000 + 5,088,000 =**5,918,000** t

- Disaggregated existing gravel apportionment - 2002-2006
  Remaining Plan period = 5 years x 588,000 t = 2,940,000 t

- Disaggregated assumed gravel apportionment - 2007-2013
  Landbank beyond Plan period =7 years x 288,000 t = 2,016,000 t
  4,956,000
  plus 10% safety margin **495,600 t**

- Total Gravel Apportionment requirement - 2002-2013 = **5,451,600** t

Overprovision in the Plan = 5,918,000 - 5,451,600 = 466,400 t

[5] Westhampnett, Site 5 removed from this total, because it is now an active site and its reserve figure is included in Total Gravel Reserve (1)

WEST SUSSEX SAND

- Remaining permitted reserves of sand as at 1.1.2002 = **6,806,000** t (3)

- Anticipated supply from sand proposal sites:-
  Dunford Rough – Site 20 2,920,800
  West Heath – Site 26 352,300
  Total (4) = **3,273,100** t

- Total sand tonnage available (3) + (4) = 6,806,000 + 3,273,100 = **10,079,100** t

- Disaggregated existing sand apportionment - 2002-2006
  Remaining Plan period = 5 years x 812,000 t = 4,060,000 t
- Disaggregated assumed sand apportionment - 2007-2013
  Landbank beyond Plan period = 7 years x 612,000 t = 4,284,000 t
- Total Sand Apportionment requirement - 2002-2013 = **8,344,000** t

Overprovision in the Plan = 10,079,100 - 8,344,000 = 1,735,100 t

APPENDIX 4: SAFEGUARDED EXISTING RAILHEADS, WHARVES AND DEPOTS

The Mineral Planning Authority has issued safeguarding maps to all District Councils identifying existing wharves and railheads where minerals are handled. Under the safeguarding procedure, District Councils are required to consult the County Council about any planning applications they receive which includes land within these areas to give the County Council an opportunity to comment. (Town and Country Planning Act 1990, Schedule 1).

The sites are -

Safeguarded Rail Depots – Ardingly and Crawley (Map 1)
Safeguarded Wharf Site - Littlehampton (Map 2)
Safeguarded Mineral Wharve Sites - Shoreham (Map 3)
Safeguarded Minerals Processing and Distribution Site - Portfield, Chichester (Map 4)

MAP 1: ARDINGLY AND CRAWLEY RAIL DEPOTS

MAP 2: LITTLEHAMPTON WHARF SITE

MAP 3: SHOREHAM WHARVES SITES

MAP 4: MINERALS PROCESSING & DISTRIBUTION SITE AT PORTFIELD, CHICHESTER

APPENDIX 5: GLOSSARY

After-use (see Reclamation)

Aftercare (see Reclamation)

Aggregates Sand and gravel, crushed rock and other bulk materials used in the construction industry for purposes such as the making of concrete, mortar, asphalt or for roadstone, drainage or bulk filling.

Agricultural Land Classification (ALC) The process used by the Department for Environment, Farming and Rural Affairs (DEFRA), formerly the Ministry of Agriculture, Fisheries and Food (MAFF), to determine the quality of agricultural land. Grades 1, 2 and 3a are classed as being of the `best and most versatile' and land with this ALC is deemed as being national resource for the future and considerable weight should be attached to the protection of such land. (Planning Policy Guidance 7, (revised February 1997), (para 2.18).

Alternative sources Aggregate sources other than local land-won sand and gravel (e.g. coastal superquarries, recycled material).

Ancient Woodland Areas that have had a continuous woodland cover since at least 1600 and have only been cleared for underwood or timber production.

Apportionment The disaggregation of regional guidance between mineral planning authorities.

Aquifer A permeable water-bearing stratum which is capable of storing and yielding water when tapped by a well.

Archaeological Field Evaluation Normally involves a ground survey and small-scale trial trenching, carried out by a professionally qualified archaeological organisation or archaeologist to help to define the character and extent of the archaeological remains, the weight which ought to be attached to their preservation and potential options for minimising or avoiding damage. (Planning Policy Guidance Note 16 – Archaeology and Planning (November 1990), paragraphs 21 and 22.

Archaeological Watching Brief Attendance on site of a suitably qualified or experienced archaeologist during the course of ground excavations associated with mineral operations, for the purpose of making records of archaeological evidence revealed during such excavations, with the intention, where appropriate, of subsequent publication of results in an appropriate academic journal, working to a project brief prepared by the planning authority and taking advice where appropriate from archaeological consultants. (As taken from advice from the County Archaeologist).

Area of Outstanding Natural Beauty (AONB) Areas designated by the Countryside Commission under Sections 87 and 88 of the National Parks and Access to the Countryside Act 1949. West Sussex has three AONBs: Chichester Harbour, Sussex Downs and High Weald.

Asphalt A natural or artificial mixture in which bitumen is combined with a substantial proportion of mineral matter.

Bed A layer of rock or mineral.

Borrow Pits A pit in close proximity to and worked solely in conjunction with a large scale construction project. The working provides the development with

	bulk filling minerals and is restored with any surplus soils that may arise.
Bund	An embankment formed from natural material, used either to screen a site from view or reduce noise emission from a site.
Conservation Areas	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.
Constant Environmental Assets	Natural or cultural resources that are considered vitally important and irreplaceable, and where any loss or damage would be extremely serious.
Critical Environmental Capacity	Areas where there is a need to maintain the overall character and quality of the environment, but not necessarily its exact current make-up.
Crushed Rock	Hard rock (usually limestone and granite) which has been quarried, fragmented and graded for use as aggregate.
De-watering	The removal of surface water that accumulates in a pit by the means of continual or seasonal pumping to facilitate mineral working.
Environmental Capacity	The limit of acceptable environmental change within a defined area.
Environmental Statement (ES)	A document to be prepared following an Environmental Assessment which provides a systematic and objective account of the significant environmental effects to which the proposed project is likely to give rise. Every ES must contain a non-technical summary which will enable non-experts to understand its findings.
Environmental Impact Assessment (EIA)	A process by which information about the environmental effects of a project is collected, both by the developer and from other sources, and taken into account by the planning authority in determining planning applications. Project types are contained in the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999.
Floodplain	The floodplain of a watercourse is identified as that area of land at risk of flooding when flows in the watercourse channel overtop its banks.
Full Archaeological Record	Prior excavation work is undertaken which involves the archaeological evidence being fully recorded, with the intention of subsequent publication of the results in an appropriate journal, working to a project brief prepared by the planning authority and taking advice from archaeological consultants. (Planning Policy Guidance Note 16 - Archaeology and Planning (November 1990), paragraph 24 and 25). (To ensure there is a definition of Full Archaeological Record in the Plan).
Groundwater	Water present in underground strata which fills pores and fissures including that above the water table.
Groundwater Management Scheme	A groundwater management scheme will consist of permanent infrastructure provided to prevent significant obstruction of groundwater flow and that no significant increase in groundwater

	levels would result from working. It could take the form of a drain system along the up-gradient boundary of the site to intercept groundwater and divert it; either around the site for discharge back into the gravels, or into the surface water system. Other options exist for such systems, including retention of sufficient in situ gravel deposits to allow transition of groundwater flow. Whatever the nature of the system calculations would have to be provided to demonstrate that the capacity of such a system was adequate.
Hectare	An area of 10,000 m^2. One hectare = 2.471 acres.
Hydrocarbons	Compounds consisting wholly of hydrogen and carbon which form the bulk of oil and natural gas.
Hydro-geological Survey	The investigation of movement of water below the surface (groundwater). Hydrological Survey - Assessing movement of water above ground (surface water) with particular emphasis on flows in watercourses.
Landbank	A stock of planning permissions for the winning and working of minerals. 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 Nature Reserve (LNR)	A non-statutory designation of a site of local nature conservation significance, declared by local planning authorities. There are 15 in the County.
Local Plan	A detailed land use plan prepared and adopted by a local planning authority in accordance with the policies of a Structure Plan.
Low-level restoration	The re-establishment of land following mineral extraction, without in-filling. This restoration is usually associated with agricultural after-use.
Marine-dredged aggregates	Sand and gravel dredged from deposits on the seabed and landed at wharves for use as aggregates.
Mineral Planning Authority (MPA)	The local planning authority (the County Council) responsible for planning control over mineral working and other minerals related development.
National Aggregates Survey	A quadrennial nationwide analysis of all aggregate production, consumption, reserves and movements. Produced by the Department of the Environment, the next edition will be published in 1995 as a result of the 1993 figures.
National Nature Reserve (NNR)	Site of national nature conservation importance, managed by English Nature and established in the Wildlife and Countryside Act 1981. West Sussex has one, Kingley Vale.
Permitted reserves	Mineral deposits with the benefit of planning permission for extraction.
RAMSAR	A statutory designation adopted following an international conference, held in 1971 in Ramsar, Iran, which identifies Wetlands of International Importance especially as Wildfowl Habitat (Cmmd 6465).
Reclamation	Has a special meaning in minerals planning. It comprises operations

	which are designed to return the area to an acceptable environmental condition, whether for the resumption of the former land use or for a new use. However, it includes events which take place before and during extraction (e.g. correct stripping and protection of soils); and also operations after extraction which may include filling and contouring, the creation of planned water areas, landscaping and tree planting. Reclamation includes "restoration", "aftercare" and "after-use" which are described below. "Restoration" comprises steps to return land to its original or former condition following mineral working by using subsoil, topsoil and/or soil-making material. "Aftercare" provides for steps to be taken to bring land to the required standard for use for agriculture, forestry or amenity. These may include planting, cultivating, fertilising, watering, drainage or otherwise treating the land. "After-use" is used to mean the ultimate use after mineral working for agriculture, forestry, amenity (including nature conservation), industrial or other development.
Recycled Aggregates	Aggregates obtained from the treatment of materials formerly used for another purpose.
Regionally Important Geological/ Geomorphological Sites (RIGS)	A national scheme promoted by English Nature and organised on a county basis. A non-statutory designation to promote the protection of sites for research, science, education, leisure and amenity.
Resource	A potential mineral deposit where the quality and quantity of material has not been tested.
Restoration	(see Reclamation).
Safeguarding	Protecting mineral deposits, rail heads and potential minerals wharfage from sterilisation by preventing building or other development.
Scheduled Ancient Monument	A nationally important archaeological site included in the Schedule of Ancient Monuments maintained by the Secretary of State for the Environment under the Ancient Monuments and Archaeological Areas Act 1979.
Sea-borne aggregates	Any aggregates transported by sea whether won from the seabed or not.
Secondary Aggregates	Aggregates other than sand, gravel and crushed rock (primary aggregates) produced as by-products of other processes and used instead of primary aggregates. Secondary aggregates include boiler ashes, burned shale, burned clay, pulverised fuel ash, broken airfield concrete and clay, chalk and shale.
Sharp sand/ Concreting sand	Large grained and angular sand, usually found in association with gravel deposits and predominately used in the manufacture of concrete.
Silt	A fine-grained sediment having a particle size intermediate between that of fine sand and clay.
Site of Natural Conservation	A non-statutory designation covering sites in West Sussex which have a significant value on account of flora and/or fauna content. West

Importance (SNCI)	Sussex has over 200 SNCIs.
Soft sand/ Building sand	A fine rounded sand, derived largely from solid sand deposits. Used for a variety of building operations such as the manufacture of mortar and the production of asphalt for road construction purposes.
South East Regional Working Party (SERAWP)	A joint working group consisting of local authority officers, representatives of the aggregates industry, central government bodies and British Rail, established to consider the demand and supply of aggregates in South East England. SERAWP advises the Department of the Environment.
Special Protection Area (SPA)	Identified as an important habitat for rare and vulnerable birds under the European Community Directive on the Conservation of Wild Birds (Directive 79/409/EEC).
Structure Plan	A written statement of the County Planning Authority's general strategy, policies and main proposals for change over a period of up to 15 years.
Superquarry	A quarry capable of producing at least 5 million tonnes of rock per annum and with reserves of at least 150 million tonnes.
Sustainable development	Development that meets the needs of the present without comprising the ability of future generations to meet their own needs.
The London and South East Regional Planning Conference (SERPLAN)	An organisation of local authorities that considers planning and transportation issues for the region, including minerals.
Tonne	A metric ton of 1000 kg. (1 ton = 1.016 tonnes).
Water Table	The top surface of the saturated zone within the aquifer. The water table will fluctuate seasonally and annually.