

Kent and Medway Structure Plan
mapping out the future

Working Paper 11
Mineral Resources

September 2003



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INTRODUCTION

- 1) In respect of minerals development, the 1996 adopted *Kent Structure Plan* (KSP) addresses two key policy areas:
 - (i) Policy relating to the overall supply of minerals, which has four elements:
 - a) The level of primary minerals provision;
 - b) Maintaining continuity of supply through landbank policy;
 - c) The composition of overall minerals supply, (primary versus secondary and recycled versus imports; and
 - d) Environmental constraints to supply, such as environmental designations.
 - (ii) Policy protecting strategic mineral resources from sterilisation.
- 2) This Working Paper addresses each of these policy areas and, in particular, assesses:
 - whether there have been any relevant changes in national policy or whether there are likely to be any changes in the near future;
 - in response to changes in Government policy, what policy alterations are necessary within the Kent and Medway Structure Plan (KMSP); and
 - the implications of emerging Government policy on KMSP policies.

1.0 THE SUPPLY OF MINERALS: NON MINERAL SPECIFIC ISSUES

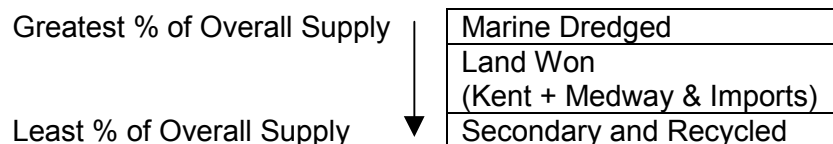
1.1 Composition of Minerals Supply

As minerals can only be worked where they are found, most areas are unable to meet their own requirements for all the different types of minerals demanded. For example, Kent, but particularly Medway, have little crushed rock extraction and so must import much of their needs from areas such as the South West. Kent and Medway, like most other Mineral Planning Authorities, rely upon a range of sources for their minerals, which include:

- a) Locally won virgin (primary) materials;
- b) Imported virgin (primary) materials;
- c) Virgin (primary) marine dredged material (applicable to sand and gravel only);
- d) Recycled materials such as road scalplings and planings, construction and demolition waste; and
- e) Secondary materials such as pulverised fuel ash and incinerator residues, used as substitute aggregates.

Supply scenarios for different minerals vary according to the range of sources from which a particular material can be obtained. For example, the provision of raw materials for the cement industry is somewhat inflexible as there are few alternatives to primary land won extraction. Raw materials for brickmaking however, can be obtained from non-primary land won sources (even though the main source of supply is primary land won materials). Secondary materials such as colliery spoil can be used as a supplement, as is currently the case at one major brickmaking operation in East Kent (Tilmanstone). Probably the most flexible mineral of all in terms of options for supply is construction aggregate, which can be supplied from a wide range of sources, namely all of a) to e) above. As a consequence of this flexibility, supply scenarios for construction aggregates have scope to vary greatly. Currently, Kent and Medway have a scenario of supply for construction aggregates, which looks broadly as outlined in Figure 1.

Figure 1: Supply scenario for construction aggregates in Kent and Medway.



It is increasingly accepted that relying heavily upon primary land and marine won sources of minerals is unacceptable where credible alternatives exist – alternatives that are technically, economically and environmentally feasible. It is argued that current minerals planning policy should be altered to focus upon meeting needs for minerals, first and foremost from secondary and recycled sources, with land won and marine dredged primary material only being extracted to meet any shortfalls that arise. It has been suggested that we should be looking to other countries, which may have spare environmental capacity, to meet our mineral requirements, such as Scandinavia. Such a radical change to national mineral supply policy would have serious implications, not least to issues surrounding sustainability. For example, is the transportation of minerals from countries as far away as Norway and Sweden 'sustainable'? In addition, to reduce reliance upon England's minerals industry would have serious economic implications, both nationally in terms of the contribution that the minerals industry makes to GDP, and locally in terms of the provision of employment.

Future changes of emphasis in mineral supply scenarios will be influenced by the review of *MPG 6: Guidelines for Aggregates Provision in England, 1994*. Whilst the outcome of this review will directly affect aggregates planning policy, any changes in policy in this area could filter through to policy concerning the supply of other minerals. Revised national and regional guidelines for aggregates were issued in June 2003.

In line with existing Government policy, the 1996 Structure Plan encourages proposals which enable the provision of secondary and recycled construction aggregates (Policy NR8). Wharves and rail depots for marine dredged and imported aggregates are promoted and significant provision is made for material from land won sources (Policy NR9). For non-construction aggregate minerals, the 1996 Structure Plan makes provision for the extraction of locally land won sources only (Policies NR10 to NR13).

Although the review of minerals planning guidance is not yet complete, it is likely that minerals planning policy will see a shift towards a greater reliance on recycled and secondary sources. Whilst there will still be a significant need for primary land won material, it is probable that emphasis on such supplies will be as a means of making up the shortfall of requirements that cannot be met from alternative sources. Primary land and marine won extraction may no longer be the first options.

1.2 Environmental Constraints to Supply

Current Government policy advises that sites should be protected according to their relative importance (*PPG7: Countryside, 1997* and *PPG9: Nature Conservation, 1994*). Consequently, sites of national and international significance such as Ramsar sites, Special Protection Areas (SPAs), Sites of Special Scientific Interest (SSSIs), and Areas of Outstanding Natural Beauty (AONBs) are afforded a high level of protection. However, current policies advise that even internationally significant sites should not be afforded blanket protection against all forms of development, including minerals. Sites of regional or more local significance such as Special Landscape Areas (SLAs), Areas of High Landscape Value (AHLV) and Local Nature Reserves (LNRs), are afforded protection but to a level that is not as high as that attached to sites of international and national significance.

The most important environmental constraints to mineral extraction are:

- Nature conservation and landscape designations, such as: SPAs; candidate Special Areas of Conservation (SACs); Ramsar sites; AONBs; SSSIs; and SLAs;
- Prime quality agricultural land, namely grades 1, 2 and 3a of the MAFF (now DEFRA) Agricultural Land Classification;
- Surface and groundwater supplies and aquifers; and
- Potential impact of mineral working and creation of water bodies in proximity to airfields.

Government policy recognises that minerals can only be worked where they naturally occur and proposals within AONBs in particular should be subject to the most rigorous examination, including consideration of alternative locations, and demonstrated to be in the public interest, together with appropriate standards of operation, restoration and aftercare (*PPG7: Countryside, 1997* and *MPG6: Guidelines for Aggregates Provision in England, 1994*). National policy relating to the protection of prime quality agricultural land (*PPG7*) advises that considerable weight should be attached to protecting such land from *permanent* loss because of its

special importance. Current policy relating to groundwater, surface water and aquifers advises that development which would have an adverse effect should not be permitted unless any adverse effects can be satisfactorily mitigated. Internal guidance issued by the Civil Aviation Authority seeks to provide advice on forms of development which may be appropriate within Airfield Safeguarding Zones. The creation of significant water areas as a result of below water table mineral workings can be problematic in terms of their potential to attract substantial numbers of certain species of birds or alter their preferred flight paths.

Kent and Medway are heavily constrained in terms of landscape designations:

- 5% of the Medway area is covered by AONB and 38% is designated as SLA
- 35% of the KCC area is covered by AONB and 58% is designated as SLA

(Under the 1996 Structure Plan, the AONB designation is currently overlapped by the SLA designation.) The location of mineral working is restricted by geology. However in the past, new permissions for mineral extraction have tended to avoid areas affected by high level environmental constraints such as AONBs and SLAs. Kent and Medway are now reaching the point where all relatively unconstrained deposits have been extracted and the only viable deposits remaining are those located in more environmentally sensitive areas. Options therefore include:

- Kent and Medway continuing to provide much of their own mineral, which may necessitate allowing extraction in environmentally constrained areas subject to need and land banking considerations;
- the authorities relying increasingly on material being imported from other areas, areas which may well be subject to comparable levels of environmental constraints;
- increasing emphasis being placed on the use of secondary and/or recycled materials.

Given that many areas of the South East experience similar constraints to those experienced in Kent and Medway, it is likely that there will be an increased emphasis on maintaining and increasing the share of marine-dredged imports and, subject to quality issues, increasing the proportion of secondary materials.

In light of the county-wide flooding in the winter of 2000, an important issue is the degree to which all development, including minerals extraction, is appropriate within the floodplain or in areas prone to flooding. In certain circumstances, mineral working can contribute to flood problems. For example, when a quarry is de-watered to facilitate mineral extraction, water flow rates are increased and the time taken for water to travel within a catchment is decreased. Conversely, mineral working has the potential to make a significant contribution to flood relief in that void space created could act as an artificial drainage system. The use of basins and ponds as an integral part of a sustainable drainage system is an option presented in *PPG25: Development and Flood Risk (2001)*. However, in the past, due to the need for void space for waste disposal, the practice has been to fill holes left by mineral working – a presumption in favour of this is part of policy in the 1996 KSP (Policy ENV24). Nevertheless, there is now a shift away from landfilling waste in the interests of more sustainable waste management. In the light of this one option might be to retain void space created by certain types of mineral extraction as part of a package of measures to manage flood risk. However, the efficiency of such a contribution has yet to be established. Moreover void space that would be acceptable for land filling is at an increasing premium and there will be a continuing, albeit substantially reducing, requirement for landfill capacity.

1.3 Imports Into Kent and Medway

Minerals are currently imported into Kent and Medway via:

- Sea/water (marine dredged gravel and primary land-won material);
- Rail;
- Road; and
- Pipeline.

This section focuses primarily on aggregates. They are the largest quantity of mineral imported into the area and very little data exists on the movement of other mineral types. Pipeline is a very limited means of importing material into the county.

Minerals imported by sea/water

In total, there are 16 wharves in Kent and Medway that receive minerals, (11 in Kent and 5 in Medway). Table 1 below illustrates the type of material that is imported through these wharves.

Table 1: Kent and Medway Mineral Import Points - Wharves

Type of Material Imported	Total Number of Wharves Receiving Material	Total Number of Wharves in Kent Receiving Material	Total Number of Wharves in Medway Receiving Material
Marine Dredged Aggregates	9	6	3
Land Won Aggregates	6	4	2
Coal/Coke	2	2	0
Cement Powder	1	1	0
Non-Operational	3	2	1

Landings of marine dredged aggregates 1995-2001

Sand and gravel is extracted from the seabed around England's coastline and is imported into ports and wharves in both Kent and Medway. It makes an important contribution to the two authorities' overall supply of aggregate material. There has been an increase in the share of marine-dredged aggregates compared to land-won in recent years (1999, 2000 and 2001)¹.

Tables 2 and 3 detail landings of marine dredged aggregates in Kent and Medway between 1995 and 2001. Over time, wharves in Kent have received a decreasing proportion of total Kent and Medway landings, whereas Medway have received an increasing proportion. Kent and Medway now receive an almost equal share of the total amount of material imported into the area.

¹ Using data from the annual Aggregates Monitoring Surveys and the Crown Estate Annual Landing Statistics.

Table 2: Landings of Marine Dredged Aggregate in Kent and Medway

Wharf	1995 Landings (tonnes)	1996 Landings (tonnes)	1997 Landings (tonnes)	1998 Landings (tonnes)	1999 Landings (tonnes)	2000 Landings (tonnes)	2001 Landings (tonnes)
KENT							
Denton	186,192	193,236	195,294	186,336	214,441	256,159	335,008
Dover	254,821	388,723	253,849	288,186	219,592	223,711	227,549
Greenhithe	457,520	357,967	451,060	474,309	535,038	569,749	285,953
Northfleet	648,011	614,535	599,584	608,276	513,202	484,679	581,335
Ridham	779,559	291,310	224,075	219,869	248,119	288,963	286,589
Total	2,326,103	1,845,771	1,723,862	1,776,976	1,730,392	1,823,261	1,716,434
MEDWAY							
Cliffe	506,320	553,586	595,875	604,733	607,632	747,067	819,035
Rochester	804,962	555,751	684,170	743,357	861,178	945,478	886,981
Total	1,311,282	1,109,337	1,280,045	1,348,090	1,468,810	1,692,545	1,706,016
Medway & Kent Total	3,637,385	2,955,108	3,003,907	3,125,066	3,199,202	3,515,806	3,422,450

[Source: Crown Estate Annual Landing Statistics]

Table 3: Total Marine Dredged Aggregate Landings – Percentage Split Between Kent and Medway

Year	% of Total Material Landed in Kent	% of Total Material Landed in Medway
1995	63.9%	36.1%
1996	62.5%	37.5%
1997	57.4%	42.6%
1998	56.9%	43.1%
1999	54.1%	45.9%
2000	51.9%	48.1%
2001	50.2%	49.8%

From a regional perspective, the role that Kent and Medway play as importers of marine dredged aggregate is significant, accounting for around one third of landings in the South East and London (Table 4).

Table 4: Kent and Medway - Percentage Share of Total South East Landings

Year	Total South East Landings* (million tonnes)	Kent & Medway's % Share
1995	10.4	35%
1996	9.0	33%
1997	9.2	33%
1998	9.8	32%
1999	10.1	32%
2000	9.8	36%
2001	10.6	32%

* Includes the area covered by the Greater London Authority

Landings of material other than marine dredged aggregates at wharves

In 2001, a total of 3.2 million tonnes of crushed rock was imported into Kent and Medway from Scotland, Norway, France and Holland². Crushed rock comprises the

² Source: SEERA Aggregates Monitoring Report 2001 (December 2002)

vast majority (over 90%) of land won aggregates landed at wharves in Kent and Medway.

Material imported by rail

There are currently five rail depots in Kent and Medway that receive minerals, (three in Kent and two in Medway). Four of these depots receive land won aggregates and one handles marine dredged aggregates. The total tonnage of material received at rail-served aggregate reception depots in 1997³ (by road, rail and water) was 1.6⁴ million tonnes. However, because two of these depots are attached to wharf facilities, 1.1 million tonnes of this material has already been accounted for. Thus, the net importation of aggregates via rail depots in Kent and Medway equates to approximately 0.5 million tonnes, (the vast majority of which is retained in the area).

Material imported by road

There are no available figures relating to the quantity of aggregate that is imported into Kent and Medway via road.

Constraints to a long term reliance on imported material – marine dredged and rail/wharf importation of land won material

Marine Dredged Sand and Gravel

Obtaining sand and gravel from marine dredged sources clearly has advantages for Kent and Medway as it reduces the pressure to extract material from indigenous land based sources which may lie in environmentally constrained areas. Marine dredging does not have a significant adverse effect upon amenity as extraction is remote from populated areas. However, there are some significant drawbacks to relying upon marine dredging as a main source of aggregate material:

Environmental Drawbacks	Technical Drawbacks
<ul style="list-style-type: none"> • Potential to cause harm to marine wildlife and marine ecosystems; • Conflict with other marine industries i.e. fishing; • Concentrated traffic, noise and dust impacts around wharves receiving marine dredged material; • Detrimental impact on the image of areas surrounding wharves e.g. Thames Gateway. 	<ul style="list-style-type: none"> • Material perceived to be of lower quality than that extracted from land;

This paper has shown that marine dredged sand and gravel makes an important contribution to Kent and Medway’s overall supply of aggregates. An issue is whether increased reliance can be placed upon this source. The Government⁵ proposes that marine-dredged sand and gravel supplies in the region should increase to 120mtpa between 2001 and 2016, making a significant contribution to regional requirements.

³ Latest available figures for rail depots (Aggregates Monitoring Survey – AM97)

⁴ Estimate (partly based on 1997 Aggregate Monitoring Survey data)

⁵ ODPM (June 2003) *National and Regional Guidelines for Aggregates Provision in England, 2001-2016*

In addition, SEERA propose an increase in imports of marine-dredged aggregates and crushed rock from elsewhere⁶

In terms of the industry's ability to supply an increased share of overall aggregate requirements, marine aggregates operators are in no doubt that it can be achieved. The industry expects flat levels of production over the next 5 years pending the introduction of a new licensing regime, and in the medium to long term, an increased share of production is expected. There is also a likelihood that in the longer term, there will be a move towards exploiting the reserves in the East English Channel.

Kent and Medway's ability to receive significantly increased quantities of marine dredged aggregate clearly depends upon expanded wharf facilities being made available, assuming that existing capacity is fully utilised. Such facilities are not without their environmental problems, and in many respects, have similar environmental effects to an operational quarry. In addition, whilst quarries are temporary activities, wharf facilities are potentially permanent.

Imports of Primary Land Won Aggregates – Wharves and Rail Depots

Importation of primary land won material from areas outside Kent and Medway is advantageous as it relieves pressure for the exploitation of local land won resources. It also enables the two authorities to utilise minerals that are not found or extracted in the locality – most notably crushed rock. However, relying on such a source of material does have several drawbacks:

Environmental Drawbacks	Economic Drawbacks
<ul style="list-style-type: none"> • Transportation of minerals over large distances can be regarded as unsustainable; • Potential pollution problem when transporting minerals via sea i.e. unloading contaminated ballast water taken on in polluted areas such as the Thames Estuary; • Concentrated traffic, noise, dust and visual impacts around wharves and rail facilities receiving material; • Detrimental impact on the image of areas surrounding wharves and rail facilities e.g. Thames Gateway; • Wharves and rail depots are permanent developments, (unlike quarries, which are temporary); • Lack of ability to get material directly to markets. Thus need for multiple handling, which itself has environmental and economic implications; • Export of environmental problems associated with mineral extraction can be regarded as inequitable. 	<ul style="list-style-type: none"> • Loss of employment and associated wealth to exporting area, that would otherwise occur if indigenous resources were relied upon.

⁶ Policy M4-Primary Aggregates in SEERA's *Regional Minerals Strategy Consultation Draft*, September 2003

Section 1.1 made reference to the fact that Kent and Medway could look to other countries, which may have environmental capacity, to meet mineral working requirements. However, it was also noted that long range transportation of minerals from countries like Sweden and Norway would be unsustainable, and the loss of a local minerals industry would have economic implications. Furthermore, as with marine dredged aggregates, Kent and Medway's ability to receive significantly increased quantities of imported material depends upon expanded wharf facilities being made available – which themselves have environmental implications.

Conclusion: Marine dredged aggregates and importation of land-won minerals via wharves and rail

Marine dredged aggregate and importation by wharf and rail currently make a significant contribution to Kent and Medway's overall supply of aggregate material. In addition, importation allows the use of non-indigenous minerals. The review of MPG6 indicates that policy guidance will see a shift towards a greater reliance on marine dredged, recycled and secondary sources, and that aggregates supply will increasingly rely on balancing the environmental impacts of these three options for meeting supply requirements. The new Plan therefore contains a policy (M4: Provision and Safeguarding of Marine Wharves and Rail Depots) which provides for the safeguarding of marine wharves and rail depots for the purposes of receiving and processing minerals. In addition, such sites will be protected from development that would inhibit their continued operation through the identification of buffer zones in Minerals Development Documents.

2.0 THE SUPPLY OF MINERALS: MINERAL SPECIFIC ISSUES

2.1 Construction Aggregates

Current Situation: National Forecasts and Regional/Sub-Regional Apportionment

Detailed guidance on the quantity of primary mineral that development plans should make provision for only exists for construction aggregates. Planning for the provision of all other types of minerals is not tied to any quantitative guidance.

For construction aggregates (sand, gravel and crushed rock), guidance on the level of provision to be set out in development plans has been provided by *MPG6: Guidelines for Aggregates Provision in England (1994)*. It contains a national forecast of aggregates demand, which was carried out in 1991/1992 using a complex computer modelling technique. Emanating from this national forecast, MPG6 contained a set of regional guidelines, which indicated how provision for the supply of primary aggregates should be made to meet anticipated need over a specific period of time (1996-2006). In particular, MPG6 sets out the level of primary aggregates production that each region should make provision for. In a separate exercise, levels of regional provision were then apportioned out to individual mineral planning authorities via the Regional Aggregates Working Parties (RAWPs).

The national demand forecast for aggregates therefore plays a central role in the current approach to planning for a steady and adequate supply of aggregates, and has done for some time. It has been around in some shape or form for over 50 years, first as a sand and gravel only forecast, which was used to assist in planning for wide scale reconstruction during the early post war period, and later as a wider aggregates forecast.

Despite its maturity, national demand forecasting for construction aggregates is not without its weaknesses. Without exception, all aggregates forecasts of national demand have been wrong. It is very difficult to predict what might happen over a two to three year period, never mind a ten to twenty year period. The forecast contained in the 1994 version of MPG6, predicted that by 2000, Britain would need around 310 million tonnes of aggregates per annum. The reality has been an annual average demand of 234 million tonnes – 25% less than was forecast in the early 1990s. The knock on effect of such an overly optimistic demand forecast has been high regional and county apportionments and a resulting over-provision of land for aggregates extraction in Development Plans. The situation in Kent and Medway is illustrated in Table 5.

Table 5: Sand & Gravel Apportionment in Kent & Medway, 1997 - 2001

	Sand & Gravel Apportionment * Kent & Medway area (based on 1994 MPG6)	Actual sand & gravel production in Kent and Medway	% difference with regional apportionment (3.2 mtpa)
1997	3.2 mtpa	2.2 mtpa	-31%
1998	3.2 mtpa	2.4 mtpa	-25%
1999	3.2 mtpa	2.4 mtpa	-25%
2000	3.2 mtpa	2.0 mtpa	-38%
2001	3.2 mtpa	1.8 mtpa	-44%

[* *Emanating from the 1991/92 national demand forecast for primary aggregates.*]

The 1996 Structure Plan makes provision for more than the agreed apportionment of 3.2 million tonnes per annum, which is a *minimum* level of provision. As such, the over-provision of land for mineral working in Kent and Medway is more severe than indicated above.

Policy NR10 of the 1996 Structure Plan makes a commitment to providing for approximately 3.9 million tonnes per annum of sand and gravel. This comprises 2.0 million tonnes of gravel and concreting sand, and 1.9 million tonnes of building sand or soft sand. For 1999, 2000 and 2001, this level of provision was not reached despite adequate commitments, with actual sand and gravel production figures of 2.4mtpa, 2.0mtpa and 1.8mtpa respectively.

Under the 1994 MGP6, Kent and Medway did not have an apportioned figure for crushed rock and the 1996 Structure Plan adopted a figure of only 600,000 tonnes per annum. This is because, for geological reasons, production had traditionally been relatively low - in 1999 700,000 tonnes of rock was produced. The existing Minerals Local Plan for Kent (*Construction Aggregates Local Plan, adopted December 1993*) highlights the occurrence of a major source of high quality limestone in East Kent, and identifies it as being suitable for extraction. The adopted 1996 Structure Plan gives favourable consideration to proposals for limestone mining in this area (Policy NR8).

Although in reality, only material that is needed is taken out of the ground, i.e. extraction companies merely respond to demand rather than creating it, the over-provision of land allocated for mineral working can cause difficulties. Most notable is the fact that land and property around a site earmarked for extraction can become blighted, although this may be perceived rather than actual.

Current Situation: Landbanks

Under-provision of land suitable for the extraction of aggregates can cause problems. Without an adequate stock of planning permissions, the minerals industry is unable to ensure that the construction industry receives a steady supply of material due to the time that it takes to bring sites on stream. Moreover, without the security of a 'bank' of permissions, minerals operators would find it difficult to commit to necessary investment.

In addition to the existence of prescriptive quantitative guidance for aggregates, an important feature of planning for the supply of sand, gravel and crushed rock is that a stock of planning permissions should be in existence throughout, and at the end of, the plan period (a landbank). Landbanks for aggregates have been utilised for almost 20 years. Due to the long lead-in times involved in bringing minerals extraction sites into full operation, and due to the high level of capital investment that each site requires, landbanks were introduced as a means of ensuring that the construction industry received a continuous and steady supply of raw material. Whilst the concept of utilising landbanks is laid down in *MPG1: General Considerations (1996)*, *MPG6 (1994)* provides detailed guidance on the specific length of landbanks for sand, gravel and crushed rock. For sand and gravel, the guidance note advises that a landbank of at least seven years be maintained throughout, and at the end of, the plan period. For crushed rock, the guidelines simply state that a longer period is appropriate.

The Future: Revised National Forecasts and Regional/Sub-Regional Apportionment

In June 2003, the Government published an amendment to the 1994 *MPG6. National and Regional Guidelines for Aggregates Provision In England, 2001-2016* (2003) contains new guidelines on the national and regional provision of aggregates and is to be used in the preparation and review of minerals development plans (see Figure 2, below). At a national level, the guidelines for aggregates provision are lower (19%) than the levels forecast for 1996-2006 in *MPG6 (1994)*. For marine sand and gravel, the new guidelines are 33% lower than levels set out in the 1994 *MPG6*. They are based on the assumption that recycled and other alternative materials will meet nationally 23% of total demand for aggregates over the period.

Figure 2: National and Regional Guidelines for Aggregates Provision in England, 2001 – 2016 (Million tonnes)

Area	Guidelines for Land-won Production		Assumptions		
	Land-won Sand & Gravel	Land-won Crushed Rock	Marine Sand & Gravel	Alternative Materials	Net Imports to England
South East England	212	35	120	118	85
England	1068	1618	230	919	169

For the South East, annually, this amounts to:

- 13.25mtpa for land-won sand and gravel
- 2.2mtpa for land-won crushed rock

Source: National and Regional Guidelines for Aggregates Provision in England, 2001 – 2016 (2003)

Within six months of this guidance being issued, Regional Planning Bodies are to have apportioned the regional guidelines to the mineral planning authority areas, taking into account the advice of the Regional Aggregate Working Parties (RAWPs) and the likely environmental impacts of the implied extraction.

In its *draft Regional Minerals Strategy* (September 2003), the South East England Regional Assembly (SEERA) has advised the following provisional sub-regional apportionment figures for Kent and Medway for 2001 – 2016:

- 2.42mtpa for land-won sand and gravel
- 1.2mtpa for land-won crushed rock

Apportionment has been based on the average sales over the last seven years (1995 to 2001) with the highest and lowest sales years omitted from the calculation. It should be noted that the substantial increase proposed for crushed rock is a result of the increased production of Kentish ragstone, with two operators having significant production units in Kent.

The Future: Landbanks

The revised, lower apportionment figures at national, regional and (provisionally) sub-regional levels will result in an increase in the prospective length of the sand and gravel landbanks for Kent and Medway:

	MPG6 (1994) apportionment (3.2mtpa)	Revised (2003) apportionment (2.42mtpa)
Total sand & gravel landbank	13.3 years	17.6 years
Soft sand landbank	13.6 years	18.0 years
Sharp sand & gravel landbank	12.9 years	17.1 years

The effect of the provisional sub-regional apportionment figure for crushed rock would be to reduce the landbank from 61.7 years to 30.8 years. However, the current landbank based on production rates is 38.4 years. All of these landbanks are well within the requirements set out by Government. Further detail on the current sand and gravel and crushed rock landbanks for Kent and Medway can be found in Appendix 1.

Policy Implications: National Forecasts and Regional/Sub-Regional Apportionment

In light of revised national and regional apportionment figures for aggregates and the provisional sub-regional apportionment figures for Kent and Medway of 2.42mtpa for sand and gravel and 1.2mtpa for crushed rock, it is necessary for policy in the Kent and Medway Structure Plan to be brought up to date to reflect these latest figures. Policy also needs to reflect the national guidance objective of maximising the use of recycled and secondary materials for aggregate use (KMSP Policy M2).

Policy Implications: Landbanks

Landbank policy in the existing 1996 Structure Plan (Policy NR10) is significantly out of date and in need of review. Current policy is based on the first version of MPG6, which was published in 1989 and seeks to maintain a landbank of permitted reserves of sand and gravel and ragstone for at least 10 years' production. As detailed above, the 1994 MPG6 requires a landbank of at least 7 years to be in place for sand and gravel and that a '*longer period may be appropriate*' for crushed rock. The Kent and Medway Structure Plan updates landbanking requirements to provide for a seven

year land bank for sand and gravel and a 10 year landbank for crushed rock (Policy M5) (see Appendix 1 for detailed landbank figures).

2.2 Silica (Industrial) Sand

Current Situation

In policy terms, silica sand extraction in Kent has traditionally been planned for in conjunction with aggregates extraction. However, at the end of 1996, shortly before the 1996 Structure Plan was adopted, the Government introduced new national planning policy guidance relating specifically to silica sand (*MPG15: Provision of Silica Sand In England, 1996*). This guidance stresses the importance of recognising fundamental differences between silica sand and construction aggregates, not least the scarcity of economically workable silica sand deposits and the high capital cost of investment in the silica sand industry. In particular, to reflect its scarcity, MPG15 states that development plans should aim to make provision for at least 10 years supply for existing sites, or 15 years supply where significant new investment is required, for example, at greenfield sites. Kent and Medway's estimated landbank for silica sand at 31 December 2000 was 45 years (See Appendix 2).

The Future

There are no anticipated changes to the form of the silica sand industry in the county or the national policy climate within which it must operate.

Policy Implications

The adopted 1996 KSP deals with silica sand in the same policy context as construction aggregates (Policy NR10). However, current national policy guidance states the importance of recognising the fundamental differences between silica sand and construction aggregates, and that they should be treated separately in development plan policy terms. The Kent and Medway Structure Plan proposes a stand alone policy for silica sand extraction (Policy M7: Silica Sand).

2.3 Raw Materials for the Cement Industry

Current Situation

Kent has traditionally been a significant area in the South East for the production of cement. Until recently two cement works were located in the county – one operated by Blue Circle Industries (now Lafarge Cement UK) at Northfleet in Kent, and one operated by Rugby Cement (now part of the RMC Group) at Halling in Medway. The works at Halling closed at the end of 2000. The works at Northfleet is nearing the end of its life, although a proposal for a cement works at Holborough, which would replace Northfleet, was granted permission by the Secretary of State in November 2001.

National policy guidance relating to the supply of raw materials for the cement industry (i.e. chalk and clay) is contained in *MPG10: Provision of Raw Materials for the Cement Industry (1991)*. Like the planning framework which seeks to ensure a continuous and steady supply of construction aggregates, a cornerstone of planning for the provision of chalk and clay for the cement industry is the requirement to maintain a landbank of permitted reserves. National policy advises that the size of the cement industry's landbank should be directly linked to the scale of capital investment envisaged at a site. This is because an important characteristic of the industry is the high cost of investment and the long amortisation periods this entails. Thus, current landbank policy is such that:

- Existing cement plant should be maintained with a stock of permitted reserves equivalent to at least 15 years supply; and

- New plant or existing plant which requires significant new investment should be provided with a stock of permitted reserves equivalent to at least 25 years supply.

The Future

Future cement production in Kent and Medway looks set to be based on a single new modern works at Holborough, which has consented mineral reserves in excess of 40 years. The site at Halling may be used on a small scale for cement product distribution. Once the Holborough works has been successfully commissioned there is unlikely to be any need to secure substantial new production capacity in the South East. This is based on the assumption that both major producers will become increasingly reliant upon importation by sea (from European operations) and by road and rail from their other UK core works. This will place increasing importance on ensuring that appropriate wharves and rail distribution sites are protected from inappropriate development which might constrain their future use.

Policy Implications

For chalk and clay for the cement industry, the 1996 Structure Plan accords with current Government policy (MPG10), in that it makes provision for Kent's cement industry to be maintained with up to 25 years' reserves of chalk and clay (Policy NR12). These policy provisions are carried forward into Policy M10a) of the Kent & Medway Structure Plan.

2.4 Brickearth & Brick Clay

Current Situation

The extraction of brickearth and brick clay in Kent for the production of stock bricks has formed part of the county's minerals industry for many years. In 1956, an agreement was proposed between Kent and Essex County Councils, the Government and the stockbrick industry, suggesting that brickearth extraction in Kent should cease in 1996, due to conflicts between the industry and agriculture. However, the agreement was never concluded, although the parties involved have largely followed its provisions.

When it became clear that brickearth land allocations were not going to be worked out by 1996, the 1956 agreement was reviewed by the Secretary of State in 1983, who recommended that:

- The allocation of land for brickearth extraction should be determined within the statutory land use system; and
- The brickearth industry should be supplied with 15 years worth of reserves, which should be reviewed every 5 years.

For brickearth, the Secretary of State's 1983 statement remains Government policy today, as no formal national planning policy guidance has replaced it. For brick clay extraction, there is neither any formal nor any informal national policy steer.

The Future

Over the last decade or so, the brick making industry in Kent has experienced significant restructuring. Where once there were several small brickworks, the industry now comprises a handful of fewer, larger works, concentrated largely in the Swale district of Kent.

In terms of planning policy relating to brickearth and brick clay, the Government is assessing research into the availability of brick clay, which when complete will form the basis of a new brick clay and brickearth MPG.

Policy Implications

The adopted 1996 Structure Plan contains policy statements relating to the maintenance of landbanks for brickearth and brick clay (Policies NR11 and NR12), i.e.

- The clay brick industry to be maintained with at least 15 years reserves; and
- Individual stock brickworks to be maintained with at least 15 years reserves of brickearth.

It is considered that circumstances since the adoption of the 1996 KSP have not changed significantly to warrant an alteration to the landbank policy relating to brickearth and brick clay. The Kent & Medway Structure Plan therefore continues this level of provision through policies M9 (Brickearth) and M10b) (Chalk and Clay).

2.5 Non-Aggregate Chalk

Current Situation

In Kent, chalk is also worked to provide for agricultural purposes (e.g. liming) and manufacturing purposes (e.g. as whiting in the paper industry). However, there is no current national planning policy relating to the extraction of chalk for such uses.

The Future

There are no plans for the introduction of national planning guidance dealing specifically with agricultural and manufacturing chalk nor are there any anticipated changes occurring to the shape of the non-aggregates chalk industry in Kent.

Policy Implications

The adopted 1996 Structure Plan contains a policy (NR12(iii)) relating to the maintenance of landbanks for non-aggregate chalk, specifically, reserves of agricultural chalk are to be maintained with a 10 year supply. No separate policy provision is made in the adopted Structure Plan for the provision of manufacturing chalk.

Circumstances have not changed significantly since the adoption of the 1996 KSP in relation to non-aggregate chalk and it is therefore considered appropriate to roll the policy forward. However, the policy should also be widened to reflect the needs of the County's pharmaceutical and whiting manufacturing requirements for chalk, in addition to its engineering requirements (Policy M10(d)).

2.6 Engineering Clays

Current Situation

Clay is extracted in Kent for two key engineering purposes: for sea defences and for use in engineering operations, such as lining landfill sites. The requirement for clay for sea defence work over the period of the Plan will be influenced by the future strategy of the Environment Agency in respect of sea defence policy (related to the potential impacts of global warming and the south east 'tilt' issue). The requirement for engineering clay for lining and capping landfill sites may diminish over the Plan period as a result of the requirement to landfill less waste in accordance with the Landfill Directive. These issues will need to be kept under review as part of the preparation of the Minerals Local Development Document.

There is no national planning policy relating to the extraction of engineering clays. Current Minerals Local Plan and Structure Plan policy relating to the provision of engineering clays simply makes provision for needs to be met.

The Future

It is understood that there are no plans for the introduction of national planning guidance dealing specifically with the extraction of engineering clay, nor are there any anticipated changes expected to the shape of the engineering clay industry in Kent.

Policy Implications

The extraction of engineering clay in Kent poses no new policy implications for the Kent and Medway Structure Plan. Policy M10(d) (Chalk & Clay) of the KMSP carries forward the existing policy.

2.7 On-shore Oil, Gas & Coalbed Methane

Current Situation

So far, this paper has focused solely on the provision of non-energy minerals. Kent, however, does have the potential to supply energy minerals, namely on-shore oil, gas and coalbed methane. The adopted Structure Plan makes policy provision for the supply of oil and gas and establishes criteria against which proposals should be addressed (Policy NR13).

Current national planning policy surrounding oil and gas development is shaped by *Circular 2/85*. This is being updated and transformed into MPG in light of the introduction of a new licensing regime covering the three main stages of oil and gas development (exploration, appraisal and development).

The Future

Assuming that the final version of the forthcoming MPG does not depart greatly from the contents of the consultation draft, new national guidance relating to oil, gas and coalbed methane is unlikely to introduce any significant changes to the existing policy approach provided by *Circular 2/85*. Although, national policy on coalbed methane will be new, the form of such policy will probably closely reflect that which is already in place for gas. Emerging policy guidance will therefore primarily involve an update of procedure rather than a new policy approach for oil, gas and coalbed methane.

Policy Implications

The introduction of a new MPG dealing (in part) with oil and gas is unlikely to change the basic thrust of existing policy. However, coalbed methane should be brought within the remit of existing strategic policy. Policy M11 in the KMSP (Oil, Gas and Coalbed Methane) takes account of this.

3.0 SAFEGUARDING STRATEGIC MINERALS RESOURCES

Current Situation

A key aim for the Structure Plan is to protect mineral reserves which are, or may become, of economic significance from sterilisation (*PPG12: Development Plans, 1999* and *MPG1: General Considerations, 1996*). The adopted 1996 Structure Plan does this by setting out a presumption against development proposals which would sterilise the future availability of strategically important mineral reserves identified in the Minerals Local Plan (Policy NR7).

The Future

Shortly before the adoption of the current Structure Plan, Government refined its policy to advocate the identification in Minerals Local Plans of smaller, more tightly defined areas where future mineral extraction would be acceptable. More onus is now placed on the importance of development plans and the role they play in protecting mineral deposits which are not allocated as preferred areas for working. One mechanism for achieving such protection would be the introduction of Mineral Consultation Areas. This issue will be considered as part of the Kent Minerals Local Development Document.

As some minerals become in short supply, there is an argument that a more stringent safeguarding policy should apply to what is left of a resource. In other words, safeguarding should operate on a hierarchical basis. As some minerals are in short supply in Kent – most notably silica sand – it will be appropriate to assess whether safeguarding policies should take account of scarcity and the national importance of the material. A case can be made for the need to ‘husband’ the material, that is, to ensure that where high quality, scarce resources are extracted, it is used prudently. Whilst this would help guarantee that scarce materials are not wasted, it is very difficult for the planning system to control the end use of materials – all it can really do is encourage the wise use of such materials. Whilst resource husbandry for some scarce materials would clearly be desirable, there is a risk that such policy towards this end would lack ‘teeth’ and be aspirational.

Policy Implications

Whilst detailed site specific safeguarding policy is an issue for the Kent and Medway Minerals Local Plans/Local Development Documents, the principle of safeguarding mineral resources should be set out in the Structure Plan. The adopted 1996 Structure Plan protects all strategic mineral reserves identified in the Minerals Local Plan. This policy is carried forward in the new Plan (Policy M12) and expanded to prevent the sterilisation of known sources of secondary and recycled materials. This is in line with national and regional policy which seeks to increase the use of secondary and recycled aggregates used in order to reduce the need for the extraction of primary aggregates.

APPENDIX 1**CURRENT AGGREGATES RESERVES AND LANDBANK IN KENT AND MEDWAY AS AT 31ST DECEMBER 2001****1. SAND AND GRAVEL****Sand and Gravel Reserves as at 31 December 2001 (tonnes)**

Soft Sand	=	21,299,300	(Kent)
	=	0	(Medway)
		<u>21,299,300</u>	
Permissions	=	520,000	(Kent only)
	=	<u>21,819,300</u>	
Sharp Sand & Gravel	=	19,304,000	(Kent)
	=	550,000	(Medway)
		<u>19,854,000</u>	
Permissions	=	820,000	(Kent only)
	=	<u>20,674,000</u>	
All Sand & Gravel	=	40,603,300	(Kent)
	=	550,000	(Medway)
		<u>41,153,300</u>	
Permissions	=	1,340,000	(Kent only)
	=	<u>42,493,000</u>	
Total Sand & Gravel Reserves	=	41,943,300	(Kent)
<i>(inc. permissions)</i>	=	550,000	(Medway)
	=	<u>42,493,300</u>	

Sand and Gravel Sales 1999 – 2001

Material	1999 Sales (tonnes)	2000 Sales (tonnes)	2001 (Sales (tonnes)
Soft Sand	1,300,000 (Kent) 0 (Medway) 1,300,000	989,000 (Kent) 0 (Medway) 989,000	841,000 (Kent) 0 (Medway) 841,000
Sharp Sand & Gravel	1,109,000 (Kent) 21,000 (Medway) 1,130,000	915,000 (Kent) 41,000 (Medway) 956,000	989,000 (Kent) 39,000 (Medway) 1,028,000
All Sand & Gravel	2,409,000 (Kent) 21,000 (Medway) 2,430,000	1,904,000 (Kent) 41,000 (Medway) 1,945,000	1,830,000 (Kent) 39,000 (Medway) 1,869,000

Average sales over the last 3 years

Soft Sand	=	<u>3,130,000</u>	=	1,043,333 tonnes per annum
		3		
Sharp Sand & Gravel	=	<u>3,114,000</u>	=	1,038,000 tonnes per annum
		3		
All Sand & Gravel	=	<u>6,244,000</u>	=	<u>2,081,333 tonnes per annum</u>
		3		

Based on average sales figures above, the split between soft sand and sharp sand and gravel is as follows:

Soft sand	= 50%
Sharp sand and gravel	= 50%

Landbank Calculations

Using total reserves (i.e. including permissions granted)

A. Based on Actual Average Production:

Total Sand & Gravel landbank at 31 December 2001 = 20.5 years
(42,493,300 divided by 2,081,333)

Soft Sand landbank at 31 December 2001 = 20.9 years
(21,819,300 divided by 1,043,333)

Sharp sand & gravel landbank at 31 December 2001 = 19.9 years
(20,674,000 divided by 1,038,000)

B. Based on 1994 Apportionment of 3.2mtpa:

Total Sand & Gravel landbank at 31 December 2001 = 13.3 years
(42,493,300 divided by 3,200,000)

Soft Sand landbank at 31 December 2001 = 13.6 years
(21,819,300 divided by 1,600,000)

Sharp sand & gravel landbank at 31 December 2001 = 12.9 years
(20,674,000 divided by 1,600,000)

C. Based on Draft Revised Apportionment Figures (2003) of 2.42mtpa:

Total Sand & Gravel landbank at 31 December 2001 = 17.6 years
(42,493,300 divided by 2,420,000)

Soft Sand landbank at 31 December 2001 = 18.0 years
(21,819,300 divided by 1,210,000)

Sharp sand & gravel landbank at 31 December 2001 = 17.1 years
(20,674,000 divided by 1,210,000)

2. CRUSHED ROCK

Prior to the revised provisional guidelines, there was no apportionment for crushed rock, but the *1996 Kent Structure Plan* (Policy NR10) makes provision for 600,000 tonnes per annum. The forthcoming *Kent & Medway Structure Plan* will make provision for crushed rock in accordance with *National and Regional Guidelines for Aggregates Provision In England, 2001-2016 (2003)* through Policy M5. The proposed sub-regional apportionment (proposed by SEERA, September 2003) for crushed rock for Kent and Medway is 1.2mtpa. (All crushed rock is in Kent, none in Medway).

Reserves & Sales

Reserves at 31 December 2001	=	<u>37,000,000</u>	<u>tonnes</u>
Sales			
1999	=	700,000	tonnes
2000	=	954,000	tonnes
2001	=	1,240,000	tonnes
Average Sales over last 3 years	=	<u>964,667</u>	<u>tonnes per annum</u>

Landbank Calculations

A. Based on average production

Crushed Rock landbank at 31 December 2001 = 38.4 years
(37,000,000 divided by 964,667)

C. Based on 1996 Kent Structure Plan apportionment

(i.e. 600,000 tonnes per annum)

Crushed Rock landbank at 31 December 2001 = 61.7 years
(37,000,000 divided by 600,000)

C. Based on draft revised proposed apportionment figures

(i.e. SEERA proposed revision of 1.2mtpa)

Crushed Rock landbank at 31 December 2001 = 30.8 years
(37,000,000 divided by 1,200,000)

Notes

Figures are based on revised figures which post date the 2001 Aggregates Monitoring Survey publications.

APPENDIX 2

SILICA SAND: RESERVES AND LANDBANK ESTIMATES AS AT 31 DECEMBER 2000

Silica sand sales

Silica sand sales 1999	=	190,302 tonnes
Silica sand sales 2000	=	343,932 tonnes
Average sales 1999/2000	=	(190,302 + 343,932)/2
	=	267,117 tonnes per annum

Silica sand reserves

Reserves as at 31 December 2000	=	12,063,100 tonnes
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Silica sand landbank

Length of landbank based on average actual production for 1999/2000:

=	(12,063,100 divided by 267,117)
=	<u>45 years</u>

1996 Kent Structure Plan apportionment	=	250,000 tonnes per annum
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Length of landbank for silica sand based on 1996 Structure Plan apportionment	=	(12,063,100 divided by 250,000)
	=	48 years

Source: KCC Annual Survey of Non-Aggregates 2000

N.B. The above figures only give a general indication of the silica sand landbank for Kent and Medway. This survey was only carried out in 1999 and 2000 and cannot therefore be relied on to give a wholly accurate picture on which to base any apportionment figures. Information on production rates, reserves and landbanks for silica sand will be further examined during the preparation of the Kent Minerals Local Development Framework